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Cefas contract report C6028

Radiological Habits Survey: Harwell, 2015

2016

Environment Report RL 03/16

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Radiological Habits Survey: Harwell, 2015

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2016

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Radiological Habits Survey: Harwell, 2015

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KEY POINTS

Aquatic survey area

- Regulated liquid discharges from the Harwell site via a pipeline directly to the River Thames at Sutton Courtenay ceased in 2013. Liquid waste is currently discharged to sewers which flow to a sewage treatment works. The treated effluent from the sewage works flows along Moor Ditch to enter the River Thames at Long Wittenham.
- It was reported that coarse fish and signal crayfish caught in the River Thames were being consumed.
- The main activity taking place close to the water's edge was angling on the bank of the River Thames.
- Employees at the sewage treatment works had occupancy in close proximity to sewage, sewage sludge and sewage cake for limited periods.

Terrestrial survey area

- High consumption rates were identified for locally produced food in the following food groups: green vegetables, other vegetables, root vegetables, domestic fruit, cattle meat, pig meat, sheep meat, poultry, eggs, and honey. Potato, wild/free foods, rabbits/hares, wild fungi, venison and freshwater fish (from waterbodies in the terrestrial survey area) were also consumed.
- Since the last survey in 2007 there were notable decreases in the consumption rates of green vegetables, domestic fruit, cattle meat, pig meat, wild/free foods and honey, and a notable increase in the consumption rate of poultry. The consumption of milk was identified in 2007 but not in 2015.
- Between 350 and 400 residential and business properties used borehole water for all purposes including human consumption. Livestock at several farms were supplied with borehole water for drinking.

Direct radiation survey area

- The area of land encompassed within the direct radiation survey area had changed since the last survey in 2007 because part of the nuclear site had been delicensed.
- Occupancy habits within 1 km of the site included those related to residential, work, educational and recreational activities.
- Large numbers of people worked in businesses and organisations located close to the site but the highest occupancy rates were for local residents.
- Occupancy rates were broadly similar to those in 2007 except that there were moderate increases in the indoor, outdoor and total occupancy rates in a zone extending from >0.25 km to 0.5 km from the site, and a large decrease in the outdoor occupancy rate in a zone extending from the site boundary out to 0.25 km.

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SUMMARY

This report presents the results of a survey conducted in 2015 to determine the habits and consumption patterns of people living, working and pursuing recreational activities in the vicinity of the Harwell nuclear site. The site discharges liquid radioactive waste to sewers serving the Didcot Sewage Treatment Works and the treated effluent from the works enters the River Thames at Long Wittenham. The site also discharges gaseous radioactive waste via stacks to the atmosphere and surface water effluent to the Lydebank Brook. The site contains sources of direct radiation. Areas likely to be most affected by the discharges and sources of radiation were defined as the aquatic survey area for liquid discharges, the terrestrial survey area for the deposition from gaseous discharges, and the direct radiation survey area for ionising radiation emanating directly from the site. The occupancy data collected from the direct radiation survey area is also applicable to inhalation and external exposure arising from gaseous releases from the site.

The following potential exposure pathways were investigated:

- The consumption of foods from the aquatic survey area
- Activities and occupancy over riverbank substrates in the aquatic survey area
- The handling of fishing gear and sediment
- Activities and occupancy in and on water
- Occupancy in close proximity to sewage, sewage sludge and sewage cake
- The consumption of food from the terrestrial survey area
- The use and destination of produce originating from the survey areas
- The consumption and use of groundwater and surface water in the terrestrial survey area
- The transfer of contamination off-site by wildlife
- Activities and occupancy within the direct radiation survey area
- Any new or unusual exposure pathways

Information was collected from members of the public by means of interviews and the data obtained for 394 individuals are presented and discussed. High rates of consumption and riverbank occupancy are identified using established methods comprising (a) a 'cut off' to define the high-rate group and (b) 97.5th percentiles. The rates so identified can be used in dose assessments. Additionally, profiles of integrated habits data are presented specifically for use in total dose assessments.

The aquatic survey area

The aquatic survey area (see Figure 1, page 21) included the Didcot Sewage Treatment Works, Moor Ditch, and the River Thames from Sutton Courtenay to Day's Lock.

Small commercial fisheries for signal crayfish have developed along the River Thames with the dual purpose of pest control and supplying crayfish for human consumption. A commercial fisherman reported that signal crayfish trapping was carried out within the survey area but that fishing effort was distributed over a wide geographic area, with only a small proportion of fishing time spent within the survey area. Hobby fishing for signal crayfish was also reported to take place within the survey area.

Angling for coarse fish was being undertaken from the riverbank at many locations throughout the survey area. All of the anglers that were interviewed were fishing for sport on a 'catch and release' basis. However, it was reported that other people deliberately took fish from the River Thames for consumption and that signal crayfish caught unintentionally by anglers on their fishing lines were sometimes eaten.

No interviewees were consuming foods from the aquatic survey area (relating to liquid discharges). However, since there were reports that coarse fish (such as perch and pike) and signal crayfish from the aquatic survey area were being caught and consumed, it is suggested that consumption rates of 1 kg y^{-1} for coarse fish and 1 kg y^{-1} for signal crayfish are considered for radiological assessment purposes (see Annex 3). Rainbow trout and brown trout were consumed from waterways within the terrestrial survey area but these foods are included in the terrestrial section of this report since the source of potential exposure is from the washout of gaseous discharges.

The activities undertaken by adults for riverbank occupancy included angling, sitting on the riverbank, picnicking and playing. These activities were being undertaken on the lower sections of the bank which were likely to be prone to flooding. The activities on the higher sections of the bank, such as along the Thames Path, were not included in the survey since this area is unlikely to be prone to regular flooding. Gamma dose rate measurements were taken at most of the riverbank locations in the aquatic survey area where activities were occurring. No interviewees were handling fishing gear (excluding angling equipment) or sediment in the aquatic survey area. However, since commercial and hobby fishing for signal crayfish is known to take place within the survey area, it is suggested that a handling rate of 10 h y^{-1} for handling crayfish pots is considered for radiological assessment purposes (see Annex 3). The activities undertaken by people in and on the water included swimming, canoeing, rowing, kayaking, and living on a boat. Occupancy in close proximity to sewage, sewage sludge and sewage cakes at the Didcot Sewage Treatment Works was identified.

The terrestrial survey area

The terrestrial survey area (see Figure 2, page 22) covered the land and watercourses within 5 km of the centre of the Harwell site. Eighteen farms were identified that farmed the land in the terrestrial survey area. They produced, beef cattle, lambs, pigs, chicken eggs, and crops (wheat, barley, oilseed rape, field beans, maize, lucerne, poppies, and a wide range of fruit and vegetables). Grass (for silage, hay and straw), field beans and maize were grown for use as animal feed on the farms on which they

were produced. No dairy farms were identified within the survey area. Beef, pork, lamb, chicken eggs, fruit and vegetables were consumed by farmers and their families and were also on sale to the public in the survey area. One vineyard was identified within the survey area to the north-west of the site.

Five allotment sites with approximately 175 plots in total were identified where a variety of fruit and vegetables were grown. Several people kept chickens for eggs for their own families' consumption or for sale within the survey area. Five beekeepers were identified who kept hives in the survey area and the consumption of honey was recorded. Shooting took place on farmland in the area and partridge, pheasant, pigeon, rabbit, hare and venison were consumed. A range of wild foods including mushrooms, blackberries, plums, damsons, sloes, greengages, crab apples and hazel nuts were collected and consumed. The consumption of rainbow trout and brown trout was identified from a trout farm in the terrestrial survey area.

Foods from the terrestrial survey area were consumed from the following food groups: green vegetables; other vegetables; root vegetables; potato; domestic fruit; cattle meat; pig meat; sheep meat; poultry; eggs; wild/free foods; rabbits/hares; honey; wild fungi; venison; freshwater fish. No consumption of locally produced milk was identified. The consumption of groundwater by humans and livestock was identified. The mean consumption rates for the adult high-rate groups were above the national adult mean consumption rates that are used for comparison in habits surveys for the following food groups: green vegetables, other vegetables, root vegetables, domestic fruit, cattle meat, pig meat, sheep meat, poultry, eggs and honey.

The Lydebank Brook (see Figure 3, page 23) was investigated as it carries the surface water effluent (potentially containing washout of gaseous discharges) from the Harwell site. There were two main points where the public could easily access the brook but there was no evidence of activities occurring on the banks or in the brook at these locations.

A representative from the Harwell site reported that there is currently no sustained monitoring of wildlife around the site. Rabbits and pigeons had occasionally been monitored for radioactivity in the past for reassurance purposes but no elevated levels had been found.

The direct radiation survey area

The direct radiation survey area (see Figure 2, page 22) covered all land within 1 km of the Harwell nuclear licensed site boundary. Occupancy rates were obtained for residents, people working, and people visiting family in the area. The occupancy rates were analysed in zones according to the distance from the Harwell nuclear licensed site boundary. The zones were 0 – 0.25 km, >0.25 – 0.5 km and >0.5 – 1.0 km. The highest indoor, outdoor and total occupancy rates in all three zones were for residents.

Gamma dose rate measurements were taken indoors and outdoors at most properties where interviews were conducted in the direct radiation survey area. Background readings were also taken over grass at distances beyond 5 km of the Harwell site centre. The measurements taken outdoors at the properties were not notably different from the background measurements but several of the indoor measurements were notably higher than the background readings. Since gamma dose rate measurements are influenced by the nature of building materials, the substrate over which they are taken, and many other factors, the measurements taken inside properties are expected to be higher than those taken outdoors.

Comparisons with the previous survey

Comparisons were made with the results from a previous habits survey undertaken around the Harwell site in 2007.

In 2007, the consumption of fish (perch) and crustaceans (signal crayfish) from the aquatic survey area was identified. In 2015, no consumption of foods from the aquatic survey area was identified. However, there were reports that fish (such as perch or pike) and signal crayfish from the survey area were being caught and consumed so estimated rates are included for radiological assessment purposes (see Figure i below). For riverbank occupancy, there was an increase in occupancy over mud and grass in 2015 compared with 2007 (see Figure ii below). For activities taking place in the water, the maximum adult occupancy rate decreased from 39 h y^{-1} in 2007 to 13 h y^{-1} in 2015, and for activities taking place on the water, the maximum adult occupancy rate increased from 4900 h y^{-1} in 2007 to 5300 h y^{-1} in 2015.

Figure i. Mean consumption rates for the high-rate groups for aquatic foods

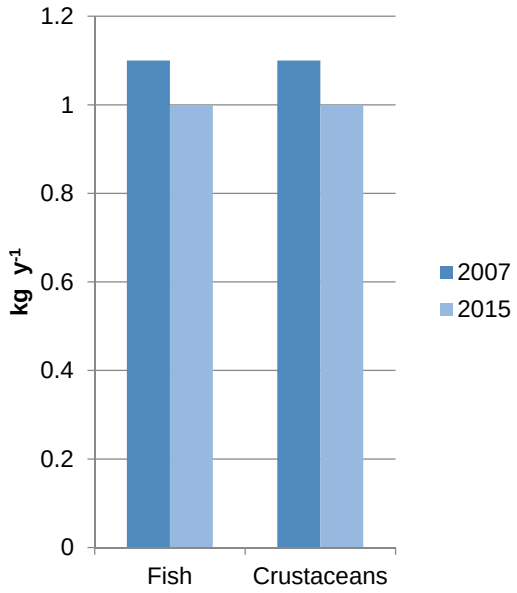
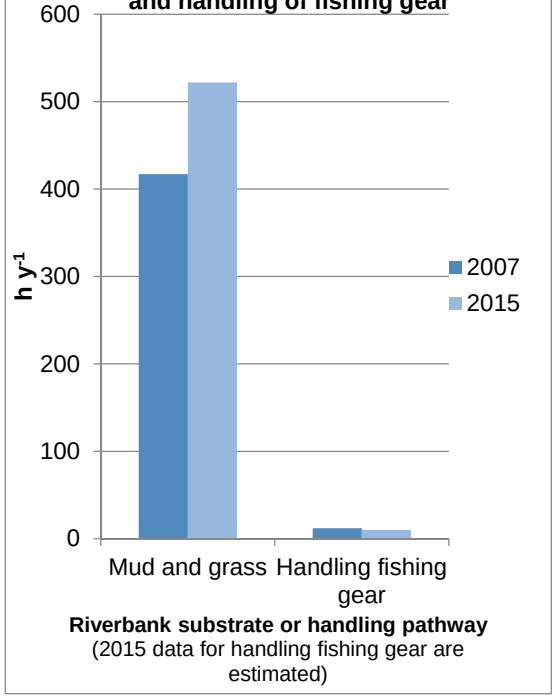
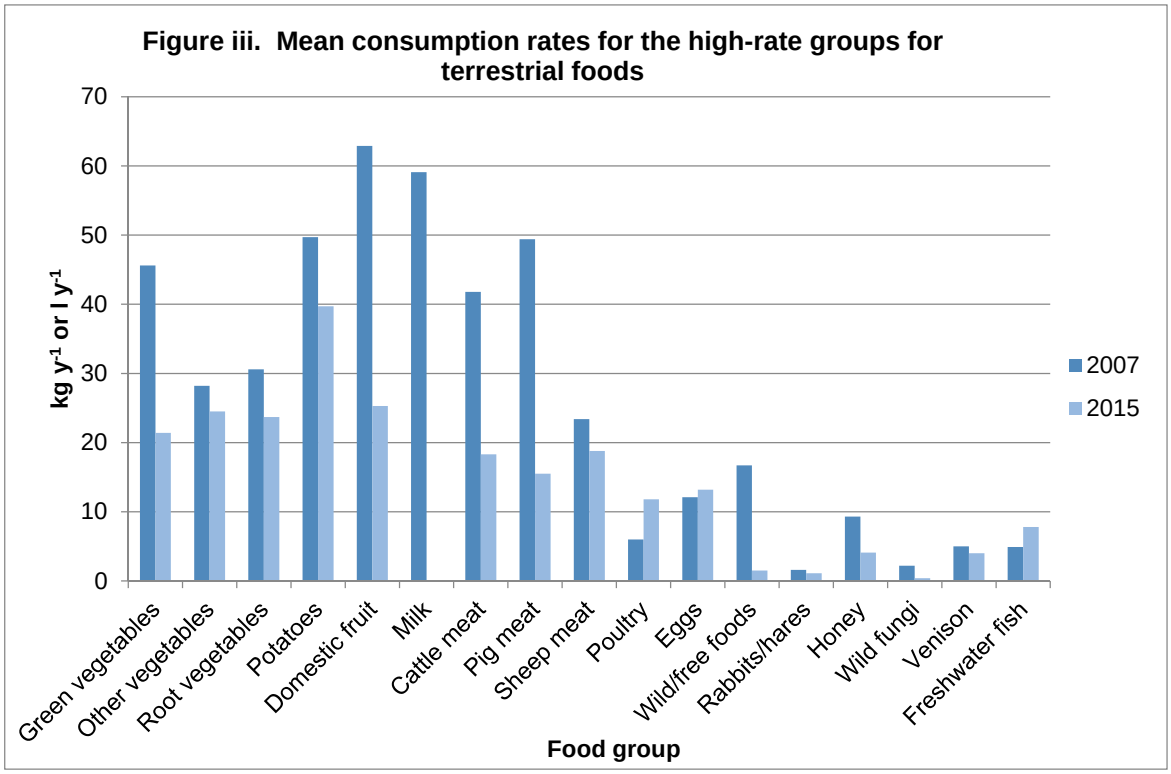
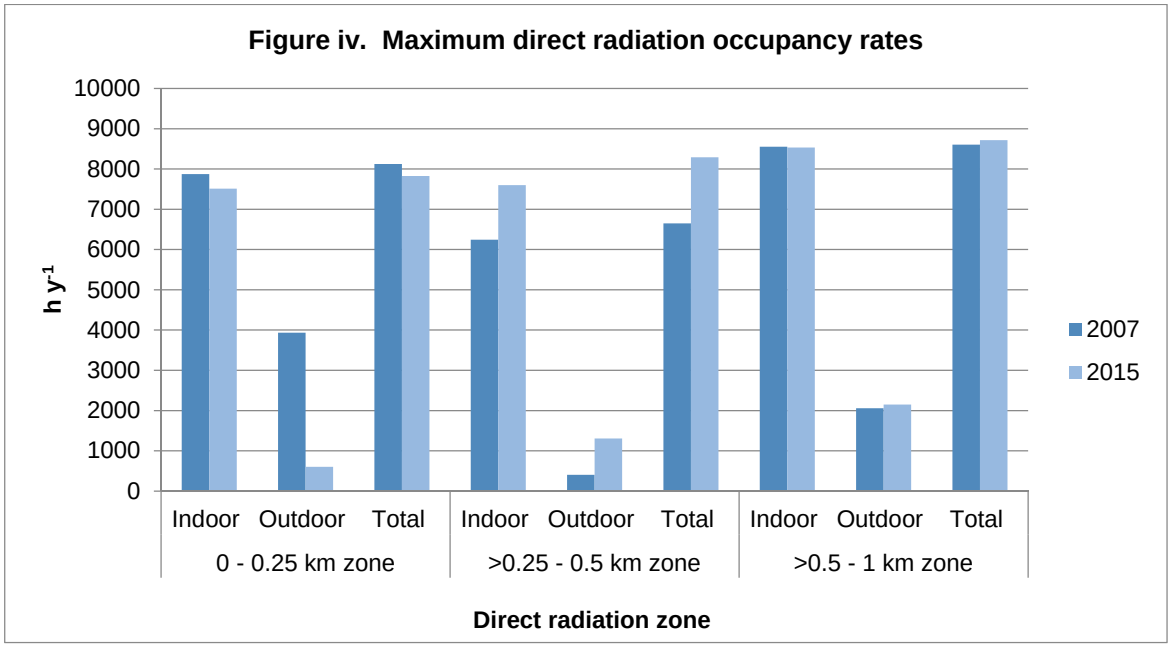


Figure ii. Mean rates for the high-rate groups for riverbank occupancy and handling of fishing gear



The most notable change in the consumption rates of terrestrial foods was the cessation of milk consumption (see Figure iii below). This was due to a farming family who kept dairy cattle and consumed milk in 2007 but no longer kept dairy cattle in 2015. The most marked change in the occupancy rates in the direct radiation survey area was a decrease in the outdoor occupancy in the 0 - 0.25 km zone (see Figure iv below). This was attributed to three people in 2007 who lived in the area and mainly worked outdoors, but had moved away from the area in 2015.





Habits survey information for consideration when selecting samples and measurements for monitoring programmes

The foods and riverbank locations identified in the 2015 Harwell habits survey could be used to assist in the selection of samples and measurements for monitoring programmes. The foods that were either consumed in the largest quantities in their food groups, or were the only food in their food group, are presented in Section 10.2 for consideration when selecting samples for the Food Standards Agency monitoring programme. For the Environment Agency monitoring programme, it is suggested that the water sample currently taken from the River Thames below the former discharge point at Sutton Courtenay could be moved to Moor Ditch since this is now the discharge route for liquid effluent after it has been treated at the Didcot Sewage Treatment Works.

1 INTRODUCTION

Members of the public might be exposed to radiation as a result of the operations of the Harwell nuclear licensed site either through the permitted discharges of liquid or gaseous radioactive wastes into the local environment, or from radiation emanating directly from the site. This report provides information on activities carried out by members of the public in the vicinity of the Harwell site, which may influence their radiation exposure. This study has been funded by the Environment Agency, the Food Standards Agency and the Office for Nuclear Radiation in order to support their respective roles in protecting the public from exposure to 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 notional 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 dose limits and optimisation, other members of the public will receive acceptable 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). The recommendations of the ICRP were updated in 2007 (ICRP, 2007) and, for the public, still include the principle of protecting the individuals most highly exposed to radiation, characterised by the representative person.

1.1 Regulatory framework

In England, the Environment Agency regulates the discharges of radioactive waste under the Environmental Permitting (England and Wales) Regulations 2010 (UK Parliament, 2010). The regulations take account of the European Union (EU) Basic Safety Standards (BSS) Directive 96/29/Euratom (Commission of the European Communities, 1996) which embody the recommendations of the ICRP, particularly ICRP 60 (ICRP, 1991). A new Basic Safety Standards (BSS) Directive was adopted by the EU on 5th December 2013 (EC, 2014) and the UK Government is required to implement the Directive into UK law by 6th February 2018. 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). Since 1st April 2011, the Office for Nuclear Regulation (ONR), has implemented this legislation and is also responsible for regulating, under the Ionising Radiations Regulations 1999 (IRR 99) (UK Parliament, 1999), the exposure of the public to direct radiation from the operations occurring on these sites. Prior to 1st April 2011 these functions were carried out by the Nuclear Installations Inspectorate of the Health and Safety Executive.

Appropriate discharge limits are set by the Environment Agency, after wide-ranging consultations that include the Food Standards Agency. The Food Standards Agency has responsibilities for ensuring that any radioactivity present in food does not compromise food safety and that permitted 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 acceptable limits.

1.2 Radiological protection framework

Dose standards for the public are embodied in the national policy (UK Parliament, 2009), 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 (Commission of the European Communities, 1996). The public dose standards were incorporated into UK law in IRR 99. The requirement to observe the conditions laid down in the Basic Safety Standards (BSS) in England and Wales is incorporated in the Environmental Permitting (England and Wales) Regulations 2010 (UK Parliament, 2010). These require that the environment agencies ensure, wherever applicable, that:

- All public radiation exposures from radioactive waste disposals are kept As Low As Reasonably Achievable (ALARA), with social and economic factors being taken into account
- The sum of all exposures does not exceed the dose limit of 1 mSv a year
- The dose received from any new source does not exceed 0.3 mSv a year
- The dose received from any single site does not exceed 0.5 mSv a year

The dose limit of 1 mSv per year to the public from all anthropogenic sources other than medical applications is also the recommendation made by the ICRP (ICRP, 2007).

The UK environment agencies are 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. They are 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 assessments (i.e. assessments of potential future doses) has been provided by the National Dose Assessment Working Group (NDAWG), which consists of representatives of UK Government Bodies and other organisations with responsibilities for dose assessments (EA, SEPA, DoENI, NRPB and FSA, 2002). 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 the 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) as described in Camplin *et al*. (2005). This approach is adopted in Radioactivity in Food and the Environment (RIFE) publications, (e.g. EA, FSA, FSS, NRW, NIEA and SEPA, 2015). NDAWG has also published reports on the collection and use of habits survey data in retrospective and prospective dose assessments (NDAWG, 2005; NDAWG

2009); the principles described in these reports are consistent with those used here. More recently, the UK environment agencies, the Health Protection Agency (now part of Public Health England) and the Food Standards Agency have jointly produced an update of the 2002 interim guidance and principles for assessing doses (EA, SEPA, NIEA, HPA and FSA, 2012).

2 THE SURVEY

2.1 Site activity

The Harwell nuclear site is located approximately 5 km south-west of the town of Didcot in Oxfordshire. It was established in 1946 as Britain's first Atomic Energy Research Establishment. Fourteen experimental reactors were built at Harwell and the last operational reactors at the site were closed in 1990. Decommissioning is well under way and parts of the nuclear licensed site have already been de-licensed. It is expected that decommissioning of redundant buildings on the site will be completed by 2027 and that final site clearance will be achieved by 2064 (EA, FSA, FSS, NRW, NIEA, and SEPA, 2015).

Since April 2015, the Harwell site has been operated by Magnox Ltd on behalf of the Nuclear Decommissioning Authority. Under the Radioactive Substances Regulation of the Environmental Permitting Regulations 2010, Magnox Ltd is permitted to undertake radioactive substances activities at the Harwell site. This includes permission to discharge gaseous radioactive wastes via stacks to the atmosphere and liquid radioactive wastes via sewers serving Didcot Sewage Treatment Works. The treated effluent from the sewage treatment works subsequently enters the River Thames at Long Wittenham. Regulated liquid discharges from the site via a pipeline directly to the Thames at Sutton Courtenay ceased in 2013. Discharges of surface water effluent from the Harwell site are made to the Lydebank Brook. The site is licensed for the purposes of operating certain activities prescribed under the Nuclear Installations Act, 1965. The site contains sources of direct radiation.

The Harwell nuclear licensed site is part of the Harwell Oxford Science and Innovation Campus. Other organisations on the campus, which are located outside of the nuclear licensed site, have their own permits to discharge liquid waste to the sewer.

2.2 Survey objectives

The Centre for Environment, Fisheries & Aquaculture Science (Cefas) undertook the Harwell habits survey in 2015 on behalf of the Environment Agency, the Food Standards Agency and the Office for Nuclear Regulation. The aim of the survey was to obtain comprehensive information on the habits of the public that might lead to their exposure to radiation via gaseous discharges, liquid discharges and direct radiation from the Harwell nuclear site.

Specifically, investigations were conducted into the following:

- The consumption of foods from the aquatic survey area
- Activities and occupancy over riverbank substrates in the aquatic survey area
- The handling of fishing gear and sediment
- Activities and occupancy in and on water
- Occupancy in close proximity to sewage, sewage sludge and sewage cake
- The consumption of food from the terrestrial survey area
- The use and destination of produce originating from the survey areas
- The consumption and use of groundwater and surface water in the terrestrial survey area
- The transfer of contamination off-site by wildlife
- Activities and occupancy within the direct radiation survey area
- Any new or unusual exposure pathways

No additional site-specific investigations were requested by the Environment Agency, the Food Standards Agency or the Office for Nuclear Regulation.

2.3 Survey areas

The geographic extents of potential effects from liquid discharges, from deposition from gaseous releases, and from direct radiation are different. Therefore, different survey areas were defined to cover each of these three main possible sources of exposure. These were an aquatic survey area relating to liquid discharges, a terrestrial survey area relating to deposition from gaseous discharges, and a direct radiation survey area relating to ionising radiation emanating directly from the site.

The aquatic survey area (see Figure 1, page 21) included the Didcot Sewage Treatment Works, which receives effluent from the Harwell site via the sewer; Moor Ditch, which carries treated effluent water from the sewage treatment works to the River Thames at Long Wittenham; and the River Thames, from Long Wittenham downstream to Day's Lock. In order to include any effects from historic discharges that were made via the former pipeline into the River Thames at Sutton Courtenay, the survey area also included the River Thames from Sutton Courtenay downstream to Long Wittenham. Hence, the entire stretch of the River Thames from Sutton Courtenay to Day's Lock was within the survey area.

The terrestrial survey area (see Figure 2, page 22) covered the land and watercourses within 5 km of the site centre (National Grid Reference: SU 470 866) to encompass the main areas of potential deposition from gaseous discharges. The watercourses connecting the Lydebank Brook to the River Thames at Sutton Courtenay (see Figure 3, page 23), which extended beyond the 5 km radius, were also included in the terrestrial survey area since they carried surface water effluent from the site.

The direct radiation survey area (see Figure 2, page 22) covered the land within 1 km of the nuclear licensed site boundary. The occupancy data collected from the direct radiation survey area is also applicable to inhalation and external exposure pathways arising from gaseous releases from the site.

The same aquatic and terrestrial survey areas were used in the previous habits survey conducted by Cefas in the Harwell area, which was in 2007 (Garrod *et al*., 2008). The direct radiation survey area was slightly different in 2015 since parts of the eastern side of the site had been delicensed.

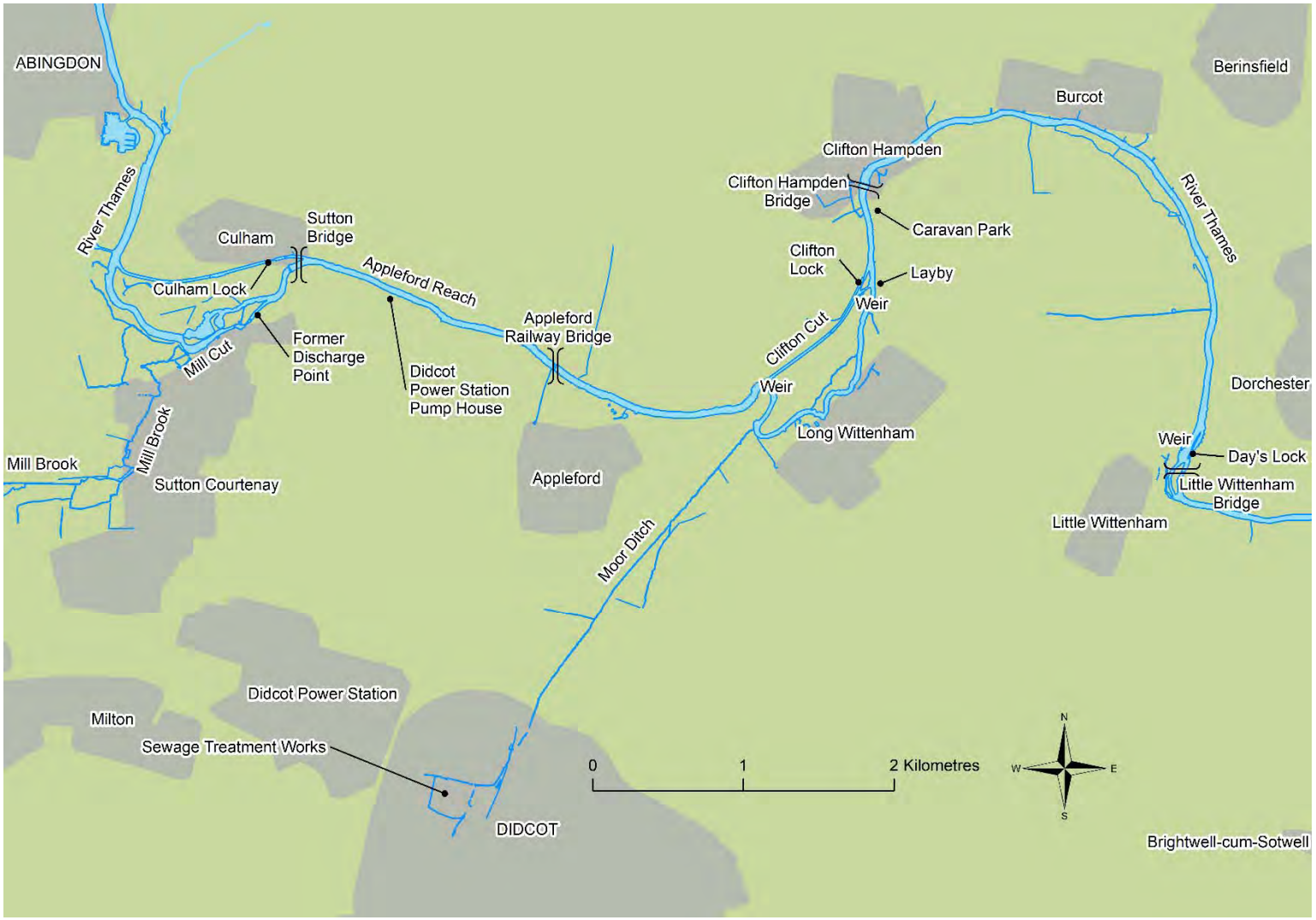


Figure 1. The Harwell aquatic survey area (including the Didcot Sewage Treatment Works, Moor Ditch, and the River Thames from Sutton Courtenay to Day's Lock)

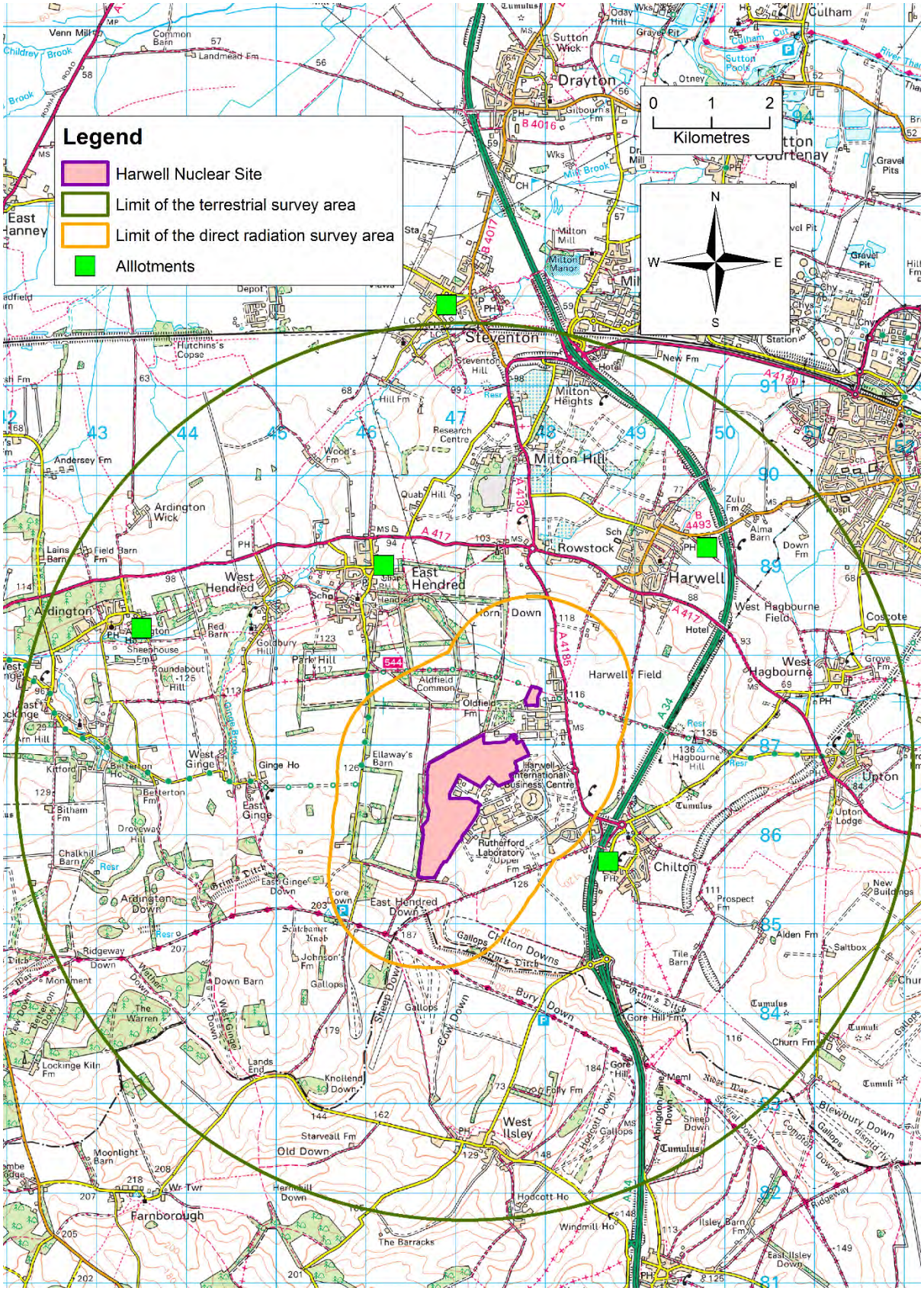


Figure 2. The Harwell terrestrial and direct radiation survey areas

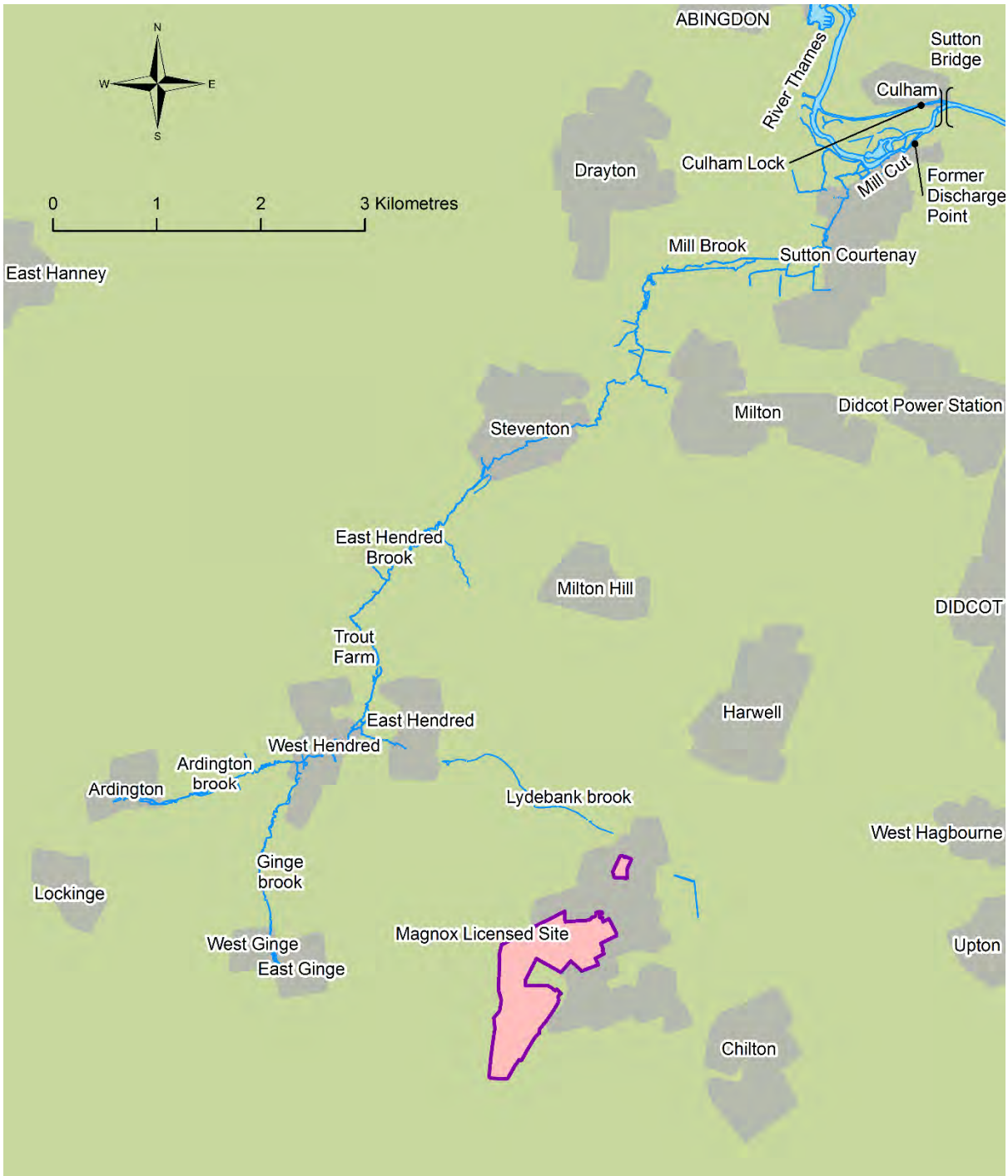


Figure 3. The surface water effluent route from the Harwell Site via the Lydebank Brook to the River Thames

2.4 Conduct of the survey

As part of the pre-survey preparation, the Environment Agency, the Food Standards Agency and the Office for Nuclear Regulation were contacted to identify any additional site-specific requirements. Information relating to the activities of people in the aquatic and terrestrial survey areas was obtained from Internet searches, Ordnance Survey maps and from previous habits surveys undertaken around the Harwell site. People with local knowledge of the survey area were contacted for information relevant to the various exposure pathways. These included parish councils, who facilitated access to allotment sites.

A proposed programme for fieldwork was distributed to the Environment Agency, the Food Standards Agency and the Office for Nuclear Regulation before the fieldwork commenced, for their comment.

The fieldwork was carried out from the 1st to the 11th September 2015 by a survey team of three people, according to techniques described by Leonard *et al.* (1982). During the fieldwork a meeting was held between members of the survey team and a representative from Magnox Ltd. This discussion provided details about current site activities, local information, potential exposure pathways and activities in the area, and the potential for transfer of contamination off-site by wildlife.

The following information was obtained during the meeting:

- The main activity on the site at the time of the survey was the recovery of stored waste and repacking it to be passively safe.
- Low level waste was being sent to the Low Level Waste Repository near Drigg in Cumbria, and elsewhere.
- Some intermediate level waste will be sent to Sellafield and some will be kept in a new store which will be built on site.
- Only surface water runoff enters Lydebank Brook. No liquid effluent is discharged into the brook.
- The pipeline that had previously taken liquid discharges to the River Thames at Sutton Courtenay was now partially dismantled.
- Liquid effluent is discharged to the public utility foul sewer, which flows to Didcot Sewage Treatment Works.
- It is expected that the disused liquid effluent treatment plant that is located in a separate licensed area to the north of the main site will be demolished and reduced to ground level by 2016 or 2017.
- There is currently no sustained monitoring of wildlife around the site. Rabbits and pigeons had occasionally been monitored for radioactivity in the past for reassurance purposes but no elevated levels had been found.
- Information about potential pathways and activities in the area included public use of footpaths and trails close to the liquid effluent treatment plant.

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, anglers, people spending time on riverbanks, farmers, allotment holders, beekeepers and people spending time within the direct radiation survey area. Interviews were used to establish individuals' consumption, occupancy and handling rates relevant to the aquatic, terrestrial and direct radiation survey areas. Any other information of possible use to the survey was also obtained. Gamma dose rate measurements were taken over riverbank substrates in the aquatic area, and indoors and outdoors at most properties in the direct radiation survey area where interviews were conducted. Background gamma dose rates were taken at a distance beyond 5 km from the site centre. All gamma dose rate measurements were taken using a Mini 600 Series Type 6-81 Environmental Radiation Meter with a compensated Geiger-Müller tube.

For practical and resource reasons, the survey did not involve the whole population in the vicinity of the Harwell site, 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 have been people not interviewed during 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 (where it was possible to make such an estimate) 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. For certain groups, such as anglers, it can be virtually impossible to calculate the total number of people who undertake the activity in the survey area because it is difficult to quantify visitors from outside the area or occasional visitors during the year. Based on UK Office of National Statistics residential data for electoral wards (www.ons.gov.uk) there were approximately 6800 people living in the terrestrial survey area, although information was obtained for a significantly smaller number than this. The survey did not include employees or contractors at the nuclear licensed sites while they were at work. This is because dose criteria applicable to these people whilst at work and the dose assessment methods are different from those for members of the public. However, data were collected for employees and contractors while outside work if these people 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 organisations such as local businesses it was not possible to collect data for all pathways (for example, the consumption of local foods) for each person. In these cases, the data were limited to those relating to the primary reason for the interview, for example, in the case of a business within the 1 km direct radiation survey area, the occupancy rates for the employees.

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 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 Person ID number) to assist in maintaining data quality and traceability.

Where generalised data for a group of people were collected, such as occupancy rates in the direct radiation survey area for employees at a business, only a limited number of representative individuals were included in the data entered into the database.

The results of the individuals' consumption, occupancy and handling rates collected during the survey were grouped and presented in tables with the high-rate group members indicated in bold and with the calculated mean rates for the high-rate group and 97.5th percentile rates. The consumption rates, occupancy rates and handling rates for all groups are presented in Annex 1 for adults and Annex 2 for children and infants, with the high-rate group members indicated in bold.

Annex 3 contains estimated data for pathways where it was not possible to obtain quantifiable data from interviews. A handling rate for fishing gear (crayfish traps) and consumption rates for coarse fish and signal crayfish from water subject to liquid discharges are presented, based on data from the 2007 Harwell habits survey.

3.2 Data conversion

During the interviews, people could not always provide consumption rates in kilograms per year for food or litres per year for milk. In these circumstances, 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 per year. The habits survey database converted these data into consumption rates (kg y^{-1} for food and l y^{-1} for milk) using a variety of conversion factors. These factors included produce weights (Hessayon, 1990 and 1997 and Good Housekeeping, 1994), edible fraction data researched by Cefas, and information supplied by the Meat and Livestock Commission.

3.3 Rounding and grouping of data

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 presented to one decimal place. Occasionally, this rounding process causes the computed values (row totals, mean rates and 97.5th percentiles), which are based on un-rounded data, to appear slightly erroneous. Consumption rates less than 0.05 kg y^{-1} are presented to two decimal places in order to avoid the value of 0.0 kg y^{-1}. External exposure data are quoted as integer numbers of hours per year.

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'.

Data were 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 International Commission on Radiological Protection (ICRP) revised its recommendations for the age groupings to be used in radiological assessments and these recommendations were adopted in the 2010 habits survey reports and thereafter. Consequently, the age ranges used in the habits survey reports prior to 2010 differ from those used currently. The age ranges used in this report and the names used for the age groups, based on the recommendations in ICRP 101 (ICRP, 2007), are shown in Table A below, together with those used in reports prior to 2010, for comparison.

Table A. Names of age groups and range of ages within each age group.

Age ranges used from 2010 onwards			Age ranges used prior to 2010	
Name of age group[a]	**Age range in group**		**Name of age group**	**Age range in group**
Infant	0 to 5-year-old		3-month-old	Under 1-year-old
			1-year-old	1-year-old
			5-year-old	2-year-old to 6-year-old
Child	6-year-old to 15-year-old		10-year-old	7-year-old to 11-year-old
			15-year-old	12-year-old to 16-year-old
Adult	16-year-old and over		Adult	17-year-old and over

[a] In the 2010 reports only, the infant age group was called the 1-year-old age group and the child age group was called the 10-year-old age group.

Since there are fewer age groups for children in the current regime, there should, in general, be more observations in each group, resulting in greater robustness in the data. However, data since 2010 will

not be directly comparable with data prior to 2010, since the age ranges in the age groups will be different.

For direct radiation pathways, the data were grouped into distance zones from the nuclear site boundary as a coarse indication of the potential dose rate distribution due to this source of exposure. The bands used in this report were: 0 - 0.25 km; >0.25 - 0.5 km; >0.5 - 1.0 km. These distance bands are also useful when assessing exposure to gaseous discharges.

3.4 Approaches for the identification of high rates

The habits data have been analysed to identify high rates of consumption, occupancy and handling, which are suitable for use in radiological assessments. Two 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 and riverbank substrate 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 and all observations above this were included in the high-rate group.

Secondly, the 97.5th percentile rate was calculated for each group. The use of percentiles accords with precedents used in risk assessments of the safety of food consumption. It should be noted that the interviewees in this study are often selected and, therefore, the calculated percentiles are not based on random data.

Mean and 97.5th percentile consumption rates for adults, based on national statistics, are provided as a baseline for comparison with the observed rates. The rates based on national statistics are referred to as generic rates in this report and have been taken from Byrom *et al.,* 1995.

The mean rates for the high-rate groups for children and infants for consumption and riverbank occupancy have been calculated. However, in cases where few child or infant observations were identified, an alternative approach that may be used for assessments is to estimate the mean rates for the high-rate groups for children and infants by applying scaling ratios to the mean rates for the high-rate groups for adults. Ratios for this purpose, based on generic 97.5th percentile rates, are provided in Annex 4. The ratio for external exposure over intertidal substrates can be applied to riverbank occupancy. The age ranges within the age groups in Annex 4 do not correspond exactly with the age ranges within the age groups used throughout the rest of this report, but these ratios are the best

available data for estimating child rates and infant rates from adult rates. Adult to child and adult to infant ratios are not available for handling pathways.

For use in assessments of foetal dose, consumption and occupancy rates are provided in Annex 5 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.ons.gov.uk).

For the direct radiation pathway, mean occupancy rates and 97.5th 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.

3.5 Profiles of habits survey data for use in total dose assessments

The survey data have been analysed to produce profiles of consumption and occupancy rates according to the method described by Camplin *et al.,* 2005. The profiles for adults are used to assess total dose integrated across all pathways of exposure in the RIFE reports (e.g. EA, FSA, FSS, NRW, NIEA, and SEPA, 2015).

Matrices of profiles for adults, children, infants and women of childbearing age are presented in Annexes 6 to 9 respectively. Within each matrix the means for the high-rate groups, as determined by the cut-off method, are presented on the diagonal. Except for the direct radiation pathway the figures across the rows are the means of the consumption and occupancy rates for the other pathways for the individuals within that profile. For the direct radiation pathway the figure denotes the proportion of the individuals within that profile who spend time within the direct radiation survey area.

3.6 Data quality

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 analysis. 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.

- Data were processed in a purpose-built habits survey database using a consistent set of conversion factors.
- Data were stored in a database in order to minimise transcription and other errors.
- Draft reports were reviewed by the Environment Agency, the Food Standards Agency and the Office for Nuclear Regulation, and by a senior radiological assessor.
- Final reports were only issued when the Environment Agency, the Food Standards Agency and the Office for Nuclear Regulation were entirely satisfied with the format and content of the draft report.

4 AQUATIC RADIATION PATHWAYS

4.1 Aquatic survey area

The aquatic survey area (see Figure 1, page 21) included the Didcot Sewage Treatment Works, which receives effluent from the Harwell site via the sewer; Moor Ditch, which carries treated effluent water from the sewage treatment works to the River Thames at Long Wittenham; and the River Thames, from Long Wittenham downstream to Day's Lock. In order to include any effects from historic discharges that were made via the former pipeline that discharged into the River Thames at Sutton Courtenay, the survey area also included the River Thames from Sutton Courtenay downstream to Long Wittenham. Hence, the entire stretch of the River Thames from Sutton Courtenay to Day's Lock was within the survey area.

Overview of survey area

The River Thames meanders downstream for approximately 10 km between Sutton Courtenay and Day's Lock. For most of this distance the river flows through farmland but it passes through, or close to, the villages of Sutton Courtenay, Culham, Appleford, Long Wittenham, Clifton Hampden and Burcot. The flow of water is generally slow and the river level is regulated to some extent by intermittent weirs and locks. Most of the riverbank is natural but small sections are reinforced with piles or staves and the locks are built of stone or concrete.

The predominant natural substrate of the riverbank is earth, which turns to mud in the wetter areas, and there are small patches of sand exposed in a few places. Most of the riverbank is covered with grass or other wild vegetation but this had been trodden down in places to reveal the underlying earth/mud.

The Thames Path National Trail runs by the river throughout the survey area and was well used by people undertaking activities such as walking, dog walking, jogging and cycling. For the most part the path runs along the higher sections of the bank, which are unlikely to be prone to regular flooding. Therefore, activities on the path were not included in the survey.

The River Thames is popular for boating activities with many narrow boats and motor cruisers passing through the survey area, although relatively few vessels have permanent moorings within it. Most of the boats are hired for holidays although some are privately owned. The river is also used by a few people in smaller craft such as canoes and kayaks.

Most of the duties of the lock keepers at Clifton Lock and Day's Lock are carried out on the stone and concrete of the lock side, high above the water level.

The culvert of Moor Ditch passes through the outskirts of Didcot before cutting across farmland to join the Thames at Long Wittenham. There are few access points to the waterside of the ditch but no activities were observed at the time of the survey.

The terms ‘left bank’ and ‘right bank’ are used to describe locations in the following section and they refer to the left and right hand sides of the river as seen by an observer facing downstream (generally towards the east).

Mill Cut at Sutton Courtenay to its confluence with the main flow of the River Thames

Mill Cut is a minor side branch of the River Thames that extends approximately 200 m downstream before it re-joins the main flow of the Thames. A weir at Mill Cut is the location of the Harwell site former liquid waste pipeline outfall. Below the weir, the left bank of Mill Cut is in the garden of a private dwelling and the right bank, which is owned by the Harwell site, is fenced off, although fishing is permitted for members of a private angling club.

The Mill Cut/River Thames confluence to Sutton Bridge

There is easy access to the river from the nearby public car park at Culham and this short section of river (see Figure 4, page 33) was a popular location for angling. Most of the angling was observed on the left bank between the Mill Cut/River Thames confluence and the Sutton Road Bridge. Hoof prints were observed in the mud of a low lying area on the right bank near the confluence, which suggested that cattle had access to the river for drinking, although there were no cattle in the adjacent field at the time of the survey.

Sutton Bridge to Appleford Railway Bridge (Appleford Reach)

The Thames Path provides access to angling spots all along the left bank of the River Thames between Sutton Bridge and Appleford Railway Bridge. However, this stretch was not heavily fished and most angling activity took place at the western end, which was closer to the car park at Culham. On the right bank, downstream from Sutton Bridge there is no easy public access to the river until a track leading down to the Didcot Power Station Pump House is reached. Anglers parked their cars on the verges of the track in order to reach the popular angling location to the east and west of the pump house.

Figure 4. The River Thames at Sutton Bridge

Appleford Railway Bridge to Clifton Lock

The Thames Path continues to provide access along the left bank of the river and there is also limited vehicular access down country tracks in places. Clifton Cut, which is the navigable route, leaves the river at a weir to the west of Long Wittenham and re-joins it at Clifton Lock. Cattle were observed wading out into the water and drinking at a gently shelving area of bank in Clifton Cut (see Figure 5, page 34). Access to the right bank of the river is by footpaths from the villages of Appleford and Long Wittenham. Parking was limited in this area and it was generally not as heavily fished as the more accessible parts of the river. The outflow from Moor Ditch enters the Thames just upstream from Long Wittenham and there were a few well used angling spots along a short stretch of riverbank just downstream of the outflow. Residential properties, some with private moorings, back on to the river at Long Wittenham, preventing public access.

Figure 5. Cattle in the river at Clifton Cut

Clifton Lock to Clifton Hampden Bridge

The Thames Path continues along the left bank of this section of the river. This was a common mooring area for visiting pleasure craft since the path provided access from the river to the amenities of Clifton Hampden. Anglers mainly used the areas close to the Clifton Hampden Bridge.

No angling was noted on the right bank downstream from Long Wittenham until a lay-by on the approach road to Clifton Hampden Bridge. The lay-by provided a convenient place for anglers to park their cars and the riverbank close by was a popular angling location. Further towards the bridge there were moorings for several pleasure craft and one of these was identified as a houseboat. Just to the south of the bridge and alongside the river was a caravan park for both touring and permanently sited vans. People were observed canoeing and pleasure cruising on their boats along this stretch of the river (See Figure 6, page 35).

There is a large car park at Clifton Hampden Bridge close to the right bank of the river. From the car park visitors have easy access by foot to both banks of the river in both upstream and downstream directions.

Figure 6. The River Thames at Clifton Hampden

Clifton Hampden Bridge to Day's Lock

Several anglers fished a small stretch, about 100 m long, on the left bank of the river just north of Clifton Hampden Bridge. Further downstream, the buildings of Clifton Hampden block public access to the riverbank. There is a short section of open riverbank between Clifton Hampden and Burcot but there is no easy access to this area and no activities were observed there. Continuing downstream on the left bank, the buildings of Burcot, and then private land, prevent public access to the riverbank almost as far as Day's Lock. Just north of Day's Lock is a stretch of bank about 300 m long where pleasure craft were moored. This area could be reached by land along footpaths from Dorchester, which was over 1 km away.

The Thames Path crosses from the left bank to the right bank at Clifton Hampden Bridge and provides access to the right bank of the river all the way down to Day's Lock. Angling was very popular close to the bridge. As in most other areas, the number of anglers dwindled as the distance increased from the road access point. A local youth organisation had a regular camp through the summer in a field by the river, about 400 m downstream from the bridge. The children, mainly aged between 10 and 14 years old, and the adult supervisors, engaged in a number of water based activities including kayaking, canoeing, and rowing.

Some limited car parking was available at Little Wittenham and from there a footbridge crosses the river to Day's Lock. It was reported that few anglers ever came past the lock to fish at potential angling areas further upstream.

Moor Ditch

Moor Ditch carries treated effluent from the Didcot Sewage Treatment Works to an outfall into the River Thames just upstream of Long Wittenham, a distance of about 3 km. After leaving the sewage treatment works, the effluent flows along a ditch through an industrial estate, under a railway line, then under a road close to residential properties on the outskirts of Didcot, before crossing farmland to the River Thames. A cycle track and footpath extends alongside the ditch for almost its entire length. Except in a couple of places, the banks of the ditch are very overgrown preventing access to the water (see Figure 7 below). Between the railway line and the road, as well as where the ditch and cycle track pass under the road, there are areas without undergrowth where access to the ditch is possible. These locations appeared to be potential play areas for children from nearby properties although no activities were observed at the time of the survey. The cycle track was well used at the Didcot end.

Figure 7. Moor Ditch

4.2 Commercial fisheries

Signal crayfish are a non-native species that escaped from aquaculture farms and have established wild populations in several areas of the UK, including the River Thames. They are classed as an invasive species that is harmful to native wildlife and consequently the Environment Agency permits their capture and removal from waterways. Small commercial fisheries have developed with the dual purpose of pest control and supplying crayfish for human consumption.

A commercial fisherman reported that crayfish fishing was carried out within the survey area but that fishing effort was distributed over a wide geographic area with only a small proportion of fishing time spent within the survey area. At the time of the survey, nine people held Environment Agency permits that would allow them to trap crayfish commercially within the survey area.

The main method of catching crayfish was by baited traps set from a boat or from the river bank. Fishing could be carried out all year but the best catches were usually taken between July and October.

Catches were sold to merchants who supplied the catering trade locally, throughout the UK and also exported crayfish to the continent.

4.3 Hobby fishing and angling

Angling for coarse fish could be undertaken from the riverbank throughout most of the survey area but the most popular locations were close to the road access points at Sutton Courtenay, the south bank of Appleford Reach, the lay-by between Long Wittenham and Clifton Hampden, and at Clifton Hampden. Angling from moored pleasure boats was also observed. At least seven angling clubs held the fishing rights to different sections of the river. As with all rivers in England, the River Thames is subject to a ‘closed season’ lasting from 15 March to 15 June each year during which time no angling for coarse fish is permitted.

All the anglers that were interviewed were fishing for sport on a ‘catch and release’ basis. However, it was reported that other people deliberately took fish from the River Thames for consumption and that crayfish caught unintentionally by anglers on their fishing lines were sometimes eaten.

Hobby fishing for crayfish was reported to take place within the survey area although the River Thames at Abingdon, (upstream of the survey area), was a more popular place to fish. It was said that hobby fishermen usually used just one or two traps to catch crayfish for their own families’ consumption. At the time of the survey approximately 90 people held Environment Agency permits that would allow them to trap crayfish non-commercially within the survey area, although it is unlikely that many of them actually did fish within the survey area.

4.4 Didcot Sewage Treatment Works

The Didcot Sewage Treatment Works was investigated because regulated discharges from the Harwell nuclear site are discharged to the sewers serving the works. Other organisations on the Harwell Campus, which are outside of the nuclear licensed site, have their own permits to discharge liquid waste to the sewer. The sewage from the Harwell site undergoes treatment at the sewage treatment works. During this process, solid matter settles out to form sludge, which then has more water removed to produce solid sewage cakes. The cakes are used as a fertiliser and soil conditioner on farmland. The treated water, which may still hold radionuclides in liquid phase, is discharged to Moor Ditch from where it flows to the Thames at Long Wittenham.

The plant is highly automated and mechanised which means that the employees spend relatively little time in close proximity to the sewage, sewage sludge or sludge cake. One member of staff was primarily responsible for undertaking activities in close proximity (<1 metre) to the sewage during activities such as clearing pipes; cleaning rag traps, fat traps and grit traps; and sampling. He was also in close proximity (<3 metres) to the sewage sludge or sludge cake during activities such as sampling and using a small mechanical digger to move the cake to a storage area. Eight other workers also spent a very small amount of time per year undertaking these activities. The sludge cake was collected from the site periodically by contractors.

4.5 Other pathways

No new pathways were identified during the survey.

4.6 Food consumption data

No interviewees were consuming aquatic foods from the aquatic survey area. However, there were reports that coarse fish (such as perch and pike) and signal crayfish from the aquatic survey area were being caught and consumed. Therefore, it is suggested that consumption rates of 1 kg y^{-1} of coarse fish and 1 kg y^{-1} of signal crayfish are considered for radiological assessment purposes (see Annex 3).

Rainbow trout and brown trout were consumed from waterways within the terrestrial survey area. These foods are included in the terrestrial section of this report since the source of potential exposure is from the washout of gaseous discharges.

4.7 Riverbank occupancy

Occupancy rates over riverbank substrates are presented in Table 3 for adults and in Table 4 for children and infants. The predominant natural substrate of the riverbank was earth, which turned to mud in the wetter areas, and there were small patches of sand exposed in a few places. Most of the

riverbank was covered with grass or other wild vegetation but this had been trodden down in places to reveal the underlying earth/mud. No activities were recorded taking place over sand. The other parts of the riverbank were classified as 'mud and grass'.

Adults' riverbank occupancy rates

Table B presents a summary of the adults' riverbank occupancy rates in the aquatic survey area. The table includes the mean occupancy rates for the high-rate groups and the observed 97.5th percentile rates.

Table B. Summary of adults' riverbank occupancy rates

Riverbank substrate	Number of observations	Number of people in the high-rate group	Maximum of the high-rate group (h y^{-1})	Mean of the high-rate group (h y^{-1})	97.5th percentile (h y^{-1})
Mud and grass	22	7	888	522	729

The only activity undertaken by people in the adult high-rate group for occupancy over mud and grass was angling on the banks of the River Thames at Sutton Courtenay, Appleford Reach and Clifton Hampden.

Children's and infants' riverbank occupancy rates

Table C presents a summary of the children's and infants' riverbank occupancy rates in the aquatic survey area. The table includes the mean occupancy rates for the high-rate groups and the observed 97.5th percentile rates.

Table C. Summary of children's and infants' riverbank occupancy rates

Riverbank substrate	Number of observations	Number of people in the high-rate group	Maximum of the high-rate group (h y^{-1})	Mean of the high-rate group (h y^{-1})	97.5th percentile (h y^{-1})
Child age group (6 – 15 years old)					
Mud and grass	4	4	108	83	106
Infant age group (0 – 5 years old)					
Mud and grass	2	2	108	108	108

The activities undertaken by individuals in the child age group high-rate group for occupancy over mud and grass were:

- Playing and picnicking on the bank of the River Thames at Sutton Courtenay.
- Angling on the bank of the River Thames at Clifton Hampden.

The activities undertaken by individuals in the infant age group high-rate group for occupancy over mud and grass were:

- Playing and picnicking on the bank of the River Thames at Clifton Hampden.

4.8 Gamma dose rate measurements

Gamma dose rate measurements were taken over three riverbank substrates. All measurements were taken at a height of 1 metre above the substrate. The results are presented in Table 5 and are summarised in Table D.

Table D. Summary of gamma dose rate measurements taken over riverbank substrates

Substrate	Number of measurements taken	Minimum gamma dose rate at 1 metre[a] ($\mu Gy\ h^{-1}$)	Maximum gamma dose rate at 1 metre[a] ($\mu Gy\ h^{-1}$)
Mud	2	0.055	0.057
Mud and grass	2	0.051	0.056
Sand	1	0.051 (only 1 measurement)	

Notes
[a]These measurements have not been adjusted for background dose rates.

For comparison, natural background levels have been estimated at 0.05 $\mu Gy\ h^{-1}$ over sand, 0.07 $\mu Gy\ h^{-1}$ over mud, and 0.06 $\mu Gy\ h^{-1}$ over other substrates (EA, FSA, FSS, NRW, NIEA and SEPA, 2015).

4.9 Handling of fishing gear and sediment

Handling fishing gear that has become entrained with fine sediment particles during use can potentially give rise to skin exposure from beta radiation. Doses to the skin are considered within the dose limitation system (ICRP, 1991).

Fishing gear can also be a source of gamma exposure due to occupancy in the vicinity of the gear. However, this pathway is minor compared with the exposure received during occupancy over riverbank areas and it has therefore been omitted from the report. Handling of angling equipment was not considered to be a significant pathway. Therefore, as in previous surveys, data for this pathway were not collected.

Adults' handling rates of fishing gear and sediment

No interviewees were handling fishing gear or sediment in the aquatic survey area. However, commercial and hobby fishing for signal crayfish is known to take place within the survey area and therefore it is suggested that a rate of 10 $h\ y^{-1}$ for handling fishing gear (crayfish pots) is considered for radiological assessment purposes (see Annex 3).

Children's and infants' handling rates of fishing gear and sediment

No children or infants were identified handling fishing gear or sediment during the survey.

4.10 Occupancy in close proximity to sewage, sewage sludge and sewage cake

Table 6 shows the occupancy rates in close proximity to sewage, sewage sludge and sewage cake at the Didcot Sewage Treatment Works.

One employee was primarily responsible for undertaking the activities including clearing inlet pipes, rag traps, fat traps and grit traps, sampling, and moving sewage cake to the storage area. The occupancy rate in close proximity (<1 metre) to sewage was 170 h y^{-1} and the occupancy rate in close proximity (<3 metres) to sewage sludge and sewage cake was 135 h y^{-1}.

4.11 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 of minor radiological importance 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 for the high-rate groups and 97.5th 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 'in water' and 'on water' in the aquatic survey area are presented in Table 7 for adults and Table 8 for children and infants.

Activities in the water

The only activity identified taking place in the water in the aquatic survey area was swimming. Two observations were recorded for adults and 10 observations were recorded for the child age group. No observations were recorded for the infant age group. The two adults had the same occupancy rate of 13 h y^{-1} and they were both swimming in the River Thames at Clifton Hampden. In the child age group, the 10 children had the same occupancy rate of 4 h y^{-1} and they were swimming in the River Thames at Clifton Hampden.

Activities on the water

The activities taking place on the water in the aquatic survey area were living on a boat, canoeing, rowing and kayaking. Ten observations were recorded for adults and 12 observations were recorded for the child age group. No observations were recorded for the infant age group. The highest occupancy rate for adults was 5300 h y^{-1} for one individual who was living on a boat on the River Thames near Clifton Hampden. In the child age group, 10 children had the same occupancy rate of 110 h y^{-1} and they were canoeing, rowing and kayaking on the River Thames near Clifton Hampden.

5 TERRESTRIAL RADIATION PATHWAYS

5.1 Terrestrial survey area

The terrestrial survey area (see Figure 2, page 22) covered all land and watercourses within 5 km of the Harwell site centre (NGR SU 470 866). The watercourses connecting the Lydebank Brook to the River Thames (see Figure 3, page 23), which extended beyond the 5 km radius, have also been included in the terrestrial survey area since they carried surface water effluent from the site.

Several villages were located within the terrestrial survey, including: Milton to the north of the site; Harwell to the north-east; West Hagbourne and Upton to the east; Chilton to the south-east; West Ilsley to the south; and Ardington, East Hendred and West Hendred to the north-west. Several brooks, including the Lydebank Brook, flowed through the survey area to the north and west of the site. Land in the terrestrial survey area was predominantly agricultural.

Eighteen working farms were identified in the area. Of these:

- One farm produced fruit
- Five farms produced arable crops
- Two farms produced beef cattle
- Two farms produced beef cattle and arable crops
- Four farms produced lambs and arable crops
- Two farms produced beef cattle, lambs and arable crops
- One farm produced beef cattle, lambs, arable crops, fruit and vegetables
- One farm produced beef cattle, lambs, pigs, free range chicken eggs, fruit and vegetables

The arable crops included wheat, barley, oilseed rape, field beans, maize, lucerne and poppies. Grass (for silage, straw and hay), field beans and maize were grown for use as animal feed on the farms on which they were produced. A wide range of fruit and vegetables were grown. No dairy farms were identified within the survey area. However, it was reported that dairy followers (young cows being reared to replace older dairy stock) were kept on land in the survey area and that a new dairy may be started in the survey area in the future.

Farmers and their families were consuming beef, lamb, pork, chicken eggs, fruit and vegetables from their own farms.

One vineyard was identified within the survey area to the north-west of the site. Four allotment sites were located within the survey area, at Harwell, East Hendred, Chilton and Ardington, and one was located just outside the survey area at Steventon. There were approximately 30 plots at Harwell, 30

plots at East Hendred, 20 plots at Chilton, 20 plots at Ardington and 75 plots at Steventon. The allotment sites were generally well used and a wide variety of fruit and vegetables were grown and consumed. In addition, chickens were kept for egg production at one allotment site. Private gardens with a range of fruit and vegetables were identified and some individuals kept chickens for eggs. Several private houses were selling small amounts of fruit from their door.

Five beekeepers were identified in the survey area with hives that were located near Rowstock, near Harwell, south-east of Chilton, near East Hendred, and near Upton. The production of honey per hive ranged from 23 kg y^{-1} to 36 kg y^{-1}. The beekeepers and their family and friends consumed honey.

The consumption of wild foods from the survey area included mushrooms, blackberries, plums, damsons, sloes, greengages, crab apples and hazel nuts. These were collected from the lanes around the villages and from fields in the survey area. Game from within the survey area, which included pheasant, partridge, pigeon, rabbit, hare and venison, was consumed. Organised game shoots were identified on nine farms in the survey area. The shoots were mainly targeting pheasant and partridge, with three shoots also targeting deer, and one shoot targeting ducks. Rough shooting for rabbits and hares was also carried out on farmland.

Between 350 and 400 residential and business properties on the western edge of the survey area did not have mains water so borehole water was used for all purposes at these properties, including human consumption. The consumption rates of groundwater were not investigated since representative water intake values for assessment purposes are provided in Smith and Jones (2003). Several farms scattered throughout the survey area used borehole water as the drinking supply for livestock. Livestock also had access to stream and ditch water in the fields.

There are several brooks in the north and west of the survey area. The Lydebank Brook is of particular interest as it carries the surface water effluent (potentially containing deposition from gaseous discharges) from the Harwell site. The route of the surface water effluent from the site via the Lydebank Brook to the River Thames is shown in Figure 3 (page 23). The names of some of the brooks shown in Figure 3 vary on different maps due to the complex nature of the routes and connections. From the Harwell site, the Lydebank Brook is very small and crosses open farmland and woodland before passing through an underground culvert at East Hendred. The Lydebank Brook then joins the Ginge Brook (already joined by the Ardington Brook) to become a sizable stream called the East Hendred Brook. This stream flows through Steventon (the outer limit of the 5 km terrestrial area) and then across farmland, becoming Mill Brook before joining the River Thames at Sutton Courtenay.

The Lydebank Brook was investigated to identify any activities occurring on the banks or in the brook. There are two main points where the public could easily access the brook. One is to the east of East Hendred Village where a few metres of the brook can be accessed by a footpath through farmland and woodland. Here the brook is very narrow and the banks are heavily overgrown. There was very little

water in the brook at the time of the survey and there was no evidence of activities along this stretch. The second access point is in the village of East Hendred where the brook flows under a road and then passes through woodland. At this point there is a footpath alongside the brook, which is passable for about 20 m before becoming overgrown. The water can be accessed near the road and this is potentially an area where children could play. However, no one was identified spending time there. The Ginge Brook flows past a trout farm at East Hendred (see paragraph below). No activities were identified between the trout farm and the River Thames, as for the most part, the brook crossed farmland and access was extremely limited.

There was one trout farm located to the north-west of the site and one trout sport fishery located to the west of the site. The trout farm primarily produced rainbow trout with small numbers of brown trout. Water was diverted predominantly from the Ginge Brook (which was fed by the Lydebank Brook) to fill the trout ponds. Trout were fed on commercial pellets and remained in the ponds between six months and one and a half years. There was also a trout pond at the farm where people could catch their own fish to take home to eat. The sport fishery was predominantly a fishing school. It comprised of five lakes which were stocked with brown trout and rainbow trout that remained in the ponds for varying lengths of time.

5.2 Destination of food originating from the terrestrial survey area

Beef cattle and sheep were sold through livestock markets outside the survey area and distributed nationally for growing on or for slaughter. Beef and lamb was also sold direct to the public from local farm shops within the survey area. All of the pork was sold direct to the public from one of these farm shops. Wheat and barley were sold nationally for human consumption and animal feed. Oilseed rape was sold nationally for the production of oil for human consumption and biodiesel, with the residue left after pressing being used for animal feed. Field beans, maize, lucerne and grass (for silage, hay and straw) were grown for use as animal feed on the farms on which they were produced, or further afield. Poppies were sold outside the survey area for use in medicinal products. Apples were used to make cider that was sold direct to the public from within the survey area and other varieties of fruit and vegetables was sold to the public from local farm shops. Wine from the vineyard was sold within and outside of the survey area. Honey was being sold at shops within the survey area. Excess game and venison from shoots on farmland in the area were sold to local butchers, restaurants and pubs, some of which were from within the survey area, and to a game dealer outside the survey area. Rainbow trout from the trout farm were sold from the premises and at regional farmers markets.

5.3 The potential transfer of contamination off-site by wildlife

A representative from the Harwell site reported that there is currently no sustained monitoring of wildlife around the site. Rabbits and pigeons had occasionally been monitored for radioactivity in the past for reassurance purposes but no elevated levels had been found.

5.4 Food consumption data

Consumption data for locally produced foodstuffs potentially affected by deposition of gaseous discharges are presented in Tables 9 to 24 for adults and Tables 25 to 37 for children and infants. The mean consumption rates for the high-rate groups and the observed 97.5th percentile rates, calculated as described in Section 3.4, are given at the foot of each table.

In order to provide information relevant to monitoring and assessments studies, the consumption rate data for adults 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 38.

Adults' consumption rates

Consumption of locally produced foods was identified in the following 16 food groups: green vegetables; other vegetables; root vegetables; potato; domestic fruit; cattle meat; pig meat; sheep meat; poultry; eggs; wild/free foods; rabbits/hares; honey; wild fungi; venison; freshwater fish. No consumption of milk was identified.

Table E presents a summary of the adults' consumption rates for the foods consumed from the terrestrial survey area. The table includes the mean consumption rates for the high-rate groups and the observed 97.5th percentile rates. For comparison, the table also includes mean consumption rates and 97.5th percentile consumption rates based on national data, which are referred to as 'generic' data in this report. No generic rates have been determined for venison and freshwater fish.

None of the mean consumption rates for the high-rate groups were greater than the generic 97.5th percentile consumption rates. Ten of the mean consumption rates for the high-rate groups exceeded the generic mean consumption rates. These were for green vegetables, other vegetables, root vegetables, domestic fruit, cattle meat, pig meat, sheep meat, poultry, eggs and honey. One of the observed 97.5th percentile consumption rates exceeded the generic 97.5th percentile consumption rates, which is for sheep meat.

Table E. Summary of adults' consumption rates of foods from the terrestrial survey area

Food group	Number of observations	Number of high-rate consumers	Observed maximum for the high-rate group (kg y^{-1})	Observed minimum for the high-rate group (kg y^{-1})	Observed mean for the high-rate group (kg y^{-1})	Observed 97.5th percentile (kg y^{-1})	Generic mean* (kg y^{-1})	Generic 97.5th percentile* (kg y^{-1})
Green vegetables	104	19	42.9	15.7	21.4	22.3	15.0	45.0
Other vegetables	111	19	54.9	19.3	24.5	26.9	20.0	50.0
Root vegetables	102	44	38.8	13.1	23.7	31.3	10.0	40.0
Potato	96	31	76.9	26.1	39.7	61.4	50.0	120.0
Domestic fruit	124	18	38.3	13.6	25.3	38.2	20.0	75.0
Cattle meat	60	14	29.0	13.0	18.3	29.0	15.0	45.0
Pig meat	4	4	17.9	13.0	15.5	17.9	15.0	40.0
Sheep meat	31	14	29.0	13.0	18.8	29.0	8.0	25.0
Poultry	32	5	16.4	8.0	11.8	16.4	10.0	30.0
Eggs	48	33	22.3	8.2	13.2	21.8	8.5	25.0
Wild/free foods	86	46	2.3	0.8	1.5	2.3	7.0	25.0
Rabbits/hares	3	3	1.2	0.9	1.1	1.2	6.0	15.0
Honey	36	10	5.9	2.7	4.1	5.9	2.5	9.5
Wild fungi	10	10	0.5	0.2	0.4	0.5	3.0	10.0
Venison	11	6	6.0	3.0	4.0	6.0	Not determined	Not determined
Freshwater fish	4	2	10.4	5.2	7.8	10.0	Not determined	Not determined

(*Generic rates based on data from Byrom *et al.*, 1995.)

Children's and infants' consumption rates

Twenty-five individuals in the child age group and eighteen individuals in the infant age group were identified consuming foods from the terrestrial survey area. Table F presents a summary of children's and infants' consumption rates. The table includes the mean consumption rates for the high-rate groups and the observed 97.5th percentile rates. No generic data have been determined for the child or infant age groups. In the child age group, no consumption of foods from the following food groups was identified: milk; pig meat; sheep meat; rabbits/hares; wild fungi; venison. In the infant age group, no consumption of foods from the following food groups was identified: milk; sheep meat; rabbits/hares; wild fungi; freshwater fish.

Table F. Summary of children's and infants' consumption rates of foods from the terrestrial survey area

Food group	Number of observations	Number of high-rate consumers	Observed maximum for the high-rate group (kg y^{-1})	Observed minimum for the high-rate group (kg y^{-1})	Observed mean for the high-rate group (kg y^{-1})	Observed 97.5th percentile (kg y^{-1})
Child age group (6 - 15 years old)						
Green vegetables	11	8	13.8	4.9	7.6	12.5
Other vegetables	13	2	14.7	14.7	14.7	14.7
Root vegetables	10	5	6.3	2.3	4.1	6.0
Potato	10	4	15.5	10.4	13.0	15.5
Domestic fruit	13	5	8.7	3.4	4.7	7.3
Cattle meat	4	1	9.0	9.0	9.0	8.5
Poultry	2	2	0.2	0.2	0.2	0.2
Eggs	3	3	13.4	8.2	11.7	13.4
Wild/free foods	9	5	1.3	0.8	1.2	1.3
Honey	3	3	0.6	0.3	0.4	0.6
Freshwater fish	2	2	5.2	5.2	5.2	5.2
Infant age group (0 - 5 years old)						
Green vegetables	4	3	7.1	5.8	6.7	7.1
Other vegetables	5	3	7.7	3.7	6.4	7.7
Root vegetables	4	2	8.4	8.4	8.4	8.4
Potato	4	3	10.4	8.3	9.0	10.2
Domestic fruit	14	4	6.8	2.3	4.8	6.8
Cattle meat	3	2	1.6	0.8	1.2	1.5
Pig meat	2	2	8.9	5.9	7.4	8.9
Poultry	5	5	0.6	0.2	0.5	0.6
Eggs	4	4	1.5	1.1	1.4	1.5
Wild/free foods	11	6	0.9	0.3	0.5	0.8
Honey	5	5	0.1	0.1	0.1	0.1
Venison	1	1	0.2	0.2	0.2	NA

6 DIRECT RADIATION PATHWAYS

6.1 Direct radiation survey area

The Harwell nuclear licensed site consists of two separate pieces of land; the main site and the much smaller liquid effluent treatment plant situated approximately 400 m to the north-east of the main site. The direct radiation survey area (see Figure 2, page 22) was defined as the land within 1 km of the Harwell nuclear licensed site boundary, which includes both of these licensed areas. The occupancy data collected from the direct radiation area is also applicable to the inhalation and external exposure arising from gaseous releases from the site.

Much of the land within the direct radiation survey area is farmland but to the east of the licensed sites there is a built-up area, consisting mainly of the buildings of the Harwell Oxford Science and Innovation Campus. The main access road to the campus is the A4185 which passes north to south through the eastern part of the survey area.

In the area to the north-east of the main site and south-east of the liquid effluent treatment plant there is a small shopping precinct and several campus buildings. A nursery school, tennis courts and playing fields are located close by to the east of the main site. Further to the east and north-east of the liquid effluent treatment plant there is a small residential area. Most of the houses in the road at the south end of this residential area were unoccupied and boarded up since the area is earmarked for redevelopment for 130 dwellings. All the area to the north and north-east of the housing estate is open farmland and two isolated residences are located in the far north-east, close to the limit of the 1 km survey area.

The main part of the campus is located adjacent to the east of the main licensed site and the larger organisations and several smaller organisations have their premises in this area. Some of the organisations are enclosed by their own security fences. There are also landscaped areas, a sports field, a hotel, a bus terminus and another nursery school.

Further to the south-east there is a road of residential properties and beyond that a new housing estate of approximately 270 dwellings. To the south of the site the land is mainly open countryside and farmland but there are two isolated residential properties in this area.

The land to the west and to the north of the licensed site is predominantly farmland with scattered small patches of woodland and a minor road which runs north to south down the western edge of the 1 km zone. There are two isolated cottages to the west and a small business, a hamlet of seven houses and a farm to the north-west.

There are several paths and tracks throughout the survey area including the Ridgeway byway that passes along the top of a chalk ridge in the south of the area close to the limit of the 1 km zone, and the Icknield Way path that passes close to the northern fence of the liquid effluent treatment plant.

6.2 Residential activities

Approximately 390 residential properties were identified within the direct radiation survey area and most of these were located either in the area to the east of the liquid effluent treatment plant or on the new housing estate in the south-east of the survey area. About a dozen of the properties were unoccupied. Interviews were conducted at 28 residences, 11 of which included families with children. Five of the properties at which interviews were conducted were within the 0 – 0.25 km zone, five properties were within the >0.25 – 0.5 km zone and 18 properties were within the >0.5 – 1.0 km zone.

6.3 Leisure activities

Walking, dog walking, jogging, cycling and horse riding took place on the paths and tracks throughout the survey area, some of which passed very close to the boundary fences of the licensed areas. There were several tennis courts to the north-east of the main licensed site in the 0 – 0.25 km and >0.25 – 0.5 km zones and sports fields in the same area in the >0.25 – 0.5 km zone.

6.4 Commercial activities

There were around 200 organisations located on the Harwell Oxford Science and Innovation Campus, employing approximately 5000 people. These ranged in size from small enterprises with just two or three staff to large organisations employing approximately 1400 people. They were engaged in a diverse array of activities and included high-tech businesses, commercial firms, scientific research institutes, government agencies and local service providers. The organisations were located in two main areas, one to the north-east of the main part of the licensed site and the other to the east. All of the organisations to the north-east were in the 0 – 0.25 km zone and the organisations to the east were in the 0 – 0.25 km zone and in the >0.25 – 0.5 km zone. A single small business was located to the west of the survey area in the >0.5 – 1.0 km zone and farming took place in all three zones throughout much of the survey area.

Interviews were conducted at six organisations, five of which were located in the 0 – 0.25 km zone and one was located in the >0.25 – 0.5 km zone. All of the organisations provided generic data for their staff. A representative sample of staff has been used in the analysis due to the large number of staff working at each of the organisations.

The activities of Harwell site employees and contractors while at work were not considered in the direct radiation survey, as radiation workers are subject to different radiation protection criteria.

6.5 Educational activities

Two nursery schools were located in the direct radiation survey area and both were in the 0 – 0.25 km zone. One of the nursery schools employed 21 full-time staff, and had 100 registered children, aged from 3 months to 5 years. Approximately 40 of the children were aged from 3 months old to 1 year old and about 60 children were aged from 2 years old to 5 years old. Attendance times for the children were very variable, ranging from 4 hours to 40 hours per week. Occupancy rates for a sample of the children who attended regularly were obtained. The staff and children spent an average of one to two hours per day outdoors, depending on the weather. The other nursery school also catered for children between 3 months and 5 years old, and had approximately 30 staff and almost 100 registered children.

Part of the playing field and a building used for an after school club at a primary school were located close to the outer limit of the 1 km survey area but the main school buildings and most of the playing field were outside the area.

6.6 Occupancy rates

Table 39 presents indoor, outdoor and total occupancy data for adults, children and infants. An analysis of the data by distance zones and occupancy rates is shown in Table 40. A summary of occupancy rates in the direct radiation survey area is presented in Table G. Where generic data for a large number of people were collected, for example employees of large organisations, only representative examples have been included in the data presented.

Table G. Summary of direct radiation occupancy rates

Zone	Number of observations	Highest indoor occupancy (h y^{-1})	Highest outdoor occupancy (h y^{-1})	Highest total occupancy (h y^{-1})
0 - 0.25 km	87	7511	602	7825
>0.25 - 0.5 km	33	7600	1305	8291
>0.5 - 1.0 km	54	8534	2148	8716

0 - 0.25 km from the nuclear licensed site boundary

Occupancy data for 87 individuals in the 0 - 0.25 km zone were included in the analysis. The observations were for 15 residents, 64 people who were working in the area (representative of five large businesses), and eight children who were representative of those attending nursery school. One resident had the highest indoor and total occupancy rates and a different resident had the highest outdoor occupancy rate.

>0.25 - 0.5 km from the nuclear licensed site boundary

Occupancy data for 33 individuals in the >0.25 - 0.5 km zone were included in the analysis. The observations were for 12 residents, 20 people who were working in the area (representative of a large business) and one person who was visiting family in the area. Three different residents had the highest indoor, outdoor and total occupancy rates.

>0.5 - 1.0 km from the nuclear licensed site boundary

Occupancy data for 54 individuals in the >0.5 - 1.0 km zone were included in the analysis. The observations were for 51 residents and three people who were visiting family in the area. One resident had the highest indoor and total occupancy rates and a different resident had the highest outdoor occupancy rate.

6.7 Gamma dose rate measurements

Gamma dose rate measurements were taken indoors and outdoors at most properties where interviews were conducted in the Harwell direct radiation survey area. Outdoor measurements were taken approximately 5 to 10 metres from the nearest building, and where possible, were taken over grass. Gamma dose rate measurements over grass were taken at locations 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 using a Mini 600 Series Type 6-81 Environmental Radiation Meter with a compensated Geiger-Müller tube. The indoor and outdoor measurements have not been adjusted for background dose rates. The results are presented in Table 41 and are summarised in Table H.

Table H. Summary of gamma dose rate measurements taken indoors and outdoors at properties in the direct radiation survey area

Substrate	Number of measurements taken	Minimum gamma dose rate at 1 metre ($\mu Gy\ h^{-1}$)	Maximum gamma dose rate at 1 metre ($\mu Gy\ h^{-1}$)
Indoor measurements[a]			
Concrete	28	0.053	0.102
Outdoor measurements[a]			
Grass	25	0.054	0.077
Tarmac	3	0.058	0.068
Concrete	1	0.065 (1 measurement)	
Stones	1	0.061 (1 measurement)	
Background measurements			
Grass	3	0.048	0.053

Notes

[a]These measurements have not been adjusted for background dose rates.

The measurements taken outdoors at the properties were not notably different from the background measurements but several of the indoor measurements were notably higher than the background readings. Since gamma dose rate measurements are influenced by the nature of building materials, the substrate over which they are taken, and many other factors, the measurements taken inside properties are expected to be higher than those taken outdoors.

Estimates of the average annual doses from background radiation to the population across the UK, by county, have been made by Public Health England (previously the Radiation Protection Division of the Health Protection Agency), the most recent of these being a review conducted in 2005 (Watson *et al*, 2005). Further information on background radiation relevant to the geographic region covered in the Harwell habits survey can be found in the review.

7 USES OF HABITS DATA FOR DOSE ASSESSMENTS

7.1 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 Annex 1 and Annex 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. The rates for individuals in the high-rate groups are emboldened. 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.

The most extensive combinations of pathways for adult dose assessment are shown in Table 42. Each of the 15 combinations shown in Table 42 represents an actual individual (or individuals) from Annex 1 who has positive data (irrespective of the magnitude), for each pathway marked with a cross. Other individuals from Annex 1 have combinations that are not listed in Table 42 because they have fewer pathways and a dose assessment for them would be adequately covered by one of the 15 listed combinations.

7.2 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 the consumption and occupancy data for women of childbearing age in order to calculate the potential dose to the foetus. Therefore, consumption and occupancy data collected during the Harwell habits survey for females of childbearing age are presented in Annex 5. The Office of National Statistics classifies women to be of childbearing age if they are between 15 – 44 years old (www.ons.gov.uk); this age range has been used in Annex 5. 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 5 as they might be women of childbearing age.

7.3 Total dose assessment

The UK environment agencies and the Food Standards Agency have considered ways of using habits data to estimate 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 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. The method used to estimate total dose integrated across pathways is provided in the RIFE reports (e.g. EA, FSA, FSS, NRW, NIEA and SEPA, 2015).

The relevant matrix for the adults' profiled habits data is shown in Annex 6. Additionally, profiles have been created for the child and infant age groups, and for women of childbearing age. These are shown in Annexes 7, 8, and 9 respectively. Most of the groups used for the pathways in the matrices are exactly analogous to the groups used throughout this habits survey report, although the names used are slightly different, for example 'Fruit – Domestic' rather than 'Domestic fruit'. However, in order to increase the robustness of the total dose assessments, some of the groups that are used throughout the rest of this report have been amalgamated together for use in the matrices. These are indicated in the notes at the foot of each matrix, where applicable. The 'Plume pathways' are related to inhalation and external exposure arising from gaseous discharges and use the total of the individuals' indoor and outdoor occupancy rates for each of the direct radiation zones. The 'Direct' pathway is expressed as the proportion of the profile members who are exposed to direct radiation.

8 COMPARISONS WITH THE PREVIOUS SURVEY

The results from this 2015 survey can be compared with results from the last habits survey undertaken at Harwell in 2007.

The route of the liquid radioactive wastes from the Harwell site had changed between 2007 and 2015. In 2007, the site discharged liquid wastes via a pipeline outfall into the River Thames at Sutton Courtenay. The aquatic survey area in 2007 extended from Sutton Courtenay along the River Thames to Day's Lock. It also included the Didcot Sewage Treatment Works, since some tenant organisations on the Harwell Campus had planned to discharge liquid waste to the sewage works, and Moor Ditch, which carries the treated effluent from the works to the River Thames at Long Wittenham. The Harwell site ceased discharging via the pipeline outfall to the River Thames in 2013 and the liquid wastes are now discharged to the sewers serving the Didcot Sewage Treatment Works. The aquatic survey area was the same in 2007 and 2015 i.e. the Didcot Sewage Treatment Works, Moor Ditch, and the River Thames from Sutton Courtenay to Day's Lock. The River Thames from Sutton Courtenay to Long Wittenham was included in the 2015 survey area in order to include any effects from historic discharges that were made via the former pipeline.

The terrestrial survey area was the same in the 2007 and 2015 surveys.

The direct radiation survey area was slightly different in 2015 compared with 2007. This was because parts of the eastern side of the Harwell site has been delicensed since 2007, so the nuclear licensed site boundary on this side of the site shifted to the west, as did the survey area.

The comparisons below of consumption rates and riverbank occupancy rates are for adults only. The comparison of occupancy rates in the direct radiation area is for all age groups combined.

8.1 Aquatic survey area

In 2007, perch and signal crayfish were consumed in small quantities by an angler, and signal crayfish were being consumed by a family. In 2015, no interviewees were identified consuming foods from the aquatic survey area. However, it was reported that people were consuming coarse fish (such as perch or pike) and signal crayfish, so it is suggested that a consumption rate of 1 kg y^{-1} of coarse fish and 1 kg y^{-1} of signal crayfish is used for assessment purposes (see Annex 3).

A comparison between the 2007 and 2015 data for the consumption of aquatic foods is presented in Table I.

Table I. Comparison between 2007 and 2015 consumption rates of aquatic food groups for adults

	2007			2015[a]		
Food group	**Number in high-rate group**	**Maximum consumption rate (kg y^{-1})**	**Mean consumption rate for the high-rate group (kg y^{-1})**	**Number in high-rate group**	**Maximum consumption rate (kg y^{-1})**	**Mean consumption rate for the high-rate group (kg y^{-1})**
Fish	1	1.1	1.1	*1*	*1.0*	*1.0*
Crustaceans	3	1.2	1.1	*1*	*1.0*	*1.0*

Notes
[a]Data in italics are estimated since there were reports of fish and crustacea consumption but no data were obtained during the survey.

In 2007 and 2015, riverbank occupancy for adults was recorded over mud and grass. The only activity undertaken by the individuals in the adult high-rate groups over mud and grass in both years was angling. In 2007, one hobby fisherman was identified who was handling fishing gear (crayfish traps). No interviewees were handling fishing gear in 2015 but since commercial and hobby fishing for signal crayfish is known to take place, it is suggested that a rate of 10 h y^{-1} for handling fishing gear is considered for radiological assessment purposes. No activities involving handling sediment were identified in 2007 or 2015.

A comparison between the 2007 and 2015 data for adult occupancy over riverbank substrates, handling fishing gear and handling sediment is shown in Table J.

Table J. Comparison between 2007 and 2015 riverbank occupancy rates and handling rates of fishing gear and sediment for adults

	2007			2015[a]		
Riverbank substrate or handling pathway	**Number in high-rate group**	**Maximum occupancy or handling rate (h y^{-1})**	**Mean occupancy or handling rate for the high-rate group (h y^{-1})**	**Number in high-rate group**	**Maximum occupancy or handling rate (h y^{-1})**	**Mean occupancy or handling rate for the high-rate group (h y^{-1})**
Mud and grass	16	780	417	7	888	522
Handling fishing gear	1	12	12	*1*	*10*	*10*
Handling sediment	Not identified			Not identified		

Notes
[a]Data in italics are estimated since it was known that commercial and hobby fishing for signal crayfish was being undertaken in the survey area but no data were obtained during the survey.

The mean occupancy rate for the adult high-rate group increased over mud and grass due to a smaller number of people with higher occupancy rates being interviewed in 2015. The hobby fisherman who was identified in 2007 handling crayfish traps had moved away from the area by the time of the habits survey in 2015 but hobby and commercial fishing for signal crayfish were still reported to take place in 2015.

Occupancy rates in close proximity to sewage, sewage sludge or sewage cake were obtained for workers at the Didcot Sewage Treatment Works in both surveys. In 2007, the tenant organisations on the Harwell Campus had planned to discharge liquid waste to the sewage works, and in 2015 the sewage treatment works received the liquid discharges from the Harwell site. In 2007, there were three workers who were undertaking activities in close proximity to sewage, sewage sludge and sewage cakes, and in 2015 there was one worker who was primarily undertaking the activities.

A comparison between the 2007 and 2015 data for adult occupancy in close proximity to sewage, sewage sludge and sewage cake at the sewage treatment works is shown in Table K.

Table K. Comparison between 2007 and 2015 occupancy rates in close proximity to sewage, sewage sludge or sewage cake (h y^{-1})

	Occupancy in close proximity (<1 metre) to the sewage		**Occupancy in close proximity (<3 metres) to the sewage sludge or sewage cake**	
Activity	**2007**	**2015**	**2007**	**2015**
Clearing inlet pipes, rag traps, fat traps and grit traps. Sampling. Moving sewage cake to storage area.	130	170	156	135

For activities taking place 'in water' in the aquatic survey area, the maximum adult occupancy rate decreased from 39 h y^{-1} in 2007 to 13 h y^{-1} in 2015, and for activities taking place on the water, the maximum adult occupancy rate increased from 4900 h y^{-1} in 2007 to 5300 h y^{-1} in 2015.

8.2 Terrestrial survey area

Activities in the terrestrial survey area in 2015 were broadly similar to those in 2007. The principal types of farm produce within the area in 2015 continued to be a mix of beef cattle, lambs and arable crops. In both surveys a wide variety of fruit and vegetables were grown in gardens and on allotments, and beekeeping, shooting on farmland, and the collection of wild foods were identified.

The main difference in 2015 was that no dairy farms were identified in the area. One dairy farm had been identified in 2007 but they were no longer producing milk by the time of the habits survey in 2015.

There were reports in 2015 that dairy followers were kept on land in the area and that a new dairy may be started in the survey area in the future.

The mean consumption rates for the adult high-rate groups for terrestrial food groups from the 2007 and 2015 surveys are shown in Table L.

Table L. Comparison between 2007 and 2015 mean consumption rates for the adult high-rate groups for terrestrial food groups (kg y^{-1} and l y^{-1})

Food group	2007	2015
Green vegetables	45.6	21.4
Other vegetables	28.2	24.5
Root vegetables	30.6	23.7
Potatoes	49.7	39.7
Domestic fruit	62.9	25.3
Milk	59.1	Not identified
Cattle meat	41.8	18.3
Pig meat	49.4	15.5
Sheep meat	23.4	18.8
Poultry	6.0	11.8
Eggs	12.1	13.2
Wild/free foods	16.7	1.5
Rabbits/hares	1.6	1.1
Honey	9.3	4.1
Wild fungi	2.2	0.4
Venison	5.0	4.0
Freshwater fish	4.9	7.8

In 2015, compared to 2007, the mean consumption rates for the adult high-rate groups decreased in the following 13 food groups: green vegetables; other vegetables; root vegetables; potatoes; domestic fruit; cattle meat; pig meat; sheep meat; wild/free foods; rabbits/hares; honey; wild fungi; venison. The mean consumption rates for the adult high-rate groups increased in 2015 in the following three food groups: poultry; eggs; freshwater fish. The consumption of milk was identified in 2007 but not in 2015.

The most notable decreases in the consumption rates were for green vegetables, domestic fruit, cattle meat, pig meat, wild/free foods and honey, while the most significant increase was for poultry.

The cessation of the consumption of milk was attributed to a farming family who kept dairy cattle and consumed milk in 2007 but no longer kept dairy cattle in 2015. The decrease in the consumption rate of domestic fruit was attributed to one person who was consuming large quantities of fruit in 2007 but who was not identified in 2015. The decrease in the consumption rate of pig meat was attributed to two farming families who consumed less meat in 2015 compared with 2007. The decrease in the consumption of wild/free foods was due to a high rate individual in 2007 who was no longer collecting

and consuming wild foods in 2015 due to old age. No specific reasons were identified for the other changes in consumption rates.

The consumption of groundwater by humans and livestock was identified in both 2007 and 2015.

8.3 Direct radiation survey area

Activities identified in the direct radiation survey area in 2007 and 2015 were similar and included people living, working, attending school, and undertaking recreational activities. The main difference was in the eastern part of the survey area since parts of the site had been delicensed. The eastern side of the survey area shifted slightly to the west which meant that the main buildings of a primary school and a small residential area that were in the area in 2007, were no longer in the area in 2015.

A comparison between the 2007 and 2015 direct radiation occupancy rates for all age groups combined, by zone, is presented in Table M.

Table M. Comparison between 2007 and 2015 direct radiation occupancy rates for all age groups combined (h y^{-1})

	2007	**2015**
0 - 0.25 km zone		
Highest indoor	7872	7511
Highest outdoor	3936	602
Highest total	8124	7825
>0.25 - 0.5 km zone		
Highest indoor	6244	7600
Highest outdoor	404	1305
Highest total	6648	8291
>0.5 - 1.0 km zone		
Highest indoor	8552	8534
Highest outdoor	2058	2148
Highest total	8604	8716

In 2007 and 2015 the highest indoor, outdoor and total occupancy rates in all three zones outside the licensed site area were for residents, some of whom also worked in the area.

In the Harwell direct radiation survey area, five sets of gamma dose measurements taken in 2015 can be compared with those taken at the same properties in 2007. These data are shown in Table N.

Table N. Comparison between 2007 and 2015 gamma dose rates (μGy h^{-1})

	Indoor		Outdoor	
Location	**2007**	**2015**	**2007**	**2015**
Residence 14	0.116	0.098	0.088	0.068
Residence 15	0.095	0.084	0.077	0.077
Residence 16	0.101	0.090	0.072	0.072
Residence 17	0.098	0.089	0.075	0.068
Residence 22	Not taken	0.063	0.065	0.064

Notes
These measurements have not been adjusted for background dose rates.
The locations correspond to those in Table 41.

The majority of the gamma dose rates taken in 2015 were lower than those taken at the same properties in 2007 and two of the outdoor readings were the same in both years.

9 MAIN FINDINGS

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

- Discharges of liquid radioactive waste via the Didcot Sewage Treatment Works to the River Thames at Long Wittenham
- Discharges of gaseous radioactive waste to the atmosphere
- Discharges of surface water effluent to the Lydebank Brook
- Emissions of direct radiation

Information was obtained by conducting interviews with members of the public including, for example, anglers, people spending time on riverbank substrates, farmers, allotment holders, beekeepers and people spending time within the direct radiation survey area. These people were targeted because their diet and habits 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. Data for 394 individuals are presented in this report. All consumption rates recorded are only for foods produced, collected or caught from within the aquatic and terrestrial survey areas as defined in Section 2.3. The consumption and occupancy rates in this section are presented to two significant figures.

9.1 Aquatic survey area

No interviewees were consuming foods from the aquatic survey area. However, there were reports that coarse fish (such as perch and pike) and signal crayfish from the aquatic survey area were being caught and consumed. It is suggested that a consumption rate of 1 kg y^{-1} for coarse fish and 1 kg y^{-1} for signal crayfish is considered for radiological assessment purposes.

For riverbank occupancy, the mean occupancy rate for adult high-rate group over mud and grass was 520 h y^{-1}.

No activities were identified for handling fishing gear or sediment during the survey. However, since commercial and hobby fishing for signal crayfish is known to take place within the survey area, it is suggested that a handling rate of 10 h y^{-1} for handling crayfish pots is considered for radiological assessment purposes.

For one worker at the Didcot Sewage Treatment Works, which receives liquid waste from the Harwell site, the occupancy rate in close proximity (<1 metre) to sewage sludge was 170 h y^{-1} and the occupancy rate in close proximity (<3 metres) to sewage sludge was 140 h y^{-1}.

The maximum adult occupancy rates for water based activities were:

- 13 h y^{-1} for 'in water'
- 5300 h y^{-1} for 'on water'

Individuals in the child and infant age groups were also recorded undertaking activities in the aquatic survey area.

9.2 Terrestrial survey area

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

- 21 kg y^{-1} for green vegetables
- 25 kg y^{-1} for other vegetables
- 24 kg y^{-1} for root vegetables
- 40 kg y^{-1} for potato
- 25 kg y^{-1} for domestic fruit
- 18 kg y^{-1} for cattle meat
- 15 kg y^{-1} for pig meat
- 19 kg y^{-1} for sheep meat
- 12 kg y^{-1} for poultry
- 13 kg y^{-1} for eggs
- 1.5 kg y^{-1} for wild/free foods
- 1.1 kg y^{-1} for rabbits/hares
- 4.1 kg y^{-1} for honey
- 0.4 kg y^{-1} for wild fungi
- 4.0 kg y^{-1} for venison
- 7.8 kg y^{-1} for freshwater fish

(*The actual value for the mean consumption rate for the high-rate group for other vegetables is 24.54 kg y^{-1}, which is 24.5 kg y^{-1} when rounded to one decimal place, as presented in the tables, but is 25 kg y^{-1} when rounded to two significant figures, as presented in the text. For pig meat, the actual value for the mean consumption rate for the high-rate group is 15.46 kg y^{-1}, which is 15.5 kg y^{-1} when rounded to one decimal place, as presented in the tables, but is 15 kg y^{-1} when rounded to two significant figures, as presented in the text)

No consumption of milk from the survey area was identified.

The consumption of terrestrial foods by individuals in the child and infant age groups was also recorded.

The consumption of groundwater by humans and livestock was identified.

9.3 Direct radiation survey area

The highest indoor, outdoor and total occupancy rates in the 0 – 0.25 km zone, the >0.25 – 0.5 km zone, and the >0.5 – 1.0 km zone were for residents.

The highest indoor, outdoor and total occupancy rates recorded for each zone were:

0 - 0.25 km zone

- 7500 h y^{-1} for the indoor occupancy rate
- 600 h y^{-1} for the outdoor occupancy rate
- 7800 h y^{-1} for the total occupancy rate

>0.25 - 0.5 km zone

- 7600 h y^{-1} for the indoor occupancy rate
- 1300 h y^{-1} for the outdoor occupancy rate
- 8300 h y^{-1} for the total occupancy rate

>0.5 – 1.0 km zone

- 8500 h y^{-1} for the indoor occupancy rate
- 2100 h y^{-1} for the outdoor occupancy rate
- 8700 h y^{-1} for the total occupancy rate

10 HABITS SURVEY INFORMATION FOR CONSIDERATION IN THE SELECTION OF SAMPLES AND MEASUREMENTS FOR MONITORING PROGRAMMES

Habits surveys provide site-specific information on the consumption of locally produced foods and the location and types of activities which may affect the public's exposure to radiation. This information can be used to help in the selection of samples and measurements for the monitoring programmes by identifying foods that are consumed at high rates and the locations where people spend high amounts of time.

In England and Wales, the monitoring programme for radioactivity in food is undertaken by the Food Standards Agency, and the monitoring programme for radioactivity in the environment is conducted by the Environment Agency. The results of these programmes are published annually in the RIFE reports (e.g. EA, FSA, FSS, NRW, NIEA and SEPA, 2015).

In 2013, the Food Standards Agency completed a public consultation to review the way that they monitor radioactivity in food (FSA, 2012 and 2013). The outcome of the consultation was to implement a revised monitoring programme in 2014, with reductions in sampling and analysis of some foods that were considered to represent a very low radiological risk.

10.1 Summary of the monitoring programmes for Harwell

The 2014 monitoring programmes relevant to the Harwell area included the samples and measurements listed below. The location names, foods and substrate classifications are taken directly from RIFE. Some of the samples and measurements taken for the monitoring programmes may be from outside the survey areas used for the 2015 Harwell habits survey.

Aquatic samples

Food and environmental samples

Sample	***Location***
Flounder	Woolwich Reach
Sediment	Appleford
Sediment	Outfall (Sutton Courtenay)*
Sediment	Day's Lock
Sediment	Lydebank Brook
Freshwater	Day's Lock
Freshwater	Lydebank Brook
Freshwater	R Thames (above discharge point)*
Freshwater	R Thames (below discharge point)*

**These locations refer to the former pipeline, which is now decommissioned and partially dismantled.*

Gamma dose rate measurements over riverbank sediments

Location	***Substrate***
Appleford	Grass and mud
Appleford	Grass
Sutton Courtenay	Mud
Sutton Courtenay	Grass
Day's Lock	Grass

Terrestrial samples

Milk
Raspberries
Grass

10.2 Information from the 2015 Harwell habits survey for use in the selection of samples and measurements for monitoring programmes

Food Standards Agency monitoring

The following foods were either consumed in the largest quantities in their food groups or were the only food in their food group and could be considered when selecting samples for the Food Standards Agency monitoring programme.

Food	***Food Group***
Cabbage	Green vegetables
Tomato	Other vegetables
Onion	Root vegetables
Potato	Potato
Apple	Domestic fruit
Beef	Cattle meat
Pork	Pig meat
Lamb	Sheep meat
Pheasant	Poultry
Chicken egg	Eggs
Blackberry	Wild/free foods
Hare	Rabbits/hares
Honey	Honey
Mushroom	Wild fungi
Venison	Venison
Rainbow trout	Freshwater fish (from waters subject to washout of gaseous discharges)

Samples of coarse fish (such as perch or pike) and signal crayfish taken from waters subject to liquid discharges could also be considered since the consumption of these foods was reported to take place.

Environment Agency monitoring

It is suggested that the sediment sample taken at the former outfall at Sutton Courtenay is continued, despite the closure of the pipeline, in order to monitor any legacy effects from previous discharges. The water sample taken from the River Thames below the former discharge point at Sutton Courtenay could be moved to Moor Ditch, since this is now the discharge route for liquid effluent after it has been treated at the Didcot Sewage Treatment Works.

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www.ons.gov.uk

Table 1. Survey coverage

Group	Criteria	Estimate of complete coverage	Number for whom positive data was obtained	Coverage for positive observations	Notes
SUMMARY OF ALL PATHWAYS					
All potential interviewees in the Harwell aquatic, terrestrial and direct radiation survey areas.	Number of people resident in the terrestrial survey area (excluding those resident in the direct radiation survey area) (See **(B) TERRESTRIAL PATHWAYS**)	5,800[a]	171[b]	3%	The survey targeted individuals who were potentially the most exposed, mostly producers of local foods such as farmers and allotment holders.
	Number of people resident in the direct radiation survey area (See **(C) DIRECT RADIATION PATHWAYS**)	1,000	78[b]	8%	Interviews were conducted at 28 residences out of a possible 385 properties.
	Number of people working, attending school and visiting relatives in the direct radiation survey area (See **(C) DIRECT RADIATION PATHWAYS**)	U	96[b]	U	Excluding people living in the direct radiation survey area and employees and contractors of the Harwell site. Where generalised data for groups of people were obtained, for example employees at some businesses, only a limited number of representative individuals have been included.
	Number of people effected by liquid discharges (excluding those assigned to other categories above) (See **(A) AQUATIC PATHWAYS**)	U	49[b]	U	Where generalised data for groups of people were obtained, for example a youth group undertaking watersports activities, only a limited number of representative individuals have been included.
	Total for aquatic, terrestrial and direct radiation survey areas	U	394[b]	U	
(A) AQUATIC PATHWAYS					
People using the riverbank including anglers and people playing etc.	Number of people undertaking activities on the riverbank in the aquatic survey area	U	28	U	
People undertaking activities in or on water (e.g. canoeing and kayaking)	Number of people undertaking activities in or on water in the aquatic survey area	U	22	U	Where generalised data for groups of people were obtained, for example a youth group undertaking watersports activities, only a limited number of representative individuals have been included.
Workers at Sewage Treatment Works	Number of people who primarily work in close proximity to the sewage, sewage sludge and sewage cake at the Didcot Sewage Treatment Works	1	1	100	1 person primarily undertakes this work. Eight other workers are in close proximity to sewage, sewage sludge and sewage cake for a small amount of time per year.
Fish and shellfish consumers (from waters subject to liquid discharges)	Number of people consuming fish and/or crustaceans from the aquatic survey area.	U	0	U	It was reported that coarse fish (such as perch and pike) and signal crayfish were being consumed but no consumers were positively identified.

Table 1. Survey coverage

Group	Criteria	Estimate of complete coverage	Number for whom positive data was obtained	Coverage for positive observations	Notes
(B) TERRESTRIAL PATHWAYS					
Farmers	Number of farmers and their family members consuming food from the terrestrial survey area	63	52	83%	Information was obtained for 18 farms out of 21 farms identifed working land within the survey area.
Allotment holders	Number of allotment holders and their family members consuming food from the terrestrial survey area	U	95	U	
Beekeepers	Number of people consuming honey produced in the survey area	U	44	U	Five beekeepers were identified with hives in the survey area.
Fish consumers (from waters subject to washout of gaseous discharges, but not to liquid discharges)	Number of people consuming fish from the terrestrial survey area.	U	4	U	
(C) DIRECT RADIATION PATHWAYS					
Residents	Number of residents in the Harwell direct radiation survey area	1,000	78	8%	Interviews were conducted at 28 residences out of a possible 385 properties.
Visitors	Number of people working, attending school, and visiting relatives in the Harwell direct radiation survey area	U	96	U	Excluding people living in the direct radiation survey area and employees and contractors of the Harwell site. Generic data were obtained for many people at six large organisations and one nursery school but only representative examples of these groups have been included in the data analysis.
BREAKDOWN OF AGE GROUPS					
Adult	16-year-old and over	5,500	321	6%	
Child	6-year-old to 15-year-old	800	43	5%	
Infant	0 to 5-year-old	500	30	6%	

Notes

[a] Estimate of the number of people resident in the 5 km terrestrial survey area based on data from www.ons.gov.uk.

[b] The number of people for whom positive data was obtained for pathways (A) and (B) and (C) will usually not equal the relevant totals in the summary of all pathways. This is because in sections (A), (B) and (C) some individuals may be counted two or more times, for example someone who goes angling from the riverbank and also goes canoeing.

U = Unknown

Table 2. Typical food groups used in habits surveys

Food group	Examples of foods within the group
Green vegetables	Asparagus, broccoli, Brussels sprout, cabbage, calabrese, cauliflower, chard, courgette, cucumber, gherkin, globe artichoke, herbs, kale, leaf beet, lettuce, marrow, spinach
Other vegetables	Aubergine, broad bean, chilli pepper, French bean, kohl rabi, mangetout, pea, pepper, pumpkin, runner bean, sweetcorn, tomato
Root vegetables	Beetroot, carrot, celeriac, celery, chicory, fennel, garlic, Jerusalem artichoke, leek, onion, parsnip, radish, shallot, spring onion, swede, turnip
Potato	Potato
Domestic fruit	Apple, apricot, blackberry, blackcurrant, boysenberry, cherry, damson, fig, gooseberry, grape, greengage, huckleberry, loganberry, melon, nectarine, peach, pear, plum, raspberry, redcurrant, rhubarb, rowanberry, strawberry, tayberry, whitecurrant
Milk	Cows' milk, cream, goats' milk, yoghurt
Cattle meat[a]	Beef
Pig meat[a]	Pork
Sheep meat[a]	Lamb, mutton
Poultry[b]	Chicken, duck, goose, grouse, guinea fowl, partridge, pheasant, pigeon, turkey, woodcock
Eggs	Chicken egg, duck egg, goose egg
Wild/free foods	Blackberry, chestnut, crab apple, damson, dandelion root, elderberry, nettle, rowanberry, sloe
Honey	Honey
Wild fungi	Mushrooms, other edible fungi
Rabbits/Hares	Hare, rabbit
Venison[a]	Venison
Fish (sea)	Bass, brill, cod, common ling, dab, Dover sole, flounder, gurnard, haddock, hake, herring, lemon sole, mackerel, monkfish, mullet, plaice, pollack, rays, saithe, salmon, sea trout, sprat, turbot, whitebait, whiting, witch, cuttlefish[c], squid[c]
Fish (freshwater)	Brown trout, eel (river), perch, pike, rainbow trout, salmon (river)
Crustaceans	Brown crab, common lobster, crawfish, *Nephrops* , prawn, shrimp, spider crab, squat lobster, velvet swimming crab
Molluscs	Cockles, limpets, mussels, oysters, razor clam, scallops, whelks, winkles
Wildfowl[b]	Canada goose, greylag goose, mallard, pink-footed goose, pintail, shoveler, teal, wigeon

Notes

[a] Including offal

[b] Domesticated ducks and geese are classified as poultry. Wild ducks and geese are classified as wildfowl.

[c] Although squid and cuttlefish are molluscs, radiologically they are more akin to fish.

Table 3. Adults' riverbank occupancy rates in the Harwell aquatic survey area (h y^{-1})

Person ID number	Location	Activity	Mud and grass
708/1/1	**River Thames at Sutton Courtenay and Appleford Reach**	**Angling**	**888**
700/1/1	**River Thames at Sutton Courtenay**	**Angling**	**585**
685/1/1	**River Thames at Sutton Courtenay**	**Angling**	**507**
793/1/1	**River Thames at Sutton Courtenay**	**Angling**	**507**
703/1/1	**River Thames at Sutton Courtenay**	**Angling**	**390**
715/1/1	**River Thames at Clifton Hampden**	**Angling**	**390**
731/1/1	**River Thames at Clifton Hampden**	**Angling**	**390**
730/1/1	Clifton Cut	Angling	292
685/2/1	River Thames at Sutton Courtenay	Angling	254
705/1/1	River Thames at Appleford Reach	Angling	240
792/1/1	River Thames at Sutton Courtenay	Angling	234
701/1/1	River Thames at Sutton Courtenay	Angling	195
684/1/1	River Thames at Sutton Courtenay	Angling	156
684/2/1	River Thames at Sutton Courtenay	Angling	156
699/1/1	River Thames at Sutton Courtenay	Angling	144
716/1/1	River Thames at Clifton Hampden	Angling	138
729/1/1	River Thames at Clifton Hampden	Angling	118
791/1/1	River Thames at Clifton Hampden	Angling, sitting on the riverbank and picnicking	117
791/2/1	River Thames at Clifton Hampden	Angling, sitting on the riverbank and picnicking	117
699/2/1	River Thames at Sutton Courtenay	Playing and picnicking	108
732/1/1	River Thames at Clifton Hampden	Angling	78
732/2/1	River Thames at Clifton Hampden	Sitting on the riverbank	78

Notes

Emboldened observations are the high-rate individuals

The mean riverbank occupancy rate over mud and grass for adults based on 7 high-rate observations is 522 h y^{-1}

The observed 97.5th percentile rate based on 22 observations is 729 h y^{-1}

Table 4. Children's and infants' riverbank occupancy rates in the Harwell aquatic survey area (h y^{-1})

Child age group (6 - 15 years old)

Person ID number	Age	Location	Activity	Mud and grass
699/4/1	8	River Thames at Sutton Courtenay	Playing and picnicking	108
732/3/1	10	River Thames at Clifton Hampden	Angling	78
732/4/1	7	River Thames at Clifton Hampden	Angling	78
715/2/1	8	River Thames at Clifton Hampden	Angling	67

Notes

Emboldened observations are the high-rate individuals

The mean riverbank occupancy rate over mud and grass for the child age group based on 4 high-rate observations is 83 h y^{-1}

The observed 97.5th percentile rate based on 4 observations is 106 h y^{-1}

Infant age group (0 - 5 years old)

Person ID number	Age	Location	Activity	Mud and grass
699/3/1	5	River Thames at Sutton Courtenay	Playing and picnicking	108
699/5/1	0.5	River Thames at Sutton Courtenay	Playing and picnicking	108

Notes

Emboldened observations are the high-rate individuals

The mean riverbank occupancy rate over mud and grass for the infant age group based on 2 high-rate observations is 108 h y^{-1}

The observed 97.5th percentile rate based on 2 observations is 108 h y^{-1}

Table 5. Gamma dose rate measurements over riverbank substrates in the Harwell aquatic survey area (μGy h^{-1})

Location	National Grid Reference	Substrate	Gamma dose rate at 1 metre[a]
River Thames at Sutton Courtenay - north bank	SU 508 947	Mud	0.055
River Thames at Appleford Reach - north bank	SU 512 948	Mud	0.057
River Thames at Clifton Hampden - south bank	SU 548 955	Sand	0.051
River Thames at Clifton Hampden - north bank	SU 547 954	Mud and grass	0.051
River Thames at Day's Lock - south bank	SU 569 939	Mud and grass	0.056

Notes

[a] These measurements have not been adjusted for background dose rates

Table 6. Adults' occupancy rates in close proximity to sewage, sewage sludge and sewage cake (h y^{-1})

Observation number	Activity	Occupancy in close proximity (<1 metre) to the sewage	Occupancy in close proximity (<3 metres) to the sewage sludge or sewage cake
802/1/1	Clearing inlet pipes, rag traps, fat traps and grit traps. Sampling. Moving sewage cake to storage area.	170	135

Table 7. Adults' occupancy rates in and on water in the Harwell aquatic survey area (h y^{-1})

Person ID number	Location	Activity	In water	On water
791/1/1	River Thames at Clifton Hampden	Swimming	13	-
	River Thames at Clifton Hampden	Canoeing	-	52
791/2/1	River Thames at Clifton Hampden	Swimming	13	-
	River Thames at Clifton Hampden	Canoeing	-	52
778/1/1	River Thames at Clifton Hampden	Living on a boat	-	5280
778/2/1	River Thames at Clifton Hampden	Living on a boat	-	4656
787/6/1	River Thames at Clifton Hampden	Rowing, canoeing and kayaking	-	112
787/6/2	River Thames at Clifton Hampden	Rowing, canoeing and kayaking	-	112
787/6/3	River Thames at Clifton Hampden	Rowing, canoeing and kayaking	-	112
787/6/4	River Thames at Clifton Hampden	Rowing, canoeing and kayaking	-	112
733/1/1	River Thames	Canoeing	-	20
733/2/1	River Thames	Canoeing	-	20

Table 8. Children's and infants' occupancy rates in and on water in the Harwell aquatic survey area (h y^{-1})

Child age group (6 - 15 years old)

Person ID number	Age	Location	Activity	In water	On water
787/1/1	10	River Thames at Clifton Hampden	Swimming	4	-
		River Thames at Clifton Hampden	Canoeing, rowing and kayaking	-	108
787/1/2	10	River Thames at Clifton Hampden	Swimming	4	-
		River Thames at Clifton Hampden	Canoeing, rowing and kayaking	-	108
787/2/1	11	River Thames at Clifton Hampden	Swimming	4	-
		River Thames at Clifton Hampden	Canoeing, rowing and kayaking	-	108
787/2/2	11	River Thames at Clifton Hampden	Swimming	4	-
		River Thames at Clifton Hampden	Canoeing, rowing and kayaking	-	108
787/3/1	12	River Thames at Clifton Hampden	Swimming	4	-
		River Thames at Clifton Hampden	Canoeing, rowing and kayaking	-	108
787/3/2	12	River Thames at Clifton Hampden	Swimming	4	-
		River Thames at Clifton Hampden	Canoeing, rowing and kayaking	-	108
787/4/1	13	River Thames at Clifton Hampden	Swimming	4	-
		River Thames at Clifton Hampden	Canoeing, rowing and kayaking	-	108
787/4/2	13	River Thames at Clifton Hampden	Swimming	4	-
		River Thames at Clifton Hampden	Canoeing, rowing and kayaking	-	108
787/5/1	14	River Thames at Clifton Hampden	Swimming	4	-
		River Thames at Clifton Hampden	Canoeing, rowing and kayaking	-	108
787/5/2	14	River Thames at Clifton Hampden	Swimming	4	-
		River Thames at Clifton Hampden	Canoeing, rowing and kayaking	-	108
733/3/1	12	River Thames	Canoeing	-	20
733/4/1	8	River Thames	Canoeing	-	20

Infant age group (0 - 5 years old)

No occupancy data were obtained for this pathway.

Table 9. Adults' consumption rates of green vegetables from the Harwell terrestrial survey area (kg y^{-1})

Person ID number	Asparagus	Broccoli	Brussel sprout	Cabbage	Calabrese	Cauliflower	Chard	Courgette	Cucumber	Gherkin	Herbs	Kale	Lettuce	Marrow	Pak choi	Spinach	Total
723/1/1	**-**	**9.7**	**8.9**	**11.9**	**-**	**-**	**-**	**8.3**	**-**	**-**	**-**	**4.2**	**-**	**-**	**-**	**-**	**42.9**
723/2/1	**-**	**9.7**	**8.9**	**11.9**	**-**	**-**	**-**	**8.3**	**-**	**-**	**-**	**4.2**	**-**	**-**	**-**	**-**	**42.9**
738/1/1	**-**	**-**	**4.6**	**12.2**	**-**	**-**	**-**	**5.5**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**22.3**
738/2/1	**-**	**-**	**4.6**	**12.2**	**-**	**-**	**-**	**5.5**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**22.3**
741/1/1	**-**	**-**	**-**	**-**	**-**	**0.7**	**-**	**8.3**	**5.1**	**-**	**-**	**-**	**2.3**	**-**	**-**	**4.5**	**20.9**
741/2/1	**-**	**-**	**-**	**-**	**-**	**0.7**	**-**	**8.3**	**5.1**	**-**	**-**	**-**	**2.3**	**-**	**-**	**4.5**	**20.9**
713/1/1	**-**	**4.5**	**-**	**7.3**	**-**	**2.2**	**-**	**-**	**-**	**-**	**-**	**0.5**	**3.6**	**1.4**	**-**	**-**	**19.6**
713/2/1	**-**	**4.5**	**-**	**7.3**	**-**	**2.2**	**-**	**-**	**-**	**-**	**-**	**0.5**	**3.6**	**1.4**	**-**	**-**	**19.6**
713/3/1	**-**	**4.5**	**-**	**7.3**	**-**	**2.2**	**-**	**-**	**-**	**-**	**-**	**0.5**	**3.6**	**1.4**	**-**	**-**	**19.6**
697/1/1	**-**	**-**	**6.8**	**6.4**	**-**	**-**	**-**	**2.3**	**-**	**-**	**-**	**2.4**	**1.7**	**-**	**-**	**-**	**19.6**
697/2/1	**-**	**-**	**6.8**	**6.4**	**-**	**-**	**-**	**2.3**	**-**	**-**	**-**	**2.4**	**1.7**	**-**	**-**	**-**	**19.6**
775/1/1	**-**	**4.7**	**-**	**4.7**	**-**	**4.7**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**4.7**	**-**	**-**	**18.9**
775/2/1	**-**	**4.7**	**-**	**4.7**	**-**	**4.7**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**4.7**	**-**	**-**	**18.9**
680/1/1	**-**	**4.5**	**-**	**3.7**	**-**	**-**	**-**	**8.8**	**-**	**-**	**-**	**-**	**1.8**	**-**	**-**	**-**	**18.8**
702/1/1	**-**	**-**	**1.8**	**7.2**	**-**	**-**	**-**	**1.1**	**-**	**-**	**-**	**5.0**	**1.6**	**-**	**-**	**-**	**16.7**
702/2/1	**-**	**-**	**1.8**	**7.2**	**-**	**-**	**-**	**1.1**	**-**	**-**	**-**	**5.0**	**1.6**	**-**	**-**	**-**	**16.7**
711/1/1	**-**	**-**	**1.1**	**9.1**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**5.4**	**-**	**-**	**-**	**15.7**
711/2/1	**-**	**-**	**1.1**	**9.1**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**5.4**	**-**	**-**	**-**	**15.7**
711/3/1	**-**	**-**	**1.1**	**9.1**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**5.4**	**-**	**-**	**-**	**15.7**
696/1/1	-	-	-	4.3	-	-	-	3.3	3.3	0.7	-	-	1.0	-	-	1.7	14.3
696/2/1	-	-	-	4.3	-	-	-	3.3	3.3	0.7	-	-	1.0	-	-	1.7	14.3
696/3/1	-	-	-	4.3	-	-	-	3.3	3.3	0.7	-	-	1.0	-	-	1.7	14.3
696/4/1	-	-	-	4.3	-	-	-	3.3	3.3	0.7	-	-	1.0	-	-	1.7	14.3
696/5/1	-	-	-	4.3	-	-	-	3.3	3.3	0.7	-	-	1.0	-	-	1.7	14.3
689/1/1	-	-	6.6	2.2	-	1.3	-	-	-	-	-	-	1.1	2.9	-	-	14.1
689/2/1	-	-	6.6	2.2	-	1.3	-	-	-	-	-	-	1.1	2.9	-	-	14.1
689/3/1	-	-	6.6	2.2	-	1.3	-	-	-	-	-	-	1.1	2.9	-	-	14.1
689/4/1	-	-	6.6	2.2	-	1.3	-	-	-	-	-	-	1.1	2.9	-	-	14.1

Table 9. Adults' consumption rates of green vegetables from the Harwell terrestrial survey area (kg y^{-1})

Person ID number	Asparagus	Broccoli	Brussel sprout	Cabbage	Calabrese	Cauliflower	Chard	Courgette	Cucumber	Gherkin	Herbs	Kale	Lettuce	Marrow	Pak choi	Spinach	Total
689/5/1	-	-	6.6	2.2	-	1.3	-	-	-	-	-	-	1.1	2.9	-	-	14.1
720/1/1	-	-	-	-	-	-	1.3	7.5	-	-	-	-	2.5	-	2.5	-	13.8
720/3/1	-	-	-	-	-	-	1.3	7.5	-	-	-	-	2.5	-	2.5	-	13.8
738/3/1	-	-	2.7	7.3	-	-	-	3.3	-	-	-	-	-	-	-	-	13.4
738/4/1	-	-	2.7	7.3	-	-	-	3.3	-	-	-	-	-	-	-	-	13.4
681/1/1	0.8	-	4.4	-	-	-	-	2.9	-	-	0.2	3.2	-	-	-	-	11.6
681/2/1	0.8	-	4.4	-	-	-	-	2.9	-	-	0.2	3.2	-	-	-	-	11.6
723/3/1	-	2.6	2.4	3.2	-	-	-	2.2	-	-	-	1.1	-	-	-	-	11.5
723/4/1	-	2.6	2.4	3.2	-	-	-	2.2	-	-	-	1.1	-	-	-	-	11.5
710/1/1	0.7	-	-	-	-	-	-	4.6	-	-	-	-	6.0	-	-	-	11.3
710/2/1	0.7	-	-	-	-	-	-	4.6	-	-	-	-	6.0	-	-	-	11.3
721/1/1	-	-	-	-	-	-	-	5.9	3.6	-	-	-	-	-	-	-	9.5
721/2/1	-	-	-	-	-	-	-	5.9	3.6	-	-	-	-	-	-	-	9.5
721/3/1	-	-	-	-	-	-	-	5.9	3.6	-	-	-	-	-	-	-	9.5
722/1/1	-	1.6	1.5	1.0	-	1.2	-	2.7	-	-	-	-	1.0	-	-	-	9.0
722/2/1	-	1.6	1.5	1.0	-	1.2	-	2.7	-	-	-	-	1.0	-	-	-	9.0
722/3/1	-	1.6	1.5	1.0	-	1.2	-	2.7	-	-	-	-	1.0	-	-	-	9.0
722/4/1	-	1.6	1.5	1.0	-	1.2	-	2.7	-	-	-	-	1.0	-	-	-	9.0
722/5/1	-	1.6	1.5	1.0	-	1.2	-	2.7	-	-	-	-	1.0	-	-	-	9.0
738/5/1	-	-	1.8	4.9	-	-	-	2.2	-	-	-	-	-	-	-	-	8.9
738/6/1	-	-	1.8	4.9	-	-	-	2.2	-	-	-	-	-	-	-	-	8.9
707/1/1	-	-	-	-	-	-	-	6.4	-	-	-	-	-	-	-	2.4	8.8
707/2/1	-	-	-	-	-	-	-	6.4	-	-	-	-	-	-	-	2.4	8.8
725/1/1	-	-	-	-	2.1	1.1	-	2.8	-	-	-	-	1.4	-	-	-	7.4
725/2/1	-	-	-	-	2.1	1.1	-	2.8	-	-	-	-	1.4	-	-	-	7.4
725/3/1	-	-	-	-	2.1	1.1	-	2.8	-	-	-	-	1.4	-	-	-	7.4
698/1/1	-	-	-	4.3	-	-	-	0.9	-	-	-	-	-	-	-	-	5.2
698/2/1	-	-	-	4.3	-	-	-	0.9	-	-	-	-	-	-	-	-	5.2

Table 9. Adults' consumption rates of green vegetables from the Harwell terrestrial survey area (kg y^{-1})

Person ID number	Asparagus	Broccoli	Brussel sprout	Cabbage	Calabrese	Cauliflower	Chard	Courgette	Cucumber	Gherkin	Herbs	Kale	Lettuce	Marrow	Pak choi	Spinach	Total
698/3/1	-	-	-	4.3	-	-	-	0.9	-	-	-	-	-	-	-	-	5.2
693/1/1	-	-	-	1.7	-	-	-	-	-	-	-	0.9	-	-	-	-	2.6
693/2/1	-	-	-	1.7	-	-	-	-	-	-	-	0.9	-	-	-	-	2.6
693/3/1	-	-	-	1.7	-	-	-	-	-	-	-	0.9	-	-	-	-	2.6
693/4/1	-	-	-	1.7	-	-	-	-	-	-	-	0.9	-	-	-	-	2.6
693/5/1	-	-	-	1.7	-	-	-	-	-	-	-	0.9	-	-	-	-	2.6
693/6/1	-	-	-	1.7	-	-	-	-	-	-	-	0.9	-	-	-	-	2.6
726/1/1	-	-	-	-	-	-	-	-	2.4	-	-	-	-	-	-	-	2.4
726/3/1	-	-	-	-	-	-	-	-	2.4	-	-	-	-	-	-	-	2.4
726/4/1	-	-	-	-	-	-	-	-	2.4	-	-	-	-	-	-	-	2.4
749/1/1	-	-	-	-	-	-	-	1.1	-	-	-	-	1.2	-	-	-	2.3
749/2/1	-	-	-	-	-	-	-	1.1	-	-	-	-	1.2	-	-	-	2.3
772/1/1	1.3	-	-	-	-	-	-	-	-	-	-	-	1.0	-	-	-	2.3
772/2/1	1.3	-	-	-	-	-	-	-	-	-	-	-	1.0	-	-	-	2.3
772/3/1	1.3	-	-	-	-	-	-	-	-	-	-	-	1.0	-	-	-	2.3
714/1/1	-	-	-	-	-	-	-	-	-	-	-	-	2.3	-	-	-	2.3
714/2/1	-	-	-	-	-	-	-	-	-	-	-	-	2.3	-	-	-	2.3
683/1/1	-	-	-	-	-	-	-	-	-	-	-	-	2.0	-	-	-	2.0
712/1/1	-	-	-	-	-	-	-	-	-	-	-	-	1.9	-	-	-	1.9
712/2/1	-	-	-	-	-	-	-	-	-	-	-	-	1.9	-	-	-	1.9
707/3/1	-	-	-	-	-	-	-	1.4	-	-	-	-	-	-	-	0.5	1.9
707/4/1	-	-	-	-	-	-	-	1.4	-	-	-	-	-	-	-	0.5	1.9
707/5/1	-	-	-	-	-	-	-	1.4	-	-	-	-	-	-	-	0.5	1.9
707/6/1	-	-	-	-	-	-	-	1.4	-	-	-	-	-	-	-	0.5	1.9
681/3/1	-	-	1.1	-	-	-	-	0.7	-	-	-	-	-	-	-	-	1.8
681/4/1	-	-	1.1	-	-	-	-	0.7	-	-	-	-	-	-	-	-	1.8
789/1/1	-	-	0.8	-	-	-	-	-	0.4	-	-	-	0.6	-	-	-	1.8
789/2/1	-	-	0.8	-	-	-	-	-	0.4	-	-	-	0.6	-	-	-	1.8

Table 9. Adults' consumption rates of green vegetables from the Harwell terrestrial survey area (kg y^{-1})

Person ID number	Asparagus	Broccoli	Brussel sprout	Cabbage	Calabrese	Cauliflower	Chard	Courgette	Cucumber	Gherkin	Herbs	Kale	Lettuce	Marrow	Pak choi	Spinach	Total
789/3/1	-	-	0.8	-	-	-	-	-	0.4	-	-	-	0.6	-	-	-	1.8
789/4/1	-	-	0.8	-	-	-	-	-	0.4	-	-	-	0.6	-	-	-	1.8
789/5/1	-	-	0.8	-	-	-	-	-	0.4	-	-	-	0.6	-	-	-	1.8
740/1/1	-	-	-	1.4	-	-	-	-	-	-	-	-	-	-	-	-	1.4
740/2/1	-	-	-	1.4	-	-	-	-	-	-	-	-	-	-	-	-	1.4
740/3/1	-	-	-	1.4	-	-	-	-	-	-	-	-	-	-	-	-	1.4
740/4/1	-	-	-	1.4	-	-	-	-	-	-	-	-	-	-	-	-	1.4
740/5/1	-	-	-	1.4	-	-	-	-	-	-	-	-	-	-	-	-	1.4
725/7/1	-	-	-	-	-	-	-	0.9	-	-	-	-	0.5	-	-	-	1.4
725/8/1	-	-	-	-	-	-	-	0.9	-	-	-	-	0.5	-	-	-	1.4
725/9/1	-	-	-	-	-	-	-	0.9	-	-	-	-	0.5	-	-	-	1.4
725/10/1	-	-	-	-	-	-	-	0.9	-	-	-	-	0.5	-	-	-	1.4
683/2/1	-	-	-	-	-	-	-	-	-	-	-	-	1.0	-	-	-	1.0
726/2/1	-	-	-	-	-	-	-	-	0.8	-	-	-	-	-	-	-	0.8
739/1/1	0.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.4
739/2/1	0.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.4
739/3/1	0.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.4
739/4/1	0.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.4
752/1/1	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	-	0.1
752/2/1	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	-	0.1

Notes

Emboldened observations are the high-rate consumers

The mean consumption rate of green vegetables for adults based on the 19 high-rate consumers is 21.4 kg y^{-1}

The observed 97.5th percentile rate based on 104 observations is 22.3 kg y^{-1}

Table 10. Adults' consumption rates of other vegetables from the Harwell terrestrial survey area (kg y^{-1})

Person ID number	Aubergine	Broad bean	Chilli pepper	French bean	Pea	Pepper	Pumpkin	Runner bean	Squash	Sweetcorn	Tomato	Total
800/1/1	**2.0**	**7.3**	**0.5**	**2.2**	**5.4**	**2.5**	**12.0**	**10.9**	**-**	**1.4**	**10.8**	**54.9**
800/2/1	**2.0**	**7.3**	**0.5**	**2.2**	**5.4**	**2.5**	**12.0**	**10.9**	**-**	**1.4**	**10.8**	**54.9**
710/1/1	**4.1**	**3.2**	**-**	**-**	**-**	**3.4**	**-**	**1.5**	**-**	**1.2**	**13.5**	**26.9**
710/2/1	**4.1**	**3.2**	**-**	**-**	**-**	**3.4**	**-**	**1.5**	**-**	**1.2**	**13.5**	**26.9**
741/1/1	**-**	**-**	**-**	**-**	**-**	**-**	**12.0**	**-**	**2.7**	**2.2**	**7.4**	**24.3**
741/2/1	**-**	**-**	**-**	**-**	**-**	**-**	**12.0**	**-**	**2.7**	**2.2**	**7.4**	**24.3**
689/1/1	**-**	**5.0**	**-**	**-**	**-**	**-**	**9.7**	**4.9**	**-**	**0.3**	**-**	**20.0**
689/2/1	**-**	**5.0**	**-**	**-**	**-**	**-**	**9.7**	**4.9**	**-**	**0.3**	**-**	**20.0**
689/3/1	**-**	**5.0**	**-**	**-**	**-**	**-**	**9.7**	**4.9**	**-**	**0.3**	**-**	**20.0**
689/4/1	**-**	**5.0**	**-**	**-**	**-**	**-**	**9.7**	**4.9**	**-**	**0.3**	**-**	**20.0**
689/5/1	**-**	**5.0**	**-**	**-**	**-**	**-**	**9.7**	**4.9**	**-**	**0.3**	**-**	**20.0**
693/1/1	**-**	**-**	**-**	**-**	**1.5**	**-**	**-**	**3.8**	**-**	**0.5**	**13.5**	**19.3**
693/2/1	**-**	**-**	**-**	**-**	**1.5**	**-**	**-**	**3.8**	**-**	**0.5**	**13.5**	**19.3**
693/3/1	**-**	**-**	**-**	**-**	**1.5**	**-**	**-**	**3.8**	**-**	**0.5**	**13.5**	**19.3**
693/4/1	**-**	**-**	**-**	**-**	**1.5**	**-**	**-**	**3.8**	**-**	**0.5**	**13.5**	**19.3**
693/5/1	**-**	**-**	**-**	**-**	**1.5**	**-**	**-**	**3.8**	**-**	**0.5**	**13.5**	**19.3**
693/6/1	**-**	**-**	**-**	**-**	**1.5**	**-**	**-**	**3.8**	**-**	**0.5**	**13.5**	**19.3**
796/1/1	**-**	**1.7**	**-**	**-**	**5.1**	**-**	**-**	**2.0**	**7.6**	**2.9**	**-**	**19.3**
796/2/1	**-**	**1.7**	**-**	**-**	**5.1**	**-**	**-**	**2.0**	**7.6**	**2.9**	**-**	**19.3**
714/1/1	-	7.7	-	-	6.8	-	-	3.4	-	-	-	17.8
714/2/1	-	7.7	-	-	6.8	-	-	3.4	-	-	-	17.8
723/1/1	-	2.2	-	2.2	-	-	-	4.4	-	3.6	4.4	16.9
723/2/1	-	2.2	-	2.2	-	-	-	4.4	-	3.6	4.4	16.9
797/1/1	-	1.7	-	1.7	-	1.3	-	1.7	3.3	0.8	5.0	15.4
797/2/1	-	1.7	-	1.7	-	1.3	-	1.7	3.3	0.8	5.0	15.4
797/3/1	-	1.7	-	1.7	-	1.3	-	1.7	3.3	0.8	5.0	15.4
797/4/1	-	1.7	-	1.7	-	1.3	-	1.7	3.3	0.8	5.0	15.4
797/5/1	-	1.7	-	1.7	-	1.3	-	1.7	3.3	0.8	5.0	15.4
725/1/1	-	2.6	-	1.0	-	-	-	3.9	1.4	-	5.8	14.7

Table 10. Adults' consumption rates of other vegetables from the Harwell terrestrial survey area (kg y^{-1})

Person ID number	Aubergine	Broad bean	Chilli pepper	French bean	Pea	Pepper	Pumpkin	Runner bean	Squash	Sweetcorn	Tomato	Total
725/2/1	-	2.6	-	1.0	-	-	-	3.9	1.4	-	5.8	14.7
725/3/1	-	2.6	-	1.0	-	-	-	3.9	1.4	-	5.8	14.7
738/1/1	-	-	-	5.4	-	0.5	-	3.4	-	-	5.4	14.7
738/2/1	-	-	-	5.4	-	0.5	-	3.4	-	-	5.4	14.7
712/1/1	-	-	-	-	5.7	-	-	8.7	-	-	-	14.4
712/2/1	-	-	-	-	5.7	-	-	8.7	-	-	-	14.4
752/1/1	-	-	-	-	-	-	-	6.8	-	-	5.4	12.2
752/2/1	-	-	-	-	-	-	-	6.8	-	-	5.4	12.2
722/1/1	-	-	-	-	-	-	-	0.5	-	-	9.6	10.1
722/2/1	-	-	-	-	-	-	-	0.5	-	-	9.6	10.1
722/3/1	-	-	-	-	-	-	-	0.5	-	-	9.6	10.1
722/4/1	-	-	-	-	-	-	-	0.5	-	-	9.6	10.1
722/5/1	-	-	-	-	-	-	-	0.5	-	-	9.6	10.1
789/1/1	-	0.4	-	-	-	-	7.2	2.0	-	-	-	9.6
789/2/1	-	0.4	-	-	-	-	7.2	2.0	-	-	-	9.6
789/3/1	-	0.4	-	-	-	-	7.2	2.0	-	-	-	9.6
789/4/1	-	0.4	-	-	-	-	7.2	2.0	-	-	-	9.6
789/5/1	-	0.4	-	-	-	-	7.2	2.0	-	-	-	9.6
800/3/1	-	1.8	-	0.5	1.4	-	-	2.7	-	-	2.7	9.1
800/4/1	-	1.8	-	0.5	1.4	-	-	2.7	-	-	2.7	9.1
738/3/1	-	-	-	3.2	-	0.3	-	2.0	-	-	3.2	8.8
738/4/1	-	-	-	3.2	-	0.3	-	2.0	-	-	3.2	8.8
707/1/1	-	8.0	-	-	-	-	-	-	-	-	-	8.0
707/2/1	-	8.0	-	-	-	-	-	-	-	-	-	8.0
746/1/1	-	0.7	-	-	-	-	-	0.7	-	0.5	5.4	7.2
746/2/1	-	0.7	-	-	-	-	-	0.7	-	0.5	5.4	7.2
702/1/1	-	-	-	-	-	-	-	6.5	-	-	-	6.5
702/2/1	-	-	-	-	-	-	-	6.5	-	-	-	6.5
680/1/1	-	-	-	-	-	-	-	3.7	-	1.4	1.2	6.3

Table 10. Adults' consumption rates of other vegetables from the Harwell terrestrial survey area (kg y^{-1})

Person ID number	Aubergine	Broad bean	Chilli pepper	French bean	Pea	Pepper	Pumpkin	Runner bean	Squash	Sweetcorn	Tomato	Total
738/5/1	-	-	-	2.2	-	0.2	-	1.4	-	-	2.2	5.9
738/6/1	-	-	-	2.2	-	0.2	-	1.4	-	-	2.2	5.9
721/1/1	-	-	-	0.6	-	-	-	2.4	1.9	-	-	4.9
721/2/1	-	-	-	0.6	-	-	-	2.4	1.9	-	-	4.9
721/3/1	-	-	-	0.6	-	-	-	2.4	1.9	-	-	4.9
683/1/1	-	-	-	-	-	-	-	-	-	-	4.8	4.8
775/1/1	-	-	-	-	-	-	-	-	-	-	4.7	4.7
775/2/1	-	-	-	-	-	-	-	-	-	-	4.7	4.7
723/3/1	-	0.6	-	0.6	-	-	-	1.2	-	1.0	1.2	4.5
723/4/1	-	0.6	-	0.6	-	-	-	1.2	-	1.0	1.2	4.5
740/1/1	-	-	-	-	-	-	-	3.5	-	-	-	3.5
740/2/1	-	-	-	-	-	-	-	3.5	-	-	-	3.5
740/3/1	-	-	-	-	-	-	-	3.5	-	-	-	3.5
740/4/1	-	-	-	-	-	-	-	3.5	-	-	-	3.5
740/5/1	-	-	-	-	-	-	-	3.5	-	-	-	3.5
725/7/1	-	1.4	-	-	-	-	-	-	-	-	1.9	3.3
725/8/1	-	1.4	-	-	-	-	-	-	-	-	1.9	3.3
725/9/1	-	1.4	-	-	-	-	-	-	-	-	1.9	3.3
725/10/1	-	1.4	-	-	-	-	-	-	-	-	1.9	3.3
772/1/1	-	-	-	-	1.4	-	-	-	-	-	1.6	3.1
772/2/1	-	-	-	-	1.4	-	-	-	-	-	1.6	3.1
772/3/1	-	-	-	-	1.4	-	-	-	-	-	1.6	3.1
749/1/1	-	-	-	1.4	0.2	-	-	-	-	-	1.1	2.7
749/2/1	-	-	-	1.4	0.2	-	-	-	-	-	1.1	2.7
683/2/1	-	-	-	-	-	-	-	-	-	-	2.4	2.4
737/1/1	-	-	-	-	-	-	-	2.2	-	-	-	2.2
737/2/1	-	-	-	-	-	-	-	2.2	-	-	-	2.2
737/3/1	-	-	-	-	-	-	-	2.2	-	-	-	2.2
737/4/1	-	-	-	-	-	-	-	2.2	-	-	-	2.2

Table 10. Adults' consumption rates of other vegetables from the Harwell terrestrial survey area (kg y^{-1})

Person ID number	Aubergine	Broad bean	Chilli pepper	French bean	Pea	Pepper	Pumpkin	Runner bean	Squash	Sweetcorn	Tomato	Total
726/1/1	-	-	-	-	-	-	-	-	-	-	2.1	2.1
726/3/1	-	-	-	-	-	-	-	-	-	-	2.1	2.1
726/4/1	-	-	-	-	-	-	-	-	-	-	2.1	2.1
713/1/1	-	-	-	-	-	-	-	2.0	-	-	-	2.0
713/2/1	-	-	-	-	-	-	-	2.0	-	-	-	2.0
713/3/1	-	-	-	-	-	-	-	2.0	-	-	-	2.0
707/3/1	-	1.7	-	-	-	-	-	-	-	-	-	1.7
707/4/1	-	1.7	-	-	-	-	-	-	-	-	-	1.7
707/5/1	-	1.7	-	-	-	-	-	-	-	-	-	1.7
707/6/1	-	1.7	-	-	-	-	-	-	-	-	-	1.7
773/1/1	-	-	-	-	-	-	-	-	-	-	1.0	1.0
773/2/1	-	-	-	-	-	-	-	-	-	-	1.0	1.0
750/1/1	-	-	-	-	-	-	0.6	-	-	-	0.3	0.9
750/2/1	-	-	-	-	-	-	0.6	-	-	-	0.3	0.9
799/1/1	-	-	-	-	-	-	-	-	-	-	0.8	0.8
799/2/1	-	-	-	-	-	-	-	-	-	-	0.8	0.8
726/2/1	-	-	-	-	-	-	-	-	-	-	0.7	0.7
747/1/1	-	-	0.2	-	-	-	-	-	-	-	0.5	0.7
747/2/1	-	-	0.2	-	-	-	-	-	-	-	0.5	0.7
698/1/1	-	-	-	0.4	-	-	-	-	-	-	-	0.4
698/2/1	-	-	-	0.4	-	-	-	-	-	-	-	0.4
698/3/1	-	-	-	0.4	-	-	-	-	-	-	-	0.4
720/1/1	-	-	-	0.2	-	-	-	-	-	0.2	-	0.3
720/3/1	-	-	-	0.2	-	-	-	-	-	0.2	-	0.3

Notes

Emboldened observations are the high-rate consumers

The mean consumption rate of other vegetables for adults based on the 19 high-rate consumers is 24.5 kg y^{-1}

The observed 97.5th percentile rate based on 111 observations is 26.9 kg y^{-1}

Table 11. Adults' consumption rates of root vegetables from the Harwell terrestrial survey area (kg y^{-1})

Person ID number	Beetroot	Carrot	Celeriac	Celery	Garlic	Leek	Onion	Parsnip	Radish	Shallot	Spring onion	Swede	Turnip	Total
702/1/1	7.1	9.2	1.0	-	-	5.8	-	7.7	1.4	-	-	6.5	-	38.8
702/2/1	7.1	9.2	1.0	-	-	5.8	-	7.7	1.4	-	-	6.5	-	38.8
711/1/1	8.1	4.1	-	-	-	6.8	8.1	-	-	4.3	-	-	-	31.3
711/2/1	8.1	4.1	-	-	-	6.8	8.1	-	-	4.3	-	-	-	31.3
711/3/1	8.1	4.1	-	-	-	6.8	8.1	-	-	4.3	-	-	-	31.3
693/1/1	2.0	9.8	-	-	0.1	-	8.4	-	1.2	-	0.7	4.5	1.8	28.4
693/2/1	2.0	9.8	-	-	0.1	-	8.4	-	1.2	-	0.7	4.5	1.8	28.4
693/3/1	2.0	9.8	-	-	0.1	-	8.4	-	1.2	-	0.7	4.5	1.8	28.4
693/4/1	2.0	9.8	-	-	0.1	-	8.4	-	1.2	-	0.7	4.5	1.8	28.4
693/5/1	2.0	9.8	-	-	0.1	-	8.4	-	1.2	-	0.7	4.5	1.8	28.4
693/6/1	2.0	9.8	-	-	0.1	-	8.4	-	1.2	-	0.7	4.5	1.8	28.4
797/1/1	3.3	5.0	-	-	-	1.3	13.0	3.3	0.6	-	0.7	-	-	27.3
797/2/1	3.3	5.0	-	-	-	1.3	13.0	3.3	0.6	-	0.7	-	-	27.3
797/3/1	3.3	5.0	-	-	-	1.3	13.0	3.3	0.6	-	0.7	-	-	27.3
797/4/1	3.3	5.0	-	-	-	1.3	13.0	3.3	0.6	-	0.7	-	-	27.3
797/5/1	3.3	5.0	-	-	-	1.3	13.0	3.3	0.6	-	0.7	-	-	27.3
714/1/1	3.4	-	-	-	-	6.8	10.8	5.4	-	-	-	-	-	26.3
714/2/1	3.4	-	-	-	-	6.8	10.8	5.4	-	-	-	-	-	26.3
689/1/1	4.9	4.9	-	-	-	-	6.5	2.6	-	5.8	0.7	-	-	25.3
689/2/1	4.9	4.9	-	-	-	-	6.5	2.6	-	5.8	0.7	-	-	25.3
689/3/1	4.9	4.9	-	-	-	-	6.5	2.6	-	5.8	0.7	-	-	25.3
689/4/1	4.9	4.9	-	-	-	-	6.5	2.6	-	5.8	0.7	-	-	25.3
689/5/1	4.9	4.9	-	-	-	-	6.5	2.6	-	5.8	0.7	-	-	25.3
795/1/1	-	2.3	-	1.1	1.1	7.2	11.5	-	-	-	1.0	-	-	24.1
795/2/1	-	2.3	-	1.1	1.1	7.2	11.5	-	-	-	1.0	-	-	24.1
775/1/1	-	4.7	-	-	-	4.7	4.7	4.7	-	-	-	4.7	-	23.6
775/2/1	-	4.7	-	-	-	4.7	4.7	4.7	-	-	-	4.7	-	23.6
707/1/1	4.7	-	-	-	0.9	9.5	7.6	-	-	-	-	-	-	22.7
707/2/1	4.7	-	-	-	0.9	9.5	7.6	-	-	-	-	-	-	22.7

Table 11. Adults' consumption rates of root vegetables from the Harwell terrestrial survey area (kg y^{-1})

Person ID number	Beetroot	Carrot	Celeriac	Celery	Garlic	Leek	Onion	Parsnip	Radish	Shallot	Spring onion	Swede	Turnip	Total
796/1/1	**13.5**	**3.4**	**-**	**-**	**-**	**3.4**	**-**	**0.7**	**-**	**-**	**-**	**-**	**-**	**20.9**
796/2/1	**13.5**	**3.4**	**-**	**-**	**-**	**3.4**	**-**	**0.7**	**-**	**-**	**-**	**-**	**-**	**20.9**
710/1/1	**-**	**9.0**	**3.2**	**-**	**-**	**3.4**	**-**	**1.8**	**-**	**2.3**	**-**	**-**	**-**	**19.6**
710/2/1	**-**	**9.0**	**3.2**	**-**	**-**	**3.4**	**-**	**1.8**	**-**	**2.3**	**-**	**-**	**-**	**19.6**
712/1/1	**2.9**	**-**	**-**	**-**	**-**	**5.7**	**9.2**	**-**	**-**	**-**	**-**	**-**	**-**	**17.8**
712/2/1	**2.9**	**-**	**-**	**-**	**-**	**5.7**	**9.2**	**-**	**-**	**-**	**-**	**-**	**-**	**17.8**
698/1/1	**3.0**	**4.5**	**-**	**-**	**0.4**	**-**	**4.8**	**2.4**	**-**	**-**	**-**	**-**	**-**	**15.1**
698/2/1	**3.0**	**4.5**	**-**	**-**	**0.4**	**-**	**4.8**	**2.4**	**-**	**-**	**-**	**-**	**-**	**15.1**
698/3/1	**3.0**	**4.5**	**-**	**-**	**0.4**	**-**	**4.8**	**2.4**	**-**	**-**	**-**	**-**	**-**	**15.1**
738/1/1	**3.4**	**4.5**	**-**	**-**	**-**	**-**	**3.6**	**3.6**	**-**	**-**	**-**	**-**	**-**	**15.1**
738/2/1	**3.4**	**4.5**	**-**	**-**	**-**	**-**	**3.6**	**3.6**	**-**	**-**	**-**	**-**	**-**	**15.1**
741/1/1	**0.2**	**2.3**	**-**	**-**	**-**	**3.6**	**5.8**	**1.8**	**-**	**-**	**-**	**-**	**-**	**13.6**
741/2/1	**0.2**	**2.3**	**-**	**-**	**-**	**3.6**	**5.8**	**1.8**	**-**	**-**	**-**	**-**	**-**	**13.6**
723/1/1	**-**	**2.2**	**0.8**	**-**	**1.1**	**6.8**	**2.2**	**-**	**-**	**-**	**-**	**-**	**-**	**13.1**
723/2/1	**-**	**2.2**	**0.8**	**-**	**1.1**	**6.8**	**2.2**	**-**	**-**	**-**	**-**	**-**	**-**	**13.1**
738/3/1	2.0	2.7	-	-	-	-	2.2	2.2	-	-	-	-	-	9.0
738/4/1	2.0	2.7	-	-	-	-	2.2	2.2	-	-	-	-	-	9.0
713/1/1	2.7	2.7	-	-	-	1.4	-	-	-	-	1.2	-	-	8.0
713/2/1	2.7	2.7	-	-	-	1.4	-	-	-	-	1.2	-	-	8.0
713/3/1	2.7	2.7	-	-	-	1.4	-	-	-	-	1.2	-	-	8.0
749/1/1	2.7	3.6	-	-	0.2	-	-	-	-	-	-	-	-	6.5
749/2/1	2.7	3.6	-	-	0.2	-	-	-	-	-	-	-	-	6.5
720/1/1	-	-	-	-	1.3	-	5.0	-	-	-	-	-	-	6.3
720/3/1	-	-	-	-	1.3	-	5.0	-	-	-	-	-	-	6.3
738/5/1	1.4	1.8	-	-	-	-	1.4	1.4	-	-	-	-	-	6.0
738/6/1	1.4	1.8	-	-	-	-	1.4	1.4	-	-	-	-	-	6.0
680/1/1	-	-	-	-	-	5.4	-	-	-	-	-	-	-	5.4
721/1/1	-	-	-	-	-	2.1	2.3	-	-	0.8	-	-	-	5.3
721/2/1	-	-	-	-	-	2.1	2.3	-	-	0.8	-	-	-	5.3

Table 11. Adults' consumption rates of root vegetables from the Harwell terrestrial survey area (kg y^{-1})

Person ID number	Beetroot	Carrot	Celeriac	Celery	Garlic	Leek	Onion	Parsnip	Radish	Shallot	Spring onion	Swede	Turnip	Total
721/3/1	-	-	-	-	-	2.1	2.3	-	-	0.8	-	-	-	5.3
737/1/1	-	-	-	-	-	-	5.2	-	-	-	-	-	-	5.2
737/2/1	-	-	-	-	-	-	5.2	-	-	-	-	-	-	5.2
737/3/1	-	-	-	-	-	-	5.2	-	-	-	-	-	-	5.2
737/4/1	-	-	-	-	-	-	5.2	-	-	-	-	-	-	5.2
740/1/1	2.9	1.1	-	-	-	-	-	1.2	-	-	-	-	-	5.1
740/2/1	2.9	1.1	-	-	-	-	-	1.2	-	-	-	-	-	5.1
740/3/1	2.9	1.1	-	-	-	-	-	1.2	-	-	-	-	-	5.1
740/4/1	2.9	1.1	-	-	-	-	-	1.2	-	-	-	-	-	5.1
740/5/1	2.9	1.1	-	-	-	-	-	1.2	-	-	-	-	-	5.1
795/3/1	-	-	-	-	0.3	1.8	2.9	-	-	-	-	-	-	4.9
795/4/1	-	-	-	-	0.3	1.8	2.9	-	-	-	-	-	-	4.9
725/1/1	1.3	3.1	-	-	-	-	-	-	-	-	0.6	-	-	4.9
725/2/1	1.3	3.1	-	-	-	-	-	-	-	-	0.6	-	-	4.9
725/3/1	1.3	3.1	-	-	-	-	-	-	-	-	0.6	-	-	4.9
707/3/1	1.0	-	-	-	0.2	2.0	1.6	-	-	-	-	-	-	4.9
707/4/1	1.0	-	-	-	0.2	2.0	1.6	-	-	-	-	-	-	4.9
707/5/1	1.0	-	-	-	0.2	2.0	1.6	-	-	-	-	-	-	4.9
707/6/1	1.0	-	-	-	0.2	2.0	1.6	-	-	-	-	-	-	4.9
723/3/1	-	0.6	-	-	-	1.8	0.6	-	-	-	-	-	-	3.0
723/4/1	-	0.6	-	-	-	1.8	0.6	-	-	-	-	-	-	3.0
683/1/1	-	2.7	-	-	-	-	-	-	-	-	-	-	-	2.7
752/1/1	0.5	2.3	-	-	-	-	-	-	-	-	-	-	-	2.7
752/2/1	0.5	2.3	-	-	-	-	-	-	-	-	-	-	-	2.7
772/1/1	1.4	-	-	-	-	-	-	-	0.6	-	-	-	-	2.0
772/2/1	1.4	-	-	-	-	-	-	-	0.6	-	-	-	-	2.0
772/3/1	1.4	-	-	-	-	-	-	-	0.6	-	-	-	-	2.0
722/1/1	0.5	-	-	-	-	1.4	-	-	-	-	-	-	-	1.9
722/2/1	0.5	-	-	-	-	1.4	-	-	-	-	-	-	-	1.9

Table 11. Adults' consumption rates of root vegetables from the Harwell terrestrial survey area (kg y^{-1})

Person ID number	Beetroot	Carrot	Celeriac	Celery	Garlic	Leek	Onion	Parsnip	Radish	Shallot	Spring onion	Swede	Turnip	Total
722/3/1	0.5	-	-	-	-	1.4	-	-	-	-	-	-	-	1.9
722/4/1	0.5	-	-	-	-	1.4	-	-	-	-	-	-	-	1.9
722/5/1	0.5	-	-	-	-	1.4	-	-	-	-	-	-	-	1.9
683/2/1	-	1.4	-	-	-	-	-	-	-	-	-	-	-	1.4
725/7/1	-	1.0	-	-	-	-	-	-	-	-	-	-	-	1.0
725/8/1	-	1.0	-	-	-	-	-	-	-	-	-	-	-	1.0
725/9/1	-	1.0	-	-	-	-	-	-	-	-	-	-	-	1.0
725/10/1	-	1.0	-	-	-	-	-	-	-	-	-	-	-	1.0
773/1/1	-	1.0	-	-	-	-	-	-	-	-	-	-	-	1.0
773/2/1	-	1.0	-	-	-	-	-	-	-	-	-	-	-	1.0
789/1/1	0.4	-	-	-	-	-	-	-	-	-	-	-	-	0.4
789/2/1	0.4	-	-	-	-	-	-	-	-	-	-	-	-	0.4
789/3/1	0.4	-	-	-	-	-	-	-	-	-	-	-	-	0.4
789/4/1	0.4	-	-	-	-	-	-	-	-	-	-	-	-	0.4
789/5/1	0.4	-	-	-	-	-	-	-	-	-	-	-	-	0.4

Notes

Emboldened observations are the high-rate consumers

The mean consumption rate of root vegetables for adults based on the 44 high-rate consumers is 23.7 kg y^{-1}

The observed 97.5th percentile rate based on 102 observations is 31.3 kg y^{-1}

Table 12. Adults' consumption rates of potato from the Harwell terrestrial survey area (kg y^{-1})

Person ID number	Potato
723/1/1	**76.9**
723/2/1	**76.9**
697/1/1	**61.4**
697/2/1	**61.4**
693/1/1	**51.6**
693/2/1	**51.6**
693/3/1	**51.6**
693/4/1	**51.6**
693/5/1	**51.6**
693/6/1	**51.6**
789/1/1	**36.4**
789/2/1	**36.4**
789/3/1	**36.4**
789/4/1	**36.4**
789/5/1	**36.4**
711/1/1	**32.8**
711/2/1	**32.8**
711/3/1	**32.8**
681/1/1	**31.2**
681/2/1	**31.2**
714/1/1	**30.7**
714/2/1	**30.7**
689/1/1	**27.0**
689/2/1	**27.0**
689/3/1	**27.0**
689/4/1	**27.0**
689/5/1	**27.0**
702/1/1	**26.2**
702/2/1	**26.2**
767/1/1	**26.1**
767/2/1	**26.1**
712/1/1	23.2
712/2/1	23.2
738/1/1	22.8
738/2/1	22.8
707/1/1	22.3
707/2/1	22.3
740/1/1	21.8
740/2/1	21.8
740/3/1	21.8
740/4/1	21.8
740/5/1	21.8
741/1/1	21.8
741/2/1	21.8
723/3/1	20.7
723/4/1	20.7
713/1/1	19.1
713/2/1	19.1
713/3/1	19.1
683/1/1	18.1
680/1/1	18.0
696/1/1	16.7
696/2/1	16.7
696/3/1	16.7

Table 12. Adults' consumption rates of potato from the Harwell terrestrial survey area (kg y^{-1})

Person ID number	Potato
696/4/1	16.7
696/5/1	16.7
738/3/1	13.7
738/4/1	13.7
698/1/1	12.1
698/2/1	12.1
698/3/1	12.1
725/1/1	10.4
725/2/1	10.4
725/3/1	10.4
737/1/1	10.4
737/2/1	10.4
737/3/1	10.4
737/4/1	10.4
710/1/1	9.1
710/2/1	9.1
738/5/1	9.1
738/6/1	9.1
752/1/1	9.1
752/2/1	9.1
683/2/1	9.1
681/3/1	7.8
681/4/1	7.8
707/3/1	4.8
707/4/1	4.8
707/5/1	4.8
707/6/1	4.8
749/1/1	3.6
749/2/1	3.6
725/7/1	3.4
725/8/1	3.4
725/9/1	3.4
725/10/1	3.4
722/1/1	3.0
722/2/1	3.0
722/3/1	3.0
722/4/1	3.0
722/5/1	3.0
720/1/1	2.0
720/3/1	2.0
750/1/1	0.6
750/2/1	0.6

Notes

Emboldened observations are the high-rate consumers

The mean consumption rate of potato for adults based on the 31 high-rate consumers is 39.7 kg y^{-1}

The observed 97.5th percentile rate based on 96 observations is 61.4 kg y^{-1}

Table 13. Adults' consumption rates of domestic fruit from the Harwell terrestrial survey area (kg y^{-1})

Person ID number	Apple	Blackberry	Blackcurrant	Blueberry	Cherry	Fig	Gooseberry	Grapes	Greengage	Loganberry	Melon	Mulberry	Peach	Pear	Plum	Raspberry	Redcurrant	Rhubarb	Strawberry	Tayberry	White currant	Total
739/1/1	**10.8**	**-**	**-**	**-**	**8.4**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**2.2**	**7.8**	**4.5**	**-**	**-**	**4.5**	**-**	**-**	**38.3**
739/2/1	**10.8**	**-**	**-**	**-**	**8.4**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**2.2**	**7.8**	**4.5**	**-**	**-**	**4.5**	**-**	**-**	**38.3**
739/3/1	**10.8**	**-**	**-**	**-**	**8.4**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**2.2**	**7.8**	**4.5**	**-**	**-**	**4.5**	**-**	**-**	**38.3**
739/4/1	**10.8**	**-**	**-**	**-**	**8.4**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**2.2**	**7.8**	**4.5**	**-**	**-**	**4.5**	**-**	**-**	**38.3**
681/1/1	**3.0**	**3.6**	**0.5**	**1.0**	**3.6**	**-**	**1.0**	**-**	**-**	**3.6**	**1.7**	**-**	**-**	**0.5**	**0.2**	**4.1**	**0.5**	**2.3**	**7.6**	**3.6**	**0.5**	**37.5**
681/2/1	**3.0**	**3.6**	**0.5**	**1.0**	**3.6**	**-**	**1.0**	**-**	**-**	**3.6**	**1.7**	**-**	**-**	**0.5**	**0.2**	**4.1**	**0.5**	**2.3**	**7.6**	**3.6**	**0.5**	**37.5**
710/1/1	**13.3**	**-**	**2.3**	**-**	**-**	**-**	**0.7**	**-**	**-**	**-**	**-**	**-**	**2.5**	**1.1**	**-**	**2.3**	**2.3**	**-**	**4.8**	**-**	**-**	**29.2**
710/2/1	**13.3**	**-**	**2.3**	**-**	**-**	**-**	**0.7**	**-**	**-**	**-**	**-**	**-**	**2.5**	**1.1**	**-**	**2.3**	**2.3**	**-**	**4.8**	**-**	**-**	**29.2**
775/1/1	**2.3**	**2.3**	**2.3**	**-**	**-**	**-**	**2.3**	**-**	**-**	**-**	**-**	**-**	**-**	**2.3**	**2.3**	**2.3**	**2.3**	**2.3**	**2.3**	**2.3**	**-**	**25.8**
775/2/1	**2.3**	**2.3**	**2.3**	**-**	**-**	**-**	**2.3**	**-**	**-**	**-**	**-**	**-**	**-**	**2.3**	**2.3**	**2.3**	**2.3**	**2.3**	**2.3**	**2.3**	**-**	**25.8**
680/1/1	**12.6**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**5.7**	**-**	**-**	**18.3**
741/1/1	**7.0**	**-**	**0.9**	**-**	**-**	**-**	**-**	**-**	**0.9**	**0.9**	**-**	**-**	**-**	**-**	**2.7**	**2.3**	**-**	**0.7**	**-**	**-**	**-**	**15.3**
741/2/1	**7.0**	**-**	**0.9**	**-**	**-**	**-**	**-**	**-**	**0.9**	**0.9**	**-**	**-**	**-**	**-**	**2.7**	**2.3**	**-**	**0.7**	**-**	**-**	**-**	**15.3**
696/1/1	**5.0**	**-**	**0.8**	**-**	**-**	**-**	**0.8**	**-**	**-**	**-**	**-**	**-**	**-**	**0.5**	**1.7**	**3.3**	**-**	**0.9**	**0.5**	**-**	**-**	**13.6**
696/2/1	**5.0**	**-**	**0.8**	**-**	**-**	**-**	**0.8**	**-**	**-**	**-**	**-**	**-**	**-**	**0.5**	**1.7**	**3.3**	**-**	**0.9**	**0.5**	**-**	**-**	**13.6**
696/3/1	**5.0**	**-**	**0.8**	**-**	**-**	**-**	**0.8**	**-**	**-**	**-**	**-**	**-**	**-**	**0.5**	**1.7**	**3.3**	**-**	**0.9**	**0.5**	**-**	**-**	**13.6**
696/4/1	**5.0**	**-**	**0.8**	**-**	**-**	**-**	**0.8**	**-**	**-**	**-**	**-**	**-**	**-**	**0.5**	**1.7**	**3.3**	**-**	**0.9**	**0.5**	**-**	**-**	**13.6**
696/5/1	**5.0**	**-**	**0.8**	**-**	**-**	**-**	**0.8**	**-**	**-**	**-**	**-**	**-**	**-**	**0.5**	**1.7**	**3.3**	**-**	**0.9**	**0.5**	**-**	**-**	**13.6**
693/1/1	5.3	-	-	-	-	-	1.1	-	-	-	-	-	-	-	1.3	-	1.5	1.3	0.1	-	-	10.5
693/2/1	5.3	-	-	-	-	-	1.1	-	-	-	-	-	-	-	1.3	-	1.5	1.3	0.1	-	-	10.5
702/1/1	-	-	1.5	-	-	-	1.8	-	-	-	-	-	-	-	-	-	1.1	0.9	4.9	-	-	10.2
702/2/1	-	-	1.5	-	-	-	1.8	-	-	-	-	-	-	-	-	-	1.1	0.9	4.9	-	-	10.2
725/1/1	2.3	-	1.5	-	-	-	-	-	-	-	-	-	-	-	2.7	0.9	0.9	0.9	-	-	-	9.1
725/2/1	2.3	-	1.5	-	-	-	-	-	-	-	-	-	-	-	2.7	0.9	0.9	0.9	-	-	-	9.1
683/1/1	6.0	-	0.9	-	-	-	-	-	-	-	-	-	-	0.9	0.9	-	-	-	-	-	-	8.8
726/1/1	6.3	-	-	-	0.5	-	-	-	-	-	-	-	-	-	1.4	-	-	-	0.5	-	-	8.7
726/3/1	6.3	-	-	-	0.5	-	-	-	-	-	-	-	-	-	1.4	-	-	-	0.5	-	-	8.7

Table 13. Adults' consumption rates of domestic fruit from the Harwell terrestrial survey area (kg y^{-1})

Person ID number	Apple	Blackberry	Blackcurrant	Blueberry	Cherry	Fig	Gooseberry	Grapes	Greengage	Loganberry	Melon	Mulberry	Peach	Pear	Plum	Raspberry	Redcurrant	Rhubarb	Strawberry	Tayberry	White currant	Total
726/4/1	6.3	-	-	-	0.5	-	-	-	-	-	-	-	-	-	1.4	-	-	-	0.5	-	-	8.7
722/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.9	-	0.9	6.3	-	-	8.1
722/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.9	-	0.9	6.3	-	-	8.1
722/3/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.9	-	0.9	6.3	-	-	8.1
722/4/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.9	-	0.9	6.3	-	-	8.1
722/5/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.9	-	0.9	6.3	-	-	8.1
756/1/1	3.4	-	-	-	-	-	-	-	-	-	-	-	-	-	3.4	-	-	-	-	-	-	6.8
756/2/1	3.4	-	-	-	-	-	-	-	-	-	-	-	-	-	3.4	-	-	-	-	-	-	6.8
776/1/1	0.9	-	-	-	-	-	-	5.5	-	-	-	-	-	-	0.4	-	-	-	-	-	-	6.7
776/2/1	0.9	-	-	-	-	-	-	5.5	-	-	-	-	-	-	0.4	-	-	-	-	-	-	6.7
754/1/1	6.4	-	-	-	-	0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.7
754/2/1	6.4	-	-	-	-	0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.7
752/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	0.5	2.0	0.9	-	1.4	1.6	-	-	6.4
752/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	0.5	2.0	0.9	-	1.4	1.6	-	-	6.4
681/3/1	-	0.8	-	-	0.8	-	-	-	-	0.8	-	-	-	-	-	0.9	-	-	1.7	0.8	-	5.8
681/4/1	-	0.8	-	-	0.8	-	-	-	-	0.8	-	-	-	-	-	0.9	-	-	1.7	0.8	-	5.8
693/3/1	-	-	-	-	-	-	1.1	-	-	-	-	-	-	-	1.3	-	1.5	1.3	0.1	-	-	5.2
693/4/1	-	-	-	-	-	-	1.1	-	-	-	-	-	-	-	1.3	-	1.5	1.3	0.1	-	-	5.2
693/5/1	-	-	-	-	-	-	1.1	-	-	-	-	-	-	-	1.3	-	1.5	1.3	0.1	-	-	5.2
693/6/1	-	-	-	-	-	-	1.1	-	-	-	-	-	-	-	1.3	-	1.5	1.3	0.1	-	-	5.2
723/1/1	-	0.5	0.6	-	-	-	0.5	-	-	-	-	-	-	-	-	1.6	0.6	0.5	-	-	0.6	4.9
723/2/1	-	0.5	0.6	-	-	-	0.5	-	-	-	-	-	-	-	-	1.6	0.6	0.5	-	-	0.6	4.9
723/3/1	-	0.4	0.6	-	-	-	0.4	-	-	-	-	-	-	-	-	1.5	0.6	0.4	-	-	0.6	4.6
723/4/1	-	0.4	0.6	-	-	-	0.4	-	-	-	-	-	-	-	-	1.5	0.6	0.4	-	-	0.6	4.6
683/2/1	3.0	-	0.5	-	-	-	-	-	-	-	-	-	-	0.5	0.5	-	-	-	-	-	-	4.4
737/1/1	2.5	-	-	-	0.5	-	-	-	-	-	-	1.2	-	-	0.2	-	-	-	-	-	-	4.3
737/2/1	2.5	-	-	-	0.5	-	-	-	-	-	-	1.2	-	-	0.2	-	-	-	-	-	-	4.3

Table 13. Adults' consumption rates of domestic fruit from the Harwell terrestrial survey area (kg y^{-1})

Person ID number	Apple	Blackberry	Blackcurrant	Blueberry	Cherry	Fig	Gooseberry	Grapes	Greengage	Loganberry	Melon	Mulberry	Peach	Pear	Plum	Raspberry	Redcurrant	Rhubarb	Strawberry	Tayberry	White currant	Total
738/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.3	-	2.9	-	-	-	4.1
738/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.3	-	2.9	-	-	-	4.1
707/1/1	2.3	-	-	-	0.9	-	-	-	-	-	-	-	-	-	0.9	-	-	-	-	-	-	4.1
707/2/1	2.3	-	-	-	0.9	-	-	-	-	-	-	-	-	-	0.9	-	-	-	-	-	-	4.1
746/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	1.8	1.4	0.9	-	-	-	-	-	4.1
746/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	1.8	1.4	0.9	-	-	-	-	-	4.1
772/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.3	2.2	-	-	1.5	-	-	4.0
772/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.3	2.2	-	-	1.5	-	-	4.0
772/3/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.3	2.2	-	-	1.5	-	-	4.0
737/3/1	2.5	-	-	-	-	-	-	-	-	-	-	1.2	-	-	0.2	-	-	-	-	-	-	3.9
737/4/1	2.5	-	-	-	-	-	-	-	-	-	-	1.2	-	-	0.2	-	-	-	-	-	-	3.9
737/5/1	2.5	-	-	-	-	-	-	-	-	-	-	1.2	-	-	0.2	-	-	-	-	-	-	3.9
737/6/1	2.5	-	-	-	-	-	-	-	-	-	-	1.2	-	-	0.2	-	-	-	-	-	-	3.9
737/7/1	2.5	-	-	-	-	-	-	-	-	-	-	1.2	-	-	0.2	-	-	-	-	-	-	3.9
737/8/1	2.5	-	-	-	-	-	-	-	-	-	-	1.2	-	-	0.2	-	-	-	-	-	-	3.9
762/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.8	1.5	-	-	1.5	-	-	3.8
762/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.8	1.5	-	-	1.5	-	-	3.8
750/1/1	1.7	0.3	0.3	0.3	0.3	-	0.3	-	-	-	-	-	-	-	0.3	-	0.3	-	-	-	-	3.7
750/2/1	1.7	0.3	0.3	0.3	0.3	-	0.3	-	-	-	-	-	-	-	0.3	-	0.3	-	-	-	-	3.7
698/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.9	-	0.9	1.8	-	-	3.6
698/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.9	-	0.9	1.8	-	-	3.6
698/3/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.9	-	0.9	1.8	-	-	3.6
749/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	1.4	1.8	-	-	3.4
749/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	1.4	1.8	-	-	3.4
745/1/1	-	-	-	-	1.0	-	-	-	-	-	-	-	-	-	-	-	1.0	-	1.0	-	-	3.0
721/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.0	-	-	3.0
721/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.0	-	-	3.0

Table 13. Adults' consumption rates of domestic fruit from the Harwell terrestrial survey area (kg y^{-1})

Person ID number	Apple	Blackberry	Blackcurrant	Blueberry	Cherry	Fig	Gooseberry	Grapes	Greengage	Loganberry	Melon	Mulberry	Peach	Pear	Plum	Raspberry	Redcurrant	Rhubarb	Strawberry	Tayberry	White currant	Total
721/3/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.0	-	-	3.0
709/1/1	2.3	-	-	-	-	-	-	-	-	-	-	-	-	-	0.7	-	-	-	-	-	-	2.9
709/2/1	2.3	-	-	-	-	-	-	-	-	-	-	-	-	-	0.7	-	-	-	-	-	-	2.9
726/2/1	2.1	-	-	-	0.2	-	-	-	-	-	-	-	-	-	0.5	-	-	-	0.2	-	-	2.9
738/3/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.8	-	1.7	-	-	-	2.5
738/4/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.8	-	1.7	-	-	-	2.5
789/1/1	-	-	-	-	-	-	0.4	-	-	-	-	-	-	-	0.4	-	-	0.8	0.6	-	-	2.2
789/2/1	-	-	-	-	-	-	0.4	-	-	-	-	-	-	-	0.4	-	-	0.8	0.6	-	-	2.2
789/3/1	-	-	-	-	-	-	0.4	-	-	-	-	-	-	-	0.4	-	-	0.8	0.6	-	-	2.2
789/4/1	-	-	-	-	-	-	0.4	-	-	-	-	-	-	-	0.4	-	-	0.8	0.6	-	-	2.2
789/5/1	-	-	-	-	-	-	0.4	-	-	-	-	-	-	-	0.4	-	-	0.8	0.6	-	-	2.2
711/1/1	-	-	-	-	-	-	1.1	-	0.7	-	-	-	-	-	-	-	-	0.4	-	-	-	2.2
711/2/1	-	-	-	-	-	-	1.1	-	0.7	-	-	-	-	-	-	-	-	0.4	-	-	-	2.2
711/3/1	-	-	-	-	-	-	1.1	-	0.7	-	-	-	-	-	-	-	-	0.4	-	-	-	2.2
735/1/1	2.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.0
735/2/1	2.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.0
735/3/1	2.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.0
735/4/1	2.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.0
735/5/1	2.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.0
725/3/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.9	-	0.9	-	-	-	1.7
738/5/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.5	-	1.1	-	-	-	1.6
738/6/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.5	-	1.1	-	-	-	1.6
689/1/1	-	-	-	-	-	-	-	-	-	-	1.4	-	-	-	-	-	-	-	-	-	-	1.4
689/2/1	-	-	-	-	-	-	-	-	-	-	1.4	-	-	-	-	-	-	-	-	-	-	1.4
689/3/1	-	-	-	-	-	-	-	-	-	-	1.4	-	-	-	-	-	-	-	-	-	-	1.4
689/4/1	-	-	-	-	-	-	-	-	-	-	1.4	-	-	-	-	-	-	-	-	-	-	1.4
689/5/1	-	-	-	-	-	-	-	-	-	-	1.4	-	-	-	-	-	-	-	-	-	-	1.4

Table 13. Adults' consumption rates of domestic fruit from the Harwell terrestrial survey area (kg y^{-1})

Person ID number	Apple	Blackberry	Blackcurrant	Blueberry	Cherry	Fig	Gooseberry	Grapes	Greengage	Loganberry	Melon	Mulberry	Peach	Pear	Plum	Raspberry	Redcurrant	Rhubarb	Strawberry	Tayberry	White currant	Total
706/1/1	-	-	-	-	0.4	-	-	-	-	-	-	-	-	-	-	0.4	-	-	0.4	-	-	1.1
706/2/1	-	-	-	-	0.4	-	-	-	-	-	-	-	-	-	-	0.4	-	-	0.4	-	-	1.1
706/3/1	-	-	-	-	0.4	-	-	-	-	-	-	-	-	-	-	0.4	-	-	0.4	-	-	1.1
706/4/1	-	-	-	-	0.4	-	-	-	-	-	-	-	-	-	-	0.4	-	-	0.4	-	-	1.1
706/5/1	-	-	-	-	0.4	-	-	-	-	-	-	-	-	-	-	0.4	-	-	0.4	-	-	1.1
706/6/1	-	-	-	-	0.4	-	-	-	-	-	-	-	-	-	-	0.4	-	-	0.4	-	-	1.1
770/1/1	-	-	-	-	1.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.1
770/2/1	-	-	-	-	1.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.1
761/1/1	-	-	-	-	1.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.0
761/2/1	-	-	-	-	1.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.0
751/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.0	-	-	1.0
751/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.0	-	-	1.0
734/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.8	-	-	-	-	-	-	0.8
734/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.8	-	-	-	-	-	-	0.8
720/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.7	-	-	0.7
720/3/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.7	-	-	0.7

Notes

Emboldened observations are the high-rate consumers

The mean consumption rate of domestic fruit for adults based on the 18 high-rate consumers is 25.3 kg y^{-1}

The observed 97.5th percentile rate based on 124 observations is 38.2 kg y^{-1}

Table 14. Adults' consumption rates of cattle meat from the Harwell terrestrial survey area (kg y $^{-1}$)

Person ID number	Beef
739/1/1	**29.0**
739/2/1	**29.0**
739/3/1	**29.0**
739/4/1	**29.0**
752/1/1	**17.7**
752/2/1	**17.7**
753/1/1	**13.0**
753/2/1	**13.0**
753/3/1	**13.0**
753/4/1	**13.0**
765/1/1	**13.0**
765/2/1	**13.0**
775/1/1	**13.0**
775/2/1	**13.0**
726/3/1	9.0
726/4/1	9.0
696/1/1	6.5
696/2/1	6.5
713/1/1	6.5
713/2/1	6.5
713/3/1	6.5
749/1/1	6.0
749/2/1	6.0
723/1/1	4.6
723/2/1	4.6
702/1/1	4.4
702/2/1	4.4
689/1/1	4.3
689/2/1	4.3
771/1/1	3.2
771/2/1	3.2
771/3/1	3.2
757/1/1	3.2
757/2/1	3.2
726/2/1	3.0
737/1/1	2.8
737/2/1	2.8
737/3/1	2.8
737/4/1	2.8
737/5/1	2.8
737/6/1	2.8
737/7/1	2.8
737/8/1	2.8
773/1/1	2.7
773/2/1	2.7
721/1/1	2.0
721/2/1	2.0
721/3/1	2.0
746/1/1	1.7

Table 14. Adults' consumption rates of cattle meat from the Harwell terrestrial survey area (kg y^{-1})

Person ID number	Beef
746/2/1	1.7
706/1/1	1.4
706/2/1	1.4
706/3/1	1.4
706/4/1	1.4
706/5/1	1.4
706/6/1	1.4
751/1/1	0.9
751/2/1	0.9
761/1/1	0.6
761/2/1	0.6

Notes

Emboldened observations are the high-rate consumers

The mean consumption rate of cattle meat for adults based on the 14 high-rate consumers is 18.3 kg y^{-1}

The observed 97.5th percentile rate based on 60 observations is 29.0 kg y^{-1}

Table 15. Adults' consumption rates of pig meat from the Harwell terrestrial survey area (kg y^{-1})

Person ID number	Pork
754/1/1	**17.9**
754/2/1	**17.9**
775/1/1	**13.0**
775/2/1	**13.0**

Notes

Emboldened observations are the high-rate consumers

The mean consumption rate of pig meat for adults based on the 4 high-rate consumers is 15.5 kg y^{-1}

The observed 97.5th percentile rate based on 4 observations is 17.9 kg y^{-1}

Table 16. Adults' consumption rates of sheep meat from the Harwell terrestrial survey area (kg y^{-1})

Person ID number	Lamb
739/1/1	**29.0**
739/2/1	**29.0**
739/3/1	**29.0**
739/4/1	**29.0**
752/1/1	**17.7**
752/2/1	**17.7**
677/1/1	**17.0**
677/2/1	**17.0**
753/1/1	**13.0**
753/2/1	**13.0**
753/3/1	**13.0**
753/4/1	**13.0**
775/1/1	**13.0**
775/2/1	**13.0**
683/1/1	5.7
760/1/1	5.0
760/2/1	5.0
689/1/1	4.3
689/2/1	4.3
749/1/1	4.0
749/2/1	4.0
771/1/1	3.2
771/2/1	3.2
771/3/1	3.2
735/1/1	0.6
735/2/1	0.6
735/3/1	0.6
735/4/1	0.6
735/5/1	0.6
761/1/1	0.6
761/2/1	0.6

Notes

Emboldened observations are the high-rate consumers

The mean consumption rate of sheep meat for adults based on the 14 high-rate consumers is 18.8 kg y^{-1}

The observed 97.5th percentile rate based on 31 observations is 29.0 kg y^{-1}

Table 17. Adults' consumption rates of poultry from the Harwell terrestrial survey area (kg y^{-1})

Person ID number	Partridge	Pheasant	Pigeon	Total
709/1/1	**6.6**	**9.8**	**-**	**16.4**
709/2/1	**6.6**	**9.8**	**-**	**16.4**
714/1/1	**1.9**	**7.3**	**-**	**9.2**
714/2/1	**1.9**	**7.3**	**-**	**9.2**
775/1/1	**-**	**8.0**	**-**	**8.0**
683/1/1	-	2.7	0.5	3.2
735/1/1	-	3.1	-	3.1
735/2/1	-	3.1	-	3.1
735/3/1	-	3.1	-	3.1
735/4/1	-	3.1	-	3.1
735/5/1	-	3.1	-	3.1
777/1/1	-	-	1.8	1.8
777/3/1	-	-	1.8	1.8
737/1/1	0.4	1.3	-	1.7
737/2/1	0.4	1.3	-	1.7
737/3/1	0.4	1.3	-	1.7
737/4/1	0.4	1.3	-	1.7
737/5/1	0.4	1.3	-	1.7
737/6/1	0.4	1.3	-	1.7
737/7/1	0.4	1.3	-	1.7
737/8/1	0.4	1.3	-	1.7
755/1/1	0.6	0.9	-	1.5
755/2/1	0.6	0.9	-	1.5
755/3/1	0.6	0.9	-	1.5
755/4/1	0.6	0.9	-	1.5
755/5/1	0.6	0.9	-	1.5
734/1/1	-	1.2	-	1.2
734/2/1	-	1.2	-	1.2
779/1/1	-	0.4	-	0.4
779/2/1	-	0.4	-	0.4
748/1/1	-	0.2	-	0.2
748/2/1	-	0.2	-	0.2

Notes

Emboldened observations are the high-rate consumers

The mean consumption rate of poultry for adults based on the 5 high-rate consumers is 11.8 kg y^{-1}

The observed 97.5th percentile rate based on 32 observations is 16.4 kg y^{-1}

Table 18. Adults' consumption rates of eggs from the Harwell terrestrial survey area (kg y^{-1})

Person ID number	Chicken egg
741/1/1	**22.3**
741/2/1	**22.3**
702/1/1	**19.6**
702/2/1	**19.6**
689/1/1	**17.8**
689/2/1	**17.8**
745/1/1	**17.8**
750/1/1	**17.8**
750/2/1	**17.8**
774/1/1	**17.8**
774/2/1	**17.8**
775/1/1	**17.8**
775/2/1	**17.8**
737/1/1	**13.4**
737/2/1	**13.4**
711/1/1	**10.4**
711/2/1	**10.4**
711/3/1	**10.4**
739/1/1	**8.9**
739/2/1	**8.9**
739/3/1	**8.9**
739/4/1	**8.9**
723/1/1	**8.9**
723/2/1	**8.9**
749/1/1	**8.9**
749/2/1	**8.9**
752/1/1	**8.9**
752/2/1	**8.9**
762/1/1	**8.9**
762/2/1	**8.9**
726/1/1	**8.2**
726/3/1	**8.2**
726/4/1	**8.2**
737/3/1	4.5
737/4/1	4.5
737/5/1	4.5
737/6/1	4.5
737/7/1	4.5
737/8/1	4.5
693/1/1	4.1
693/2/1	4.1
765/1/1	4.1
765/2/1	4.1
726/2/1	2.7
773/1/1	2.1
773/2/1	2.1
694/1/1	0.6
694/2/1	0.6

Notes

Emboldened observations are the high-rate consumers

The mean consumption rate of eggs for adults based on the 33 high-rate consumers is 13.2 kg y^{-1}

The observed 97.5th percentile rate based on 48 observations is 21.8 kg y^{-1}

Table 19. Adults' consumption rates of wild/free foods from the Harwell terrestrial survey area (kg y $^{-1}$)

Person ID number	Blackberry	Crab apple	Damson	Greengage	Hazel nut	Plum	Sloe	Total
710/1/1	2.3	-	-	-	-	-	-	2.3
710/2/1	2.3	-	-	-	-	-	-	2.3
739/1/1	-	-	-	-	-	-	2.3	2.3
739/2/1	-	-	-	-	-	-	2.3	2.3
752/1/1	2.3	-	-	-	-	-	-	2.3
752/2/1	2.3	-	-	-	-	-	-	2.3
737/1/1	0.5	-	0.8	0.2	-	-	0.6	2.0
737/2/1	0.5	-	0.8	0.2	-	-	0.6	2.0
754/1/1	1.8	-	-	-	-	-	0.3	2.0
754/2/1	1.8	-	-	-	-	-	0.3	2.0
735/1/1	1.0	-	1.0	-	-	-	-	2.0
735/2/1	1.0	-	1.0	-	-	-	-	2.0
735/3/1	1.0	-	1.0	-	-	-	-	2.0
735/4/1	1.0	-	1.0	-	-	-	-	2.0
735/5/1	1.0	-	1.0	-	-	-	-	2.0
725/1/1	1.8	-	-	-	-	-	-	1.8
725/2/1	1.8	-	-	-	-	-	-	1.8
750/1/1	1.7	-	-	-	-	-	-	1.7
750/2/1	1.7	-	-	-	-	-	-	1.7
696/1/1	0.7	-	1.0	-	-	-	-	1.7
696/2/1	0.7	-	1.0	-	-	-	-	1.7
711/1/1	1.5	-	-	-	-	-	-	1.5
711/2/1	1.5	-	-	-	-	-	-	1.5
711/3/1	1.5	-	-	-	-	-	-	1.5
709/1/1	-	-	-	-	0.2	0.7	0.5	1.4
709/2/1	-	-	-	-	0.2	0.7	0.5	1.4
741/1/1	1.4	-	-	-	-	-	-	1.4
741/2/1	1.4	-	-	-	-	-	-	1.4
763/1/1	1.3	-	-	-	-	-	-	1.3
763/2/1	1.3	-	-	-	-	-	-	1.3
720/1/1	0.2	0.7	-	-	-	0.3	-	1.2
720/3/1	0.2	0.7	-	-	-	0.3	-	1.2
706/1/1	-	-	0.9	-	-	-	0.2	1.1
706/2/1	-	-	0.9	-	-	-	0.2	1.1
707/1/1	-	-	0.5	-	-	0.5	0.1	1.0
707/2/1	-	-	0.5	-	-	0.5	0.1	1.0
751/1/1	1.0	-	-	-	-	-	-	1.0
751/2/1	1.0	-	-	-	-	-	-	1.0
746/1/1	0.5	-	-	-	-	-	0.5	0.9
746/2/1	0.5	-	-	-	-	-	0.5	0.9
737/3/1	-	-	-	0.2	-	-	0.6	0.8
737/4/1	-	-	-	0.2	-	-	0.6	0.8
737/5/1	-	-	-	0.2	-	-	0.6	0.8
737/6/1	-	-	-	0.2	-	-	0.6	0.8
737/7/1	-	-	-	0.2	-	-	0.6	0.8
737/8/1	-	-	-	0.2	-	-	0.6	0.8
713/1/1	0.8	-	-	-	-	-	-	0.8
713/2/1	0.8	-	-	-	-	-	-	0.8
713/3/1	0.8	-	-	-	-	-	-	0.8
770/1/1	0.7	-	-	-	-	-	-	0.7
770/2/1	0.7	-	-	-	-	-	-	0.7
696/3/1	0.7	-	-	-	-	-	-	0.7
696/4/1	0.7	-	-	-	-	-	-	0.7
696/5/1	0.7	-	-	-	-	-	-	0.7

Table 19. Adults' consumption rates of wild/free foods from the Harwell terrestrial survey area (kg y $^{-1}$)

Person ID number	Blackberry	Crab apple	Damson	Greengage	Hazel nut	Plum	Sloe	Total
693/1/1	0.6	-	-	-	-	-	-	0.6
693/2/1	0.6	-	-	-	-	-	-	0.6
693/3/1	0.6	-	-	-	-	-	-	0.6
693/4/1	0.6	-	-	-	-	-	-	0.6
693/5/1	0.6	-	-	-	-	-	-	0.6
693/6/1	0.6	-	-	-	-	-	-	0.6
745/1/1	0.5	-	-	-	-	-	-	0.5
756/1/1	0.5	-	-	-	-	-	-	0.5
756/2/1	0.5	-	-	-	-	-	-	0.5
762/1/1	0.5	-	-	-	-	-	-	0.5
762/2/1	0.5	-	-	-	-	-	-	0.5
749/1/1	0.5	-	-	-	-	-	-	0.5
749/2/1	0.5	-	-	-	-	-	-	0.5
722/1/1	0.3	-	-	-	-	-	-	0.3
722/2/1	0.3	-	-	-	-	-	-	0.3
722/3/1	0.3	-	-	-	-	-	-	0.3
722/4/1	0.3	-	-	-	-	-	-	0.3
722/5/1	0.3	-	-	-	-	-	-	0.3
772/1/1	0.3	-	-	-	-	-	-	0.3
772/2/1	0.3	-	-	-	-	-	-	0.3
772/3/1	0.3	-	-	-	-	-	-	0.3
758/1/1	0.3	-	-	-	-	-	-	0.3
758/2/1	0.3	-	-	-	-	-	-	0.3
677/1/1	-	-	-	-	-	-	0.2	0.2
677/2/1	-	-	-	-	-	-	0.2	0.2
734/1/1	0.2	-	-	-	-	-	-	0.2
734/2/1	0.2	-	-	-	-	-	-	0.2
789/1/1	0.2	-	-	-	-	-	-	0.2
789/2/1	0.2	-	-	-	-	-	-	0.2
789/3/1	0.2	-	-	-	-	-	-	0.2
789/4/1	0.2	-	-	-	-	-	-	0.2
789/5/1	0.2	-	-	-	-	-	-	0.2

Notes

Emboldened observations are the high-rate consumers

The mean consumption rate of wild/free foods for adults based on the 46 high-rate consumers is 1.5 kg y $^{-1}$

The observed 97.5th percentile rate based on 86 observations is 2.3 kg y $^{-1}$

Table 20. Adults' consumption rates of rabbits/hares from the Harwell terrestrial survey area (kg y^{-1})

Person ID number	Hare	Rabbit	Total
709/1/1	**1.2**	**-**	**1.2**
709/2/1	**1.2**	**-**	**1.2**
683/1/1	**-**	**0.9**	**0.9**

Notes

Emboldened observations are the high-rate consumers

The mean consumption rate of rabbits/hares for adults based on the 3 high-rate consumers is 1.1 kg y^{-1}

The observed 97.5th percentile rate based on 3 observations is 1.2 kg y^{-1}

Table 21. Adults' consumption rates of honey from the Harwell terrestrial survey area (kg y^{-1})

Person ID number	Honey
709/1/1	**5.9**
709/2/1	**5.9**
785/1/1	**4.0**
785/1/2	**4.0**
785/1/3	**4.0**
785/2/1	**4.0**
785/2/2	**4.0**
785/2/3	**4.0**
775/1/1	**2.7**
775/2/1	**2.7**
706/1/1	1.0
706/2/1	1.0
726/1/1	0.6
726/3/1	0.6
726/4/1	0.6
756/1/1	0.5
756/2/1	0.5
777/1/1	0.5
777/2/1	0.5
777/3/1	0.5
737/1/1	0.4
737/2/1	0.4
737/3/1	0.4
737/4/1	0.4
737/5/1	0.4
737/6/1	0.4
737/7/1	0.4
737/8/1	0.4
772/1/1	0.3
772/2/1	0.3
772/3/1	0.3
774/1/1	0.2
774/2/1	0.2
726/2/1	0.2
779/1/1	0.2
779/2/1	0.2

Notes

Emboldened observations are the high-rate consumers

The mean consumption rate of honey for adults based on the 10 high-rate consumers is 4.1 kg y^{-1}

The observed 97.5th percentile rate based on 36 observations is 5.9 kg y^{-1}

Table 22. Adults' consumption rates of wild fungi from the Harwell terrestrial survey area (kg y $^{-1}$)

Person ID number	Mushrooms
773/1/1	**0.5**
773/2/1	**0.5**
677/1/1	**0.5**
677/2/1	**0.5**
746/1/1	**0.5**
746/2/1	**0.5**
709/1/1	**0.2**
709/2/1	**0.2**
734/1/1	**0.2**
734/2/1	**0.2**

Notes

Emboldened observations are the high-rate consumers

The mean consumption rate of wild fungi for adults based on the 10 high-rate consumers is 0.4 kg y $^{-1}$

The observed 97.5th percentile rate based on 10 observations is 0.5 kg y $^{-1}$

Table 23. Adults' consumption rates of venison from the Harwell terrestrial survey area (kg y $^{-1}$)

Person ID number	Venison
677/1/1	**6.0**
677/2/1	**6.0**
709/1/1	**3.0**
709/2/1	**3.0**
714/1/1	**3.0**
714/2/1	**3.0**
683/1/1	2.0
777/1/1	1.0
777/3/1	1.0
779/1/1	0.4
779/2/1	0.4

Notes

Emboldened observations are the high-rate consumers

The mean consumption rate of venison for adults based on the 6 high-rate consumers is 4.0 kg y $^{-1}$

The observed 97.5th percentile rate based on 11 observations is 6.0 kg y $^{-1}$

Table 24. Adults' consumption rates of freshwater fish from the Harwell terrestrial survey area (kg y $^{-1}$)

Person ID number	Brown trout	Rainbow trout	Total
742/1/1	**-**	**10.4**	**10.4**
742/2/1	**-**	**5.2**	**5.2**
737/1/1	0.5	-	0.5
737/2/1	0.5	-	0.5

Notes

Emboldened observations are the high-rate consumers

The mean consumption rate of freshewater fish for adults based on the 2 high-rate consumers is 7.8 kg y $^{-1}$

The observed 97.5th percentile rate based on 4 observations is 10.0 kg y $^{-1}$

Table 25. Children's and infants' consumption rates of green vegetables from the Harwell terrestrial survey area (kg y^{-1})

Child age group (6 - 15 years old)

Person ID number	Age	Asparagus	Broccoli	Brussel sprout	Cabbage	Calabrese	Cauliflower	Chard	Courgette	Cucumber	Gherkin	Kale	Lettuce	Marrow	Pak choi	Spinach	Total
720/2/1	**13**	**-**	**-**	**-**	**-**	**-**	**-**	**1.3**	**7.5**	**-**	**-**	**-**	**2.5**	**-**	**2.5**	**-**	**13.8**
723/5/1	**10**	**-**	**2.0**	**1.8**	**2.4**	**-**	**-**	**-**	**1.7**	**-**	**-**	**0.8**	**-**	**-**	**-**	**-**	**8.7**
723/6/1	**7**	**-**	**2.0**	**1.8**	**2.4**	**-**	**-**	**-**	**1.7**	**-**	**-**	**0.8**	**-**	**-**	**-**	**-**	**8.7**
725/5/1	**12**	**-**	**-**	**-**	**-**	**2.1**	**1.1**	**-**	**2.8**	**-**	**-**	**-**	**1.4**	**-**	**-**	**-**	**7.4**
725/6/1	**15**	**-**	**-**	**-**	**-**	**2.1**	**1.1**	**-**	**2.8**	**-**	**-**	**-**	**1.4**	**-**	**-**	**-**	**7.4**
713/4/1	**15**	**-**	**1.1**	**-**	**1.8**	**-**	**0.6**	**-**	**-**	**-**	**-**	**0.1**	**0.9**	**0.4**	**-**	**-**	**4.9**
713/5/1	**11**	**-**	**1.1**	**-**	**1.8**	**-**	**0.6**	**-**	**-**	**-**	**-**	**0.1**	**0.9**	**0.4**	**-**	**-**	**4.9**
713/6/1	**9**	**-**	**1.1**	**-**	**1.8**	**-**	**0.6**	**-**	**-**	**-**	**-**	**0.1**	**0.9**	**0.4**	**-**	**-**	**4.9**
726/5/1	14	-	-	-	-	-	-	-	-	2.4	-	-	-	-	-	-	2.4
772/4/1	15	1.3	-	-	-	-	-	-	-	-	-	-	1.0	-	-	-	2.3
772/5/1	12	1.3	-	-	-	-	-	-	-	-	-	-	1.0	-	-	-	2.3

Notes

Emboldened observations are the high-rate consumers

The mean consumption rate of green vegetables for the child age group based on the 8 high-rate consumers is 7.6 kg y^{-1}

The observed 97.5th percentile rate based on 11 observations is 12.5 kg y^{-1}

Infant age group (0 - 5 years old)

Person ID number	Age	Asparagus	Broccoli	Brussel sprout	Cabbage	Calabrese	Cauliflower	Chard	Courgette	Cucumber	Gherkin	Kale	Lettuce	Marrow	Pak choi	Spinach	Total
696/6/1	**3**	**-**	**-**	**-**	**2.1**	**-**	**-**	**-**	**1.7**	**1.7**	**0.3**	**-**	**0.5**	**-**	**-**	**0.8**	**7.1**
696/7/1	**3**	**-**	**-**	**-**	**2.1**	**-**	**-**	**-**	**1.7**	**1.7**	**0.3**	**-**	**0.5**	**-**	**-**	**0.8**	**7.1**
723/7/1	**4**	**-**	**1.3**	**1.2**	**1.6**	**-**	**-**	**-**	**1.1**	**-**	**-**	**0.6**	**-**	**-**	**-**	**-**	**5.8**
725/4/1	2	-	-	-	-	0.5	0.3	-	0.7	-	-	-	0.3	-	-	-	1.8

Notes

Emboldened observations are the high-rate consumers

The mean consumption rate of green vegetables for the infant age group based on the 3 high-rate consumers is 6.7 kg y^{-1}

The observed 97.5th percentile rate based on 4 observations is 7.1 kg y^{-1}

Table 26. Children's and infants' consumption rates of other vegetables from the Harwell terrestrial survey area (kg y $^{-1}$)

Child age group (6 - 15 years old)

Person ID number	Age	Broad bean	French bean	Pea	Pepper	Pumpkin	Runner bean	Squash	Sweetcorn	Tomato	Total
725/5/1	**12**	**2.6**	**1.0**	**-**	**-**	**-**	**3.9**	**1.4**	**-**	**5.8**	**14.7**
725/6/1	**15**	**2.6**	**1.0**	**-**	**-**	**-**	**3.9**	**1.4**	**-**	**5.8**	**14.7**
723/5/1	10	0.4	0.4	-	-	-	0.9	-	0.7	0.9	3.4
723/6/1	7	0.4	0.4	-	-	-	0.9	-	0.7	0.9	3.4
772/4/1	15	-	-	1.4	-	-	-	-	-	1.6	3.1
772/5/1	12	-	-	1.4	-	-	-	-	-	1.6	3.1
726/5/1	14	-	-	-	-	-	-	-	-	2.1	2.1
750/3/1	7	-	-	-	-	0.4	-	-	-	0.2	0.6
750/4/1	6	-	-	-	-	0.4	-	-	-	0.2	0.6
713/4/1	15	-	-	-	-	-	0.5	-	-	-	0.5
713/5/1	11	-	-	-	-	-	0.5	-	-	-	0.5
713/6/1	9	-	-	-	-	-	0.5	-	-	-	0.5
720/2/1	13	-	0.2	-	-	-	-	-	0.2	-	0.3

Notes

Emboldened observations are the high-rate consumers

The mean consumption rate of other vegetables for the child age group based on the 2 high-rate consumers is 14.7 kg y $^{-1}$

The observed 97.5th percentile rate based on 13 observations is 14.7 kg y^{-1}

Infant age group (0 - 5 years old)

Person ID number	Age	Broad bean	French bean	Pea	Pepper	Pumpkin	Runner bean	Squash	Sweetcorn	Tomato	Total
696/6/1	**3**	**0.8**	**0.8**	**-**	**0.6**	**-**	**0.8**	**1.7**	**0.4**	**2.5**	**7.7**
696/7/1	**3**	**0.8**	**0.8**	**-**	**0.6**	**-**	**0.8**	**1.7**	**0.4**	**2.5**	**7.7**
725/4/1	**2**	**0.7**	**0.3**	**-**	**-**	**-**	**1.0**	**0.3**	**-**	**1.5**	**3.7**
723/7/1	4	0.3	0.3	-	-	-	0.6	-	0.5	0.6	2.3
766/3/1	1	-	-	-	-	-	-	-	-	0.2	0.2

Notes

Emboldened observations are the high-rate consumers

The mean consumption rate of other vegetables for the infant age group based on the 3 high-rate consumers is 6.4 kg y $^{-1}$

The observed 97.5th percentile rate based on 5 observations is 7.7 kg y^{-1}

Table 27. Children's and infants' consumption rates of root vegetables from the Harwell terrestrial survey area (kg y $^{-1}$)

Child age group (6 - 15 years old)

Person ID number	Age	Beetroot	Carrot	Garlic	Leek	Onion	Parsnip	Radish	Spring onion	Total
720/2/1	**13**	**-**	**-**	**1.3**	**-**	**5.0**	**-**	**-**	**-**	**6.3**
725/5/1	**12**	**1.3**	**3.1**	**-**	**-**	**-**	**-**	**-**	**0.6**	**4.9**
725/6/1	**15**	**1.3**	**3.1**	**-**	**-**	**-**	**-**	**-**	**0.6**	**4.9**
723/5/1	**10**	**-**	**0.4**	**-**	**1.4**	**0.4**	**-**	**-**	**-**	**2.3**
723/6/1	**7**	**-**	**0.4**	**-**	**1.4**	**0.4**	**-**	**-**	**-**	**2.3**
772/4/1	15	1.4	-	-	-	-	-	0.6	-	2.0
772/5/1	12	1.4	-	-	-	-	-	0.6	-	2.0
713/4/1	15	0.7	0.7	-	0.3	-	-	-	0.3	2.0
713/5/1	11	0.7	0.7	-	0.3	-	-	-	0.3	2.0
713/6/1	9	0.7	0.7	-	0.3	-	-	-	0.3	2.0

Notes

Emboldened observations are the high-rate consumers

The mean consumption rate of root vegetables for the child age group based on the 5 high-rate consumers is 4.1 kg y $^{-1}$

The observed 97.5th percentile rate based on 10 observations is 6.0 kg y $^{-1}$

Infant age group (0 - 5 years old)

Person ID number	Age	Beetroot	Carrot	Garlic	Leek	Onion	Parsnip	Radish	Spring onion	Total
797/6/1	**3**	**1.7**	**2.5**	**-**	**0.7**	**1.3**	**1.7**	**0.3**	**0.3**	**8.4**
797/7/1	**3**	**1.7**	**2.5**	**-**	**0.7**	**1.3**	**1.7**	**0.3**	**0.3**	**8.4**
723/7/1	4	-	0.3	-	0.9	0.3	-	-	-	1.5
725/4/1	2	0.3	0.8	-	-	-	-	-	0.1	1.2

Notes

Emboldened observations are the high-rate consumers

The mean consumption rate of root vegetables for the infant age group based on the 2 high-rate consumers is 8.4 kg y $^{-1}$

The observed 97.5th percentile rate based on 4 observations is 8.4 kg y $^{-1}$

Table 28. Children's and infants' consumption rates of potato from the Harwell terrestrial survey area (kg y^{-1})

Child age group (6 - 15 years old)

Person ID number	Age	Potato
723/5/1	**10**	**15.5**
723/6/1	**7**	**15.5**
725/5/1	**12**	**10.4**
725/6/1	**15**	**10.4**
713/4/1	15	4.8
713/5/1	11	4.8
713/6/1	9	4.8
720/2/1	13	2.0
750/3/1	7	0.4
750/4/1	6	0.4

Notes

Emboldened observations are the high-rate consumers

The mean consumption rate of potato for the child age group based on the 4 high-rate consumers is 13.0 kg y^{-1}

The observed 97.5th percentile rate based on 10 observations is 15.5 kg y^{-1}

Infant age group (0 - 5 years old)

Person ID number	Age	Potato
723/7/1	**4**	**10.4**
696/6/1	**3**	**8.3**
696/7/1	**3**	**8.3**
725/4/1	2	2.6

Notes

Emboldened observations are the high-rate consumers

The mean consumption rate of potato for the infant age group based on the 3 high-rate consumers is 9.0 kg y^{-1}

The observed 97.5th percentile rate based on 4 observations is 10.2 kg y^{-1}

Table 29. Children's and infants' consumption rates of domestic fruit from the Harwell terrestrial survey area (kg y $^{-1}$)

Child age group (6 - 15 years old)

Person ID number	Age	Apple	Blackberry	Blackcurrant	Blueberry	Cherry	Gooseberry	Loganberry	Mulberry	Pear	Plum	Raspberry	Redcurrant	Rhubarb	Strawberry	Tayberry	White currant	Total
726/5/1	**14**	**6.3**	**-**	**-**	**-**	**0.5**	**-**	**-**	**-**	**-**	**1.4**	**-**	**-**	**-**	**0.5**	**-**	**-**	**8.7**
772/4/1	**15**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**0.3**	**2.2**	**-**	**-**	**1.5**	**-**	**-**	**4.0**
772/5/1	**12**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**0.3**	**2.2**	**-**	**-**	**1.5**	**-**	**-**	**4.0**
723/5/1	**10**	**-**	**0.3**	**0.4**	**-**	**-**	**0.3**	**-**	**-**	**-**	**-**	**1.1**	**0.4**	**0.3**	**-**	**-**	**0.4**	**3.4**
723/6/1	**7**	**-**	**0.3**	**0.4**	**-**	**-**	**0.3**	**-**	**-**	**-**	**-**	**1.1**	**0.4**	**0.3**	**-**	**-**	**0.4**	**3.4**
750/3/1	7	1.3	0.2	0.2	0.2	0.2	0.2	-	-	-	0.2	-	0.2	-	-	-	-	2.8
750/4/1	6	1.3	0.2	0.2	0.2	0.2	0.2	-	-	-	0.2	-	0.2	-	-	-	-	2.8
725/5/1	12	-	-	-	-	-	-	-	-	-	-	0.9	-	0.9	-	-	-	1.7
725/6/1	15	-	-	-	-	-	-	-	-	-	-	0.9	-	0.9	-	-	-	1.7
776/3/1	10	0.9	-	-	-	-	-	-	-	-	0.4	-	-	-	-	-	-	1.2
776/4/1	13	0.9	-	-	-	-	-	-	-	-	0.4	-	-	-	-	-	-	1.2
751/4/1	6	-	-	-	-	-	-	-	-	-	-	-	-	-	0.8	-	-	0.8
720/2/1	13	-	-	-	-	-	-	-	-	-	-	-	-	-	0.7	-	-	0.7

Notes

Emboldened observations are the high-rate consumers

The mean consumption rate of domestic fruit for the child age group based on the 5 high-rate consumers is 4.7 kg y $^{-1}$

The observed 97.5th percentile rate based on 13 observations is 7.3 kg y^{-1}

Infant age group (0 - 5 years old)

Person ID number	Age	Apple	Blackberry	Blackcurrant	Blueberry	Cherry	Gooseberry	Loganberry	Mulberry	Pear	Plum	Raspberry	Redcurrant	Rhubarb	Strawberry	Tayberry	White currant	Total
797/6/1	**3**	**2.5**	**-**	**0.4**	**-**	**-**	**0.4**	**-**	**-**	**0.3**	**0.8**	**1.7**	**-**	**0.5**	**0.3**	**-**	**-**	**6.8**
797/7/1	**3**	**2.5**	**-**	**0.4**	**-**	**-**	**0.4**	**-**	**-**	**0.3**	**0.8**	**1.7**	**-**	**0.5**	**0.3**	**-**	**-**	**6.8**
754/3/1	**4**	**3.2**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**3.2**
723/7/1	**4**	**-**	**0.2**	**0.3**	**-**	**-**	**0.2**	**-**	**-**	**-**	**-**	**0.7**	**0.3**	**0.2**	**-**	**-**	**0.3**	**2.3**
754/4/1	2	2.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.1
800/5/1	1	-	0.2	-	-	0.2	-	0.2	-	-	-	0.2	-	-	0.4	0.2	-	1.5
737/9/1	3	0.8	-	-	-	-	-	-	0.4	-	0.1	-	-	-	-	-	-	1.3
737/10/1	2	0.8	-	-	-	-	-	-	0.4	-	0.1	-	-	-	-	-	-	1.3
737/12/1	5	0.8	-	-	-	-	-	-	0.4	-	0.1	-	-	-	-	-	-	1.3
737/11/1	1	0.6	-	-	-	-	-	-	0.3	-	0.1	-	-	-	-	-	-	1.0
770/3/1	4	-	-	-	-	0.5	-	-	-	-	-	-	-	-	-	-	-	0.5
798/3/1	4	-	-	-	-	-	-	-	-	-	-	-	-	-	0.5	-	-	0.5
725/4/1	2	-	-	-	-	-	-	-	-	-	-	0.2	-	0.2	-	-	-	0.4
770/4/1	2	-	-	-	-	0.3	-	-	-	-	-	-	-	-	-	-	-	0.3

Notes

Emboldened observations are the high-rate consumers

The mean consumption rate of domestic fruit for the infant age group based on the 4 high-rate consumers is 4.8 kg y $^{-1}$

The observed 97.5th percentile rate based on 14 observations is 6.8 kg y^{-1}

Table 30. Children's and infants' consumption rates of cattle meat from the Harwell terrestrial survey area (kg y^{-1})

Child age group (6 - 15 years old)

Person ID number	Age	Beef
726/5/1	**14**	**9.0**
757/3/1	8	2.4
757/4/1	7	2.4
751/4/1	6	0.7

Notes

The emboldened observation is the high-rate consumer

The mean consumption rate of cattle meat for the child age group based on the 1 high-rate consumers is 9.0 kg y^{-1}

The observed 97.5th percentile rate based on 4 observations is 8.5 kg y^{-1}

Infant age group (0 - 5 years old)

Person ID number	Age	Beef
757/5/1	**3**	**1.6**
757/6/1	**1**	**0.8**
751/3/1	4	0.5

Notes

Emboldened observations are the high-rate consumers

The mean consumption rate of cattle meat for the infant age group based on the 2 high-rate consumers is 1.2 kg y^{-1}

The observed 97.5th percentile rate based on 3 observations is 1.5 kg y^{-1}

Table 31. Children's and infant's consumption rates of pig meat from the Harwell terrestrial survey area (kg y^{-1})

Child age group (6 - 15 years old)

No consumption data obtained for this food group.

Infant age group (0 - 5 years old)

Person ID number	Age	Pork
754/3/1	**4**	**8.9**
754/4/1	**2**	**5.9**

Notes

Emboldened observations are the high-rate consumers

The mean consumption rate of pig meat for the infant age group based on the 2 high-rate consumers is 7.4 kg y^{-1}

The observed 97.5th percentile rate based on 2 observations is 8.9 kg y^{-1}

Table 32. Children's and infants' consumption rates of poultry from the Harwell terrestrial survey area (kg y^{-1})

Child age group (6 - 15 years old)

Person ID number	Age	Partridge	Pheasant	Total
748/3/1	10	-	0.2	0.2
748/4/1	7	-	0.2	0.2

Notes

Emboldened observations are the high-rate consumers

The mean consumption rate of poultry for the child age group based on the 2 high-rate consumers is 0.2 kg y^{-1}

The observed 97.5th percentile rate based on 2 observations is 0.2 kg y^{-1}

Infant age group (0 - 5 years old)

Person ID number	Age	Partridge	Pheasant	Total
737/9/1	3	0.1	0.4	0.6
737/10/1	2	0.1	0.4	0.6
737/12/1	5	0.1	0.4	0.6
737/11/1	1	0.1	0.3	0.4
779/3/1	5	-	0.2	0.2

Notes

Emboldened observations are the high-rate consumers

The mean consumption rate of poultry for the infant age group based on the 5 high-rate consumers is 0.5 kg y^{-1}

The observed 97.5th percentile rate based on 5 observations is 0.6 kg y^{-1}

Table 33. Children's and infants' consumption rates of eggs from the Harwell terrestrial survey area (kg y^{-1})

Child age group (6 - 15 years old)

Person ID number	Age	Chicken egg
750/3/1	7	13.4
750/4/1	6	13.4
726/5/1	14	8.2

Notes

Emboldened observations are the high-rate consumers

The mean consumption rate of eggs for the child age group based on the 3 high-rate consumers is 11.7 kg y^{-1}

The observed 97.5th percentile rate based on 3 observations is 13.4 kg y^{-1}

Infant age group (0 - 5 years old)

Person ID number	Age	Chicken egg
737/9/1	3	1.5
737/10/1	2	1.5
737/12/1	5	1.5
737/11/1	1	1.1

Notes

Emboldened observations are the high-rate consumers

The mean consumption rate of eggs for the infant age group based on the 4 high-rate consumers is 1.4 kg y^{-1}

The observed 97.5th percentile rate based on 4 observations is 1.5 kg y^{-1}

Table 34. Children's and infants' consumption rates of wild/free foods from the Harwell terrestrial survey area (kg y $^{-1}$)

Child age group (6 - 15 years old)

Person ID number	Age	Blackberry	Crab apple	Greengage	Plum	Total
763/3/1	**10**	**1.3**	**-**	**-**	**-**	**1.3**
750/3/1	**7**	**1.3**	**-**	**-**	**-**	**1.3**
750/4/1	**6**	**1.3**	**-**	**-**	**-**	**1.3**
720/2/1	**13**	**0.2**	**0.7**	**-**	**0.3**	**1.2**
751/4/1	**6**	**0.8**	**-**	**-**	**-**	**0.8**
772/4/1	15	0.3	-	-	-	0.3
772/5/1	12	0.3	-	-	-	0.3
758/3/1	13	0.3	-	-	-	0.3
758/4/1	11	0.3	-	-	-	0.3

Notes

Emboldened observations are the high-rate consumers

The mean consumption rate of wild/free foods for the child age group based on the 5 high-rate consumers is 1.2 kg y $^{-1}$

The observed 97.5th percentile rate based on 9 observations is 1.3 kg y^{-1}

Infant age group (0 - 5 years old)

Person ID number	Age	Blackberry	Crab apple	Greengage	Plum	Total
754/3/1	**4**	**0.9**	**-**	**-**	**-**	**0.9**
754/4/1	**2**	**0.6**	**-**	**-**	**-**	**0.6**
751/3/1	**4**	**0.5**	**-**	**-**	**-**	**0.5**
770/3/1	**4**	**0.4**	**-**	**-**	**-**	**0.4**
696/6/1	**3**	**0.3**	**-**	**-**	**-**	**0.3**
696/7/1	**3**	**0.3**	**-**	**-**	**-**	**0.3**
770/4/1	2	0.2	-	-	-	0.2
737/9/1	3	-	-	0.1	-	0.1
737/10/1	2	-	-	0.1	-	0.1
737/12/1	5	-	-	0.1	-	0.1
737/11/1	1	-	-	0.1	-	0.1

Notes

Emboldened observations are the high-rate consumers

The mean consumption rate of wild/free foods for the infant age group based on the 6 high-rate consumers is 0.5 kg y $^{-1}$

The observed 97.5th percentile rate based on 11 observations is 0.8 kg y^{-1}

Table 35. Children's and infants' consumption rates of honey from the Harwell terrestrial survey area (kg y^{-1})

Child age group (6 - 15 years old)

Person ID number	Age	Honey
726/5/1	14	0.6
772/4/1	15	0.3
772/5/1	12	0.3

Notes

Emboldened observations are the high-rate consumers

The mean consumption rate of honey for the child age group based on the 3 high-rate consumers is 0.4 kg y^{-1}

The observed 97.5th percentile rate based on 3 observations is 0.6 kg y^{-1}

Infant age group (0 - 5 years old)

Person ID number	Age	Honey
737/9/1	3	0.1
737/10/1	2	0.1
737/12/1	5	0.1
737/11/1	1	0.1
779/3/1	5	0.1

Notes

Emboldened observations are the high-rate consumers

The mean consumption rate of honey for the infant age group based on the 5 high-rate consumers is 0.1 kg y^{-1}

The observed 97.5th percentile rate based on 5 observations is 0.1 kg y^{-1}

Table 36. Children's and infant's consumption rates of venison from the Harwell terrestrial survey area (kg y^{-1})

Child age group (6 - 15 years old)

No consumption data obtained for this food group.

Infant age group (0 - 5 years old)

Person ID number	Age	Venison
779/3/1	5	0.2

Notes

The emboldened observation is the high-rate consumer

The mean consumption rate of venison for the infant age group based on the 1 high-rate consumer is 0.2 kg y^{-1}

The observed 97.5th percentile is not applicable for 1 observation

Table 37. Children's and infants' consumption rates of freshwater fish from the Harwell terrestrial survey area (kg y^{-1})

Child age group (6 - 15 years old)

Person ID number	Age	Rainbow trout
742/3/1	15	5.2
742/4/1	10	5.2

Notes

Emboldened observations are the high-rate consumers

The mean consumption rate of freshwater fish for the child age group based on the 2 high-rate consumers is 5.2 kg y^{-1}

The observed 97.5th percentile rate based on 2 observations is 5.2 kg y^{-1}

Infant age group (0 - 5 years old)

No consumption data obtained for this food group.

Table 38. Percentage contribution each food type makes to its terrestrial food group for adults

Green vegetables	
Cabbage	26.22 %
Courgette	21.13 %
Brussel sprout	12.93 %
Lettuce	10.86 %
Broccoli	6.70 %
Cucumber	5.29 %
Kale	4.33 %
Cauliflower	3.74 %
Marrow	3.15 %
Spinach	2.69 %
Asparagus	0.97 %
Calabrese	0.71 %
Pak choi	0.56 %
Gherkin	0.37 %
Chard	0.28 %
Herbs	0.07 %
Other vegetables	
Tomato	32.07 %
Runner bean	22.13 %
Pumpkin	12.64 %
Broad bean	11.52 %
Pea	5.90 %
Squash	4.47 %
French bean	4.75 %
Sweetcorn	3.35 %
Pepper	1.89 %
Aubergine	1.16 %
Chilli pepper	0.14 %
Root vegetables	
Onion	27.92 %
Carrot	20.67 %
Leek	14.04 %
Beetroot	16.33 %
Parsnip	7.94 %
Swede	3.90 %
Shallot	3.82 %
Spring onion	1.43 %
Radish	1.16 %
Garlic	0.97 %
Turnip	0.85 %
Celeriac	0.79 %
Celery	0.17 %
Potato	
Potato	100 %
Domestic fruit	
Apple	27.32 %
Strawberry	16.00 %
Raspberry	10.81 %
Plum	10.78 %
Rhubarb	6.69 %
Cherry	6.23 %
Gooseberry	3.41 %
Redcurrant	3.09 %
Blackcurrant	3.00 %
Pear	2.85 %
Blackberry	1.81 %
Tayberry	1.54 %
Grapes	1.25 %
Loganberry	1.21 %
Melon	1.19 %
Mulberry	1.08 %
Peach	0.56 %
Greengage	0.44 %
Whitecurrant	0.39 %
Blueberry	0.29 %
Fig	0.06 %
Cattle meat	
Beef	100 %
Pig meat	
Pork	100 %
Sheep meat	
Lamb	100 %
Poultry	
Pheasant	74.45 %
Partridge	21.84 %
Pigeon	3.71 %
Eggs	
Chicken egg	100 %
Wild/free foods	
Blackberry	65.17 %
Sloe	14.38 %
Damson	12.99 %
Plum	3.37 %
Greengage	2.03 %
Crab apple	1.53 %
Hazel nut	0.52 %
Rabbits/hares	
Hare	72.73 %
Rabbit	27.27
Honey	
Honey	100 %
Wild fungi	
Mushrooms	100 %
Venison	
Venison	100 %
Freshwater fish	
Rainbow trout	94.52 %
Brown trout	5.48 %

Notes

Percentages are based on the consumption of all adults in the survey consuming that particular food group.

Table 39. Direct radiation occupancy rates for adults, children and infants in the Harwell area (h y $^{-1}$)

Person ID number	Gender	Age	Main activity	Indoor occupancy	Outdoor occupancy	Total occupancy
0 to 0.25 km zone						
757/5/1	M	3	Residing	7511	313	7825
757/6/1	M	1	Residing	7511	313	7825
757/2/1	F	37	Residing	7358	313	7672
774/1/1	M	67	Residing	7029	602	7631
774/2/1	F	63	Residing	7246	385	7631
769/2/1	M	58	Residing	7039	261	7300
769/1/1	M	29	Residing	7164	104	7269
769/3/1	F	55	Residing	6099	261	6360
757/3/1	F	8	Residing	5554	313	5867
757/4/1	F	7	Residing	5554	313	5867
757/1/1	M	47	Residing	5350	417	5767
768/2/1	F	24	Residing	5449	182	5632
767/1/1	M	41	Residing	5178	287	5466
767/2/1	F	36	Residing	5178	287	5466
768/1/1	M	24	Residing	4745	365	5110
781/1/1	M	U	Working	1778	202	1980
781/2/1	F	U	Working	1778	202	1980
781/1/2	M	U	Working	1778	202	1980
781/2/2	F	U	Working	1778	202	1980
781/1/3	M	U	Working	1778	202	1980
781/2/3	F	U	Working	1778	202	1980
781/1/4	M	U	Working	1778	202	1980
781/2/4	F	U	Working	1778	202	1980
781/1/5	M	U	Working	1778	202	1980
781/2/5	F	U	Working	1778	202	1980
782/1/1	M	U	Working	1592	318	1910
782/2/1	F	U	Working	1592	318	1910
782/1/2	M	U	Working	1592	318	1910
782/2/2	F	U	Working	1592	318	1910
782/1/3	M	U	Working	1592	318	1910
782/2/3	F	U	Working	1592	318	1910
782/1/4	M	U	Working	1592	318	1910
782/2/4	F	U	Working	1592	318	1910
782/1/5	M	U	Working	1592	318	1910
782/2/5	F	U	Working	1592	318	1910
786/1/1	M	U	Working	1694	198	1892
786/2/1	F	U	Working	1694	198	1892
786/3/1	M	U	Working	1474	418	1892
786/1/2	M	U	Working	1694	198	1892
786/2/2	F	U	Working	1694	198	1892
786/1/3	M	U	Working	1694	198	1892
786/2/3	F	U	Working	1694	198	1892
786/1/4	M	U	Working	1694	198	1892
786/2/4	F	U	Working	1694	198	1892
786/1/5	M	U	Working	1694	198	1892
786/2/5	F	U	Working	1694	198	1892
783/1/1	F	U	Working	1395	465	1860

Table 39. Direct radiation occupancy rates for adults, children and infants in the Harwell area (h y $^{-1}$)

Person ID number	Gender	Age	Main activity	Indoor occupancy	Outdoor occupancy	Total occupancy
783/1/2	F	U	Working	1395	465	1860
783/1/3	F	U	Working	1395	465	1860
783/1/4	F	U	Working	1395	465	1860
783/1/5	F	U	Working	1395	465	1860
783/1/6	F	U	Working	1395	465	1860
783/1/7	F	U	Working	1395	465	1860
783/1/8	F	U	Working	1395	465	1860
783/1/9	F	U	Working	1395	465	1860
783/1/10	F	U	Working	1395	465	1860
788/3/1	F	U	Working	1672	88	1760
783/2/1	F	2	Attending nursery school	1080	540	1620
783/3/1	M	2	Attending nursery school	1080	540	1620
783/4/1	F	3	Attending nursery school	1080	540	1620
783/5/1	M	3	Attending nursery school	1080	540	1620
783/6/1	M	4	Attending nursery school	1080	540	1620
783/7/1	F	4	Attending nursery school	1080	540	1620
783/8/1	F	5	Attending nursery school	1080	540	1620
783/9/1	M	5	Attending nursery school	1080	540	1620
788/1/1	F	U	Working	1056	88	1144
788/2/1	M	U	Working	1056	88	1144
788/4/1	F	U	Working	1056	88	1144
788/5/1	M	U	Working	1056	88	1144
788/1/2	F	U	Working	1056	88	1144
788/2/2	M	U	Working	1056	88	1144
788/4/2	F	U	Working	1056	88	1144
788/5/2	M	U	Working	1056	88	1144
788/1/3	F	U	Working	1056	88	1144
788/2/3	M	U	Working	1056	88	1144
788/4/3	F	U	Working	1056	88	1144
788/5/3	M	U	Working	1056	88	1144
788/1/4	F	U	Working	1056	88	1144
788/2/4	M	U	Working	1056	88	1144
788/4/4	F	U	Working	1056	88	1144
788/5/4	M	U	Working	1056	88	1144
788/1/5	F	U	Working	1056	88	1144
788/2/5	M	U	Working	1056	88	1144
788/4/5	F	U	Working	1056	88	1144
788/5/5	M	U	Working	1056	88	1144
786/4/1	M	U	Working	772	68	840
786/5/1	F	U	Working	772	68	840
>0.25 to 0.5 km zone						
764/2/1	M	27	Residing	7182	1109	8291
761/1/1	M	71	Residing	7234	588	7821
761/2/1	F	69	Residing	7600	222	7821
762/1/1	M	U	Residing	6745	548	7293
762/2/1	F	63	Residing	6745	548	7293
758/2/1	M	47	Residing	5942	1097	7039
758/1/1	F	47	Residing	5421	1097	6518

Table 39. Direct radiation occupancy rates for adults, children and infants in the Harwell area (h y^{-1})

Person ID number	Gender	Age	Main activity	Indoor occupancy	Outdoor occupancy	Total occupancy
764/1/1	F	27	Residing	4991	1305	6296
765/1/1	M	57	Residing	5014	223	5237
765/2/1	F	59	Residing	5014	223	5237
758/3/1	M	13	Residing	3957	1097	5054
758/4/1	F	11	Residing	3957	1097	5054
784/1/1	M	U	Working	1738	198	1936
784/2/1	F	U	Working	1738	198	1936
784/1/2	M	U	Working	1738	198	1936
784/2/2	F	U	Working	1738	198	1936
784/1/3	M	U	Working	1738	198	1936
784/2/3	F	U	Working	1738	198	1936
784/1/4	M	U	Working	1738	198	1936
784/2/4	F	U	Working	1738	198	1936
784/1/5	M	U	Working	1738	198	1936
784/2/5	F	U	Working	1738	198	1936
784/1/6	M	U	Working	1738	198	1936
784/2/6	F	U	Working	1738	198	1936
784/1/7	M	U	Working	1738	198	1936
784/2/7	F	U	Working	1738	198	1936
784/1/8	M	U	Working	1738	198	1936
784/2/8	F	U	Working	1738	198	1936
784/3/1	M	U	Working	1210	132	1342
784/4/1	F	U	Working	1210	132	1342
784/3/2	M	U	Working	1210	132	1342
784/4/2	F	U	Working	1210	132	1342
761/3/1	M	4	Visiting family	275	25	300
>0.5 to 1.0 km zone						
770/4/1	F	2	Residing	8534	182	8716
726/3/1	M	86	Residing	8439	51	8490
749/1/1	M	70	Residing	7149	695	7844
749/2/1	F	68	Residing	6280	1564	7844
773/2/1	F	56	Residing	7684	141	7826
746/1/1	M	84	Residing	7471	351	7822
746/2/1	F	82	Residing	7120	702	7822
750/1/1	F	37	Residing	6338	1461	7799
799/1/1	F	43	Residing	7496	248	7744
799/3/1	M	1	Residing	7496	248	7744
756/2/1	F	61	Residing	6977	660	7637
756/1/1	M	71	Residing	6789	660	7449
763/2/1	F	48	Residing	7162	187	7349
763/3/1	F	10	Residing	6697	652	7349
694/1/1	F	73	Residing	7182	118	7300
770/1/1	F	25	Residing	7094	182	7276
694/2/1	M	65	Residing	7135	118	7253
779/1/1	M	48	Residing	6193	1053	7246
726/1/1	F	49	Residing	5012	2148	7160
752/2/1	F	68	Residing	6651	470	7120
770/3/1	F	4	Residing	6708	182	6891

Table 39. Direct radiation occupancy rates for adults, children and infants in the Harwell area (h y $^{-1}$)

Person ID number	Gender	Age	Main activity	Indoor occupancy	Outdoor occupancy	Total occupancy
798/2/1	F	32	Residing	6536	344	6880
759/1/1	F	45	Residing	6317	548	6866
779/2/1	F	44	Residing	6018	526	6544
770/2/1	M	41	Residing	6332	104	6436
779/3/1	F	5	Residing	6068	351	6419
763/1/1	M	47	Residing	6224	187	6411
798/3/1	F	4	Residing	5265	913	6178
798/4/1	M	6	Residing	5265	913	6178
750/3/1	F	7	Residing	4819	1348	6167
750/4/1	M	6	Residing	4819	1348	6167
752/1/1	M	70	Residing	5497	574	6070
772/1/1	M	50	Residing	5152	914	6066
772/2/1	F	42	Residing	5152	914	6066
772/3/1	M	17	Residing	5152	914	6066
772/4/1	F	15	Residing	5152	914	6066
772/5/1	F	12	Residing	5152	914	6066
747/2/1	F	32	Residing	5715	315	6030
773/1/1	M	57	Residing	5280	660	5940
726/4/1	F	17	Residing	5345	537	5882
726/5/1	F	14	Residing	5345	537	5882
799/2/1	M	40	Residing	5696	157	5852
750/2/1	M	45	Residing	4183	1643	5826
798/1/1	M	36	Residing	5331	344	5675
759/3/1	F	4	Residing	4894	548	5442
747/1/1	M	34	Residing	4185	945	5130
745/1/1	F	58	Residing	4914	138	5053
771/1/1	M	58	Residing	4592	391	4984
771/2/1	F	49	Residing	4592	391	4984
771/3/1	F	16	Residing	4592	391	4984
759/2/1	M	45	Residing	4310	209	4519
726/2/1	M	57	Visiting family	2397	51	2448
799/4/1	F	6	Visiting family	704	78	782
799/5/1	F	10	Visiting family	704	78	782

Notes

Where generic data for a large number of people were collected, for example employees of large organisations, only representative examples have been included.

Table 40. Analysis of direct radiation occupancy rates for adults, children and infants in the Harwell area

0 to 0.25 km zone	
Number of hours	**Number of observations**
>8000 to 8760	0
>7000 to 8000	7
>6000 to 7000	1
>5000 to 6000	7
>4000 to 5000	0
>3000 to 4000	0
>2000 to 3000	0
>1000 to 2000	70
0 to 1000	2
0 to 8760	**87**

>0.25 to 0.5 km zone	
Number of hours	**Number of observations**
>8000 to 8760	1
>7000 to 8000	5
>6000 to 7000	2
>5000 to 6000	4
>4000 to 5000	0
>3000 to 4000	0
>2000 to 3000	0
>1000 to 2000	20
0 to 1000	1
0 to 8760	**33**

>0.5 to 1.0 km zone	
Number of hours	**Number of observations**
>8000 to 8760	2
>7000 to 8000	18
>6000 to 7000	18
>5000 to 6000	9
>4000 to 5000	4
>3000 to 4000	0
>2000 to 3000	1
>1000 to 2000	0
0 to 1000	2
0 to 8760	**54**

Notes

Where generic data for a large number of people were collected, for example employees of large organisations, only representative examples have been included.

Table 41. Gamma dose rate measurements for the Harwell direct radiation survey area (µGy h $^{-1}$)

Residences and businesses

Location	Indoor substrate	Indoor gamma dose rate at 1 metre[a]	Outdoor substrate	Outdoor gamma dose rate at 1 metre[a]
Residence 1	Concrete	0.091	Grass	0.074
Residence 2	Concrete	0.077	Grass	0.064
Residence 3	Concrete	0.092	Grass	0.073
Residence 4	Not taken	Not taken	Grass	0.068
Residence 5	Not taken	Not taken	Grass	0.061
Residence 6	Concrete	0.095	Grass	0.060
Residence 7	Concrete	0.102	Concrete	0.065
Residence 8	Concrete	0.092	Grass	0.063
Residence 9	Concrete	0.093	Grass	0.063
Residence 10	Concrete	0.087	Grass	0.058
Residence 11	Concrete	0.093	Grass	0.077
Residence 12	Concrete	0.093	Grass	0.070
Residence 13	Concrete	0.101	Grass	0.071
Residence 14	Concrete	0.098	Grass	0.068
Residence 15	Concrete	0.084	Grass	0.077
Residence 16	Concrete	0.090	Grass	0.072
Residence 17	Concrete	0.089	Grass	0.068
Residence 18	Concrete	0.086	Grass	0.069
Residence 19	Concrete	0.084	Tarmac	0.068
Residence 20	Concrete	0.080	Tarmac	0.066
Residence 21	Concrete	0.083	Grass	0.073
Residence 22	Concrete	0.063	Grass	0.064
Residence 23	Concrete	0.071	Grass	0.076
Residence 24	Concrete	0.081	Grass	0.066
Residence 25	Concrete	0.082	Stones	0.061
Residence 26	Concrete	0.076	Grass	0.064
Residence 27	Concrete	0.086	Tarmac	0.058
Residence 28	Concrete	0.060	Grass	0.060
Business 1	Concrete	0.053	Grass	0.054
Business 2	Concrete	0.074	Grass	0.067

Backgrounds

	Location	National Grid Reference	Substrate	Gamma dose rate at 1 metre
Background 1	Near Ridgeway	SU 419 841	Grass	0.050
Background 2	Blewbury	SU 526 854	Grass	0.048
Background 3	Steventon	SU 476 921	Grass	0.053

Notes

[a] These measurements have not been adjusted for background dose rates

Table 42. Combinations of adult pathways for consideration in dose assessments in the Harwell area

Combination number	Green vegetables	Other vegetables	Root vegetables	Potato	Domestic fruit	Cattle meat	Pig meat	Sheep meat	Poultry	Eggs	Wild/free foods	Rabbits/hares	Honey	Wild fungi	Venison	Freshwater fish[a]	Riverbank occupancy over mud and grass	Occupancy in close proximity (<1 m) to sewage	Occupancy in close proximity (<3 m) to sewage sludge and sewage cake	Occupancy in water	Occupancy on water	Indoor occupancy within 1 km of the licensed site boundary	Outdoor occupancy within 1 km of the licensed site boundary
1																	X			X	X		
2	X	X			X	X				X			X									X	X
3	X	X	X		X	X	X	X	X	X			X										
4									X				X		X							X	X
5	X	X	X	X	X			X	X			X			X								
6		X	X			X				X				X								X	X
7					X		X				X												
8	X	X	X		X						X		X									X	X
9		X	X	X	X	X			X	X	X		X			X							
10					X			X	X		X												
11	X	X	X	X	X	X		X		X	X											X	X
12		X			X	X					X			X								X	X
13					X				X		X	X	X	X	X								
14								X			X			X	X								
15																		X	X				

Notes

The food groups and external pathways marked with a cross are combined for the corresponding combination number. For example, combination number 1 represents an individual (or individuals) from Annex 1 who had positive data for the following pathways: riverbank occupancy over mud and grass, occupancy in water, occupancy on water.

[a] Fish consumed from waters within the terrestrial survey area that are potentially affected by gaseous discharges.

The handling of fishing gear and the consumption of coarse fish and signal crayfish from waters subject to liquid discharges were also reported to take place. Consumption rates and handling rates for use in radiological assessments are presented in Annex 3.

Annex 1. Adults' consumption rates (kg y^{-1}) and occupancy rates (h y^{-1}) in the Harwell area

Person ID number	Gender	Age	Green vegetables	Other vegetables	Root vegetables	Potato	Domestic fruit	Cattle meat	Pig meat	Sheep meat	Poultry	Eggs	Wild/free foods	Rabbits/hares	Honey	Wild fungi	Venison	Freshwater fish[a]	Riverbank occupancy over mud and grass	Occupancy in close proximity (<1 m) to sewage	Occupancy in close proximity (<3 m) to sewage sludge and sewage cake	Occupancy in water	Occupancy on water	Indoor occupancy within 1 km of the licensed site boundary	Outdoor occupancy within 1 km of the licensed site boundary
677/1/1	M	62	-	-	-	-	-	-	-	**17.0**	-	-	0.2	-	-	**0.5**	**6.0**	-	-	-	-	-	-	-	-
677/2/1	F	65	-	-	-	-	-	-	-	**17.0**	-	-	0.2	-	-	**0.5**	**6.0**	-	-	-	-	-	-	-	-
680/1/1	F	U	**18.8**	6.3	5.4	18.0	**18.3**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
683/1/1	F	53	2.0	4.8	2.7	18.1	8.8	-	-	5.7	3.2	-	-	**0.9**	-	-	2.0	-	-	-	-	-	-	-	-
683/2/1	M	64	1.0	2.4	1.4	9.1	4.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
684/1/1	M	59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	156	-	-	-	-	-	-
684/2/1	M	60	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	156	-	-	-	-	-	-
685/1/1	M	43	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**507**	-	-	-	-	-	-
685/2/1	M	38	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	254	-	-	-	-	-	-
689/1/1	M	68	14.1	**20.0**	**25.3**	**27.0**	1.4	4.3	-	4.3	-	**17.8**	-	-	-	-	-	-	-	-	-	-	-	-	-
689/2/1	F	63	14.1	**20.0**	**25.3**	**27.0**	1.4	4.3	-	4.3	-	**17.8**	-	-	-	-	-	-	-	-	-	-	-	-	-
689/3/1	F	45	14.1	**20.0**	**25.3**	**27.0**	1.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
689/4/1	M	44	14.1	**20.0**	**25.3**	**27.0**	1.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
689/5/1	F	30	14.1	**20.0**	**25.3**	**27.0**	1.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
693/1/1	M	68	2.6	**19.3**	**28.4**	**51.6**	10.5	-	-	-	-	4.1	0.6	-	-	-	-	-	-	-	-	-	-	-	-
693/2/1	F	57	2.6	**19.3**	**28.4**	**51.6**	10.5	-	-	-	-	4.1	0.6	-	-	-	-	-	-	-	-	-	-	-	-
693/3/1	M	31	2.6	**19.3**	**28.4**	**51.6**	5.2	-	-	-	-	-	0.6	-	-	-	-	-	-	-	-	-	-	-	-
693/4/1	F	U	2.6	**19.3**	**28.4**	**51.6**	5.2	-	-	-	-	-	0.6	-	-	-	-	-	-	-	-	-	-	-	-
693/5/1	M	28	2.6	**19.3**	**28.4**	**51.6**	5.2	-	-	-	-	-	0.6	-	-	-	-	-	-	-	-	-	-	-	-
693/6/1	F	U	2.6	**19.3**	**28.4**	**51.6**	5.2	-	-	-	-	-	0.6	-	-	-	-	-	-	-	-	-	-	-	-
694/1/1	F	73	-	-	-	-	-	-	-	-	-	0.6	-	-	-	-	-	-	-	-	-	-	-	7182	118
694/2/1	M	65	-	-	-	-	-	-	-	-	-	0.6	-	-	-	-	-	-	-	-	-	-	-	7135	118

Annex 1. Adults' consumption rates (kg y^{-1}) and occupancy rates (h y^{-1}) in the Harwell area

Person ID number	Gender	Age	Green vegetables	Other vegetables	Root vegetables	Potato	Domestic fruit	Cattle meat	Pig meat	Sheep meat	Poultry	Eggs	Wild/free foods	Rabbits/hares	Honey	Wild fungi	Venison	Freshwater fish[a]	Riverbank occupancy over mud and grass	Occupancy in close proximity (<1 m) to sewage	Occupancy in close proximity (<3 m) to sewage sludge and sewage cake	Occupancy in water	Occupancy on water	Indoor occupancy within 1 km of the licensed site boundary	Outdoor occupancy within 1 km of the licensed site boundary
698/1/1	M	U	5.2	0.4	**15.1**	12.1	3.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
698/2/1	M	U	5.2	0.4	**15.1**	12.1	3.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
698/3/1	F	U	5.2	0.4	**15.1**	12.1	3.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
699/1/1	M	28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	144	-	-	-	-	-	-
699/2/1	F	25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	108	-	-	-	-	-	-
700/1/1	M	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**585**	-	-	-	-	-	-
701/1/1	M	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	195	-	-	-	-	-	-
702/1/1	M	68	**16.7**	6.5	**38.8**	**26.2**	10.2	4.4	-	-	-	**19.6**	-	-	-	-	-	-	-	-	-	-	-	-	-
702/2/1	F	67	**16.7**	6.5	**38.8**	**26.2**	10.2	4.4	-	-	-	**19.6**	-	-	-	-	-	-	-	-	-	-	-	-	-
703/1/1	M	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**390**	-	-	-	-	-	-
705/1/1	M	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	240	-	-	-	-	-	-
706/1/1	F	50	-	-	-	-	1.1	1.4	-	-	-	-	**1.1**	-	1.0	-	-	-	-	-	-	-	-	-	-
706/2/1	M	50	-	-	-	-	1.1	1.4	-	-	-	-	**1.1**	-	1.0	-	-	-	-	-	-	-	-	-	-
706/3/1	F	U	-	-	-	-	1.1	1.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
706/4/1	F	U	-	-	-	-	1.1	1.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
706/5/1	F	U	-	-	-	-	1.1	1.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
706/6/1	F	U	-	-	-	-	1.1	1.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
707/1/1	M	U	8.8	8.0	**22.7**	22.3	4.1	-	-	-	-	-	**1.0**	-	-	-	-	-	-	-	-	-	-	-	-
707/2/1	F	U	8.8	8.0	**22.7**	22.3	4.1	-	-	-	-	-	**1.0**	-	-	-	-	-	-	-	-	-	-	-	-
707/3/1	M	U	1.9	1.7	4.9	4.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
707/4/1	F	U	1.9	1.7	4.9	4.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
707/5/1	M	U	1.9	1.7	4.9	4.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Annex 1. Adults' consumption rates (kg y^{-1}) and occupancy rates (h y^{-1}) in the Harwell area

Person ID number	Gender	Age	Green vegetables	Other vegetables	Root vegetables	Potato	Domestic fruit	Cattle meat	Pig meat	Sheep meat	Poultry	Eggs	Wild/free foods	Rabbits/hares	Honey	Wild fungi	Venison	Freshwater fish[a]	Riverbank occupancy over mud and grass	Occupancy in close proximity (<1 m) to sewage	Occupancy in close proximity (<3 m) to sewage sludge and sewage cake	Occupancy in water	Occupancy on water	Indoor occupancy within 1 km of the licensed site boundary	Outdoor occupancy within 1 km of the licensed site boundary
707/6/1	F	U	1.9	1.7	4.9	4.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
708/1/1	M	30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**888**	-	-	-	-	-	-
709/1/1	F	U	-	-	-	-	2.9	-	-	-	**16.4**	-	**1.4**	**1.2**	**5.9**	**0.2**	**3.0**	-	-	-	-	-	-	-	-
709/2/1	M	U	-	-	-	-	2.9	-	-	-	**16.4**	-	**1.4**	**1.2**	**5.9**	**0.2**	**3.0**	-	-	-	-	-	-	-	-
710/1/1	M	70	11.3	**26.9**	**19.6**	9.1	**29.2**	-	-	-	-	-	**2.3**	-	-	-	-	-	-	-	-	-	-	-	-
710/2/1	F	67	11.3	**26.9**	**19.6**	9.1	**29.2**	-	-	-	-	-	**2.3**	-	-	-	-	-	-	-	-	-	-	-	-
711/1/1	M	74	**15.7**	-	**31.3**	**32.8**	2.2	-	-	-	-	**10.4**	**1.5**	-	-	-	-	-	-	-	-	-	-	-	-
711/2/1	F	73	**15.7**	-	**31.3**	**32.8**	2.2	-	-	-	-	**10.4**	**1.5**	-	-	-	-	-	-	-	-	-	-	-	-
711/3/1	F	53	**15.7**	-	**31.3**	**32.8**	2.2	-	-	-	-	**10.4**	**1.5**	-	-	-	-	-	-	-	-	-	-	-	-
712/1/1	M	75	1.9	**14.4**	**17.8**	23.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
712/2/1	F	71	1.9	**14.4**	**17.8**	23.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
713/1/1	M	78	**19.6**	2.0	8.0	19.1	-	6.5	-	-	-	-	0.8	-	-	-	-	-	-	-	-	-	-	-	-
713/2/1	F	72	**19.6**	2.0	8.0	19.1	-	6.5	-	-	-	-	0.8	-	-	-	-	-	-	-	-	-	-	-	-
713/3/1	M	45	**19.6**	2.0	8.0	19.1	-	6.5	-	-	-	-	0.8	-	-	-	-	-	-	-	-	-	-	-	-
714/1/1	M	78	2.3	**17.8**	**26.3**	**30.7**	-	-	-	-	**9.2**	-	-	-	-	-	**3.0**	-	-	-	-	-	-	-	-
714/2/1	F	72	2.3	**17.8**	**26.3**	**30.7**	-	-	-	-	**9.2**	-	-	-	-	-	**3.0**	-	-	-	-	-	-	-	-
715/1/1	M	53	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**390**	-	-	-	-	-	-
716/1/1	M	71	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	138	-	-	-	-	-	-
720/1/1	M	49	13.8	0.3	6.3	2.0	0.7	-	-	-	-	-	**1.2**	-	-	-	-	-	-	-	-	-	-	-	-
720/3/1	F	48	13.8	0.3	6.3	2.0	0.7	-	-	-	-	-	**1.2**	-	-	-	-	-	-	-	-	-	-	-	-
721/1/1	M	52	9.5	4.9	5.3	-	3.0	2.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
721/2/1	F	50	9.5	4.9	5.3	-	3.0	2.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Annex 1. Adults' consumption rates (kg y^{-1}) and occupancy rates (h y^{-1}) in the Harwell area

Person ID number	Gender	Age	Green vegetables	Other vegetables	Root vegetables	Potato	Domestic fruit	Cattle meat	Pig meat	Sheep meat	Poultry	Eggs	Wild/free foods	Rabbits/hares	Honey	Wild fungi	Venison	Freshwater fish[a]	Riverbank occupancy over mud and grass	Occupancy in close proximity (<1 m) to sewage	Occupancy in close proximity (<3 m) to sewage sludge and sewage cake	Occupancy in water	Occupancy on water	Indoor occupancy within 1 km of the licensed site boundary	Outdoor occupancy within 1 km of the licensed site boundary
721/3/1	M	18	9.5	4.9	5.3	-	3.0	2.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
722/1/1	F	73	9.0	**10.1**	1.9	3.0	8.1	-	-	-	-	-	0.3	-	-	-	-	-	-	-	-	-	-	-	-
722/2/1	M	50	9.0	**10.1**	1.9	3.0	8.1	-	-	-	-	-	0.3	-	-	-	-	-	-	-	-	-	-	-	-
722/3/1	F	48	9.0	**10.1**	1.9	3.0	8.1	-	-	-	-	-	0.3	-	-	-	-	-	-	-	-	-	-	-	-
722/4/1	F	20	9.0	**10.1**	1.9	3.0	8.1	-	-	-	-	-	0.3	-	-	-	-	-	-	-	-	-	-	-	-
722/5/1	M	17	9.0	**10.1**	1.9	3.0	8.1	-	-	-	-	-	0.3	-	-	-	-	-	-	-	-	-	-	-	-
723/1/1	M	U	**42.9**	**16.9**	**13.1**	**76.9**	4.9	4.6	-	-	-	**8.9**	-	-	-	-	-	-	-	-	-	-	-	-	-
723/2/1	F	U	**42.9**	**16.9**	**13.1**	**76.9**	4.9	4.6	-	-	-	**8.9**	-	-	-	-	-	-	-	-	-	-	-	-	-
723/3/1	M	U	11.5	4.5	3.0	20.7	4.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
723/4/1	F	U	11.5	4.5	3.0	20.7	4.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
725/1/1	M	76	7.4	**14.7**	4.9	10.4	9.1	-	-	-	-	-	**1.8**	-	-	-	-	-	-	-	-	-	-	-	-
725/2/1	F	69	7.4	**14.7**	4.9	10.4	9.1	-	-	-	-	-	**1.8**	-	-	-	-	-	-	-	-	-	-	-	-
725/3/1	M	47	7.4	**14.7**	4.9	10.4	1.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
725/7/1	F	70	1.4	3.3	1.0	3.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
725/8/1	M	70	1.4	3.3	1.0	3.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
725/9/1	M	70	1.4	3.3	1.0	3.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
725/10/1	F	70	1.4	3.3	1.0	3.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
726/1/1	F	49	2.4	2.1	-	-	8.7	-	-	-	-	**8.2**	-	-	0.6	-	-	-	-	-	-	-	-	5012	2148
726/2/1	M	57	0.8	0.7	-	-	2.9	3.0	-	-	-	2.7	-	-	0.2	-	-	-	-	-	-	-	-	2397	51
726/3/1	M	86	2.4	2.1	-	-	8.7	9.0	-	-	-	**8.2**	-	-	0.6	-	-	-	-	-	-	-	-	8439	51
726/4/1	F	17	2.4	2.1	-	-	8.7	9.0	-	-	-	**8.2**	-	-	0.6	-	-	-	-	-	-	-	-	5345	537
729/1/1	M	38	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	118	-	-	-	-	-	-

Annex 1. Adults' consumption rates (kg y^{-1}) and occupancy rates (h y^{-1}) in the Harwell area

Person ID number	Gender	Age	Green vegetables	Other vegetables	Root vegetables	Potato	Domestic fruit	Cattle meat	Pig meat	Sheep meat	Poultry	Eggs	Wild/free foods	Rabbits/hares	Honey	Wild fungi	Venison	Freshwater fish[a]	Riverbank occupancy over mud and grass	Occupancy in close proximity (<1 m) to sewage	Occupancy in close proximity (<3 m) to sewage sludge and sewage cake	Occupancy in water	Occupancy on water	Indoor occupancy within 1 km of the licensed site boundary	Outdoor occupancy within 1 km of the licensed site boundary
730/1/1	M	64	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	292	-	-	-	-	-	-
731/1/1	M	32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**390**	-	-	-	-	-	-
732/1/1	M	37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	78	-	-	-	-	-	-
732/2/1	F	33	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	78	-	-	-	-	-	-
733/1/1	M	40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	-	-
733/2/1	F	39	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	-	-
734/1/1	M	U	-	-	-	-	0.8	-	-	-	1.2	-	0.2	-	-	**0.2**	-	-	-	-	-	-	-	-	-
734/2/1	F	U	-	-	-	-	0.8	-	-	-	1.2	-	0.2	-	-	**0.2**	-	-	-	-	-	-	-	-	-
735/1/1	F	U	-	-	-	-	2.0	-	-	0.6	3.1	-	**2.0**	-	-	-	-	-	-	-	-	-	-	-	-
735/2/1	M	U	-	-	-	-	2.0	-	-	0.6	3.1	-	**2.0**	-	-	-	-	-	-	-	-	-	-	-	-
735/3/1	U	U	-	-	-	-	2.0	-	-	0.6	3.1	-	**2.0**	-	-	-	-	-	-	-	-	-	-	-	-
735/4/1	U	U	-	-	-	-	2.0	-	-	0.6	3.1	-	**2.0**	-	-	-	-	-	-	-	-	-	-	-	-
735/5/1	U	U	-	-	-	-	2.0	-	-	0.6	3.1	-	**2.0**	-	-	-	-	-	-	-	-	-	-	-	-
737/1/1	M	63	-	2.2	5.2	10.4	4.3	2.8	-	-	1.7	**13.4**	**2.0**	-	0.4	-	-	0.5	-	-	-	-	-	-	-
737/2/1	F	63	-	2.2	5.2	10.4	4.3	2.8	-	-	1.7	**13.4**	**2.0**	-	0.4	-	-	0.5	-	-	-	-	-	-	-
737/3/1	M	36	-	2.2	5.2	10.4	3.9	2.8	-	-	1.7	4.5	**0.8**	-	0.4	-	-	-	-	-	-	-	-	-	-
737/4/1	F	36	-	2.2	5.2	10.4	3.9	2.8	-	-	1.7	4.5	**0.8**	-	0.4	-	-	-	-	-	-	-	-	-	-
737/5/1	F	31	-	-	-	-	3.9	2.8	-	-	1.7	4.5	**0.8**	-	0.4	-	-	-	-	-	-	-	-	-	-
737/6/1	M	34	-	-	-	-	3.9	2.8	-	-	1.7	4.5	**0.8**	-	0.4	-	-	-	-	-	-	-	-	-	-
737/7/1	F	37	-	-	-	-	3.9	2.8	-	-	1.7	4.5	**0.8**	-	0.4	-	-	-	-	-	-	-	-	-	-
737/8/1	M	37	-	-	-	-	3.9	2.8	-	-	1.7	4.5	**0.8**	-	0.4	-	-	-	-	-	-	-	-	-	-
738/1/1	M	64	**22.3**	**14.7**	**15.1**	22.8	4.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Annex 1. Adults' consumption rates (kg y^{-1}) and occupancy rates (h y^{-1}) in the Harwell area

Person ID number	Gender	Age	Green vegetables	Other vegetables	Root vegetables	Potato	Domestic fruit	Cattle meat	Pig meat	Sheep meat	Poultry	Eggs	Wild/free foods	Rabbits/hares	Honey	Wild fungi	Venison	Freshwater fish[a]	Riverbank occupancy over mud and grass	Occupancy in close proximity (<1 m) to sewage	Occupancy in close proximity (<3 m) to sewage sludge and sewage cake	Occupancy in water	Occupancy on water	Indoor occupancy within 1 km of the licensed site boundary	Outdoor occupancy within 1 km of the licensed site boundary
738/2/1	F	69	**22.3**	**14.7**	**15.1**	22.8	4.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
738/3/1	M	U	13.4	8.8	9.0	13.7	2.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
738/4/1	F	U	13.4	8.8	9.0	13.7	2.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
738/5/1	M	U	8.9	5.9	6.0	9.1	1.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
738/6/1	F	U	8.9	5.9	6.0	9.1	1.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
739/1/1	M	50	0.4	-	-	-	**38.3**	**29.0**	-	**29.0**	-	**8.9**	**2.3**	-	-	-	-	-	-	-	-	-	-	-	-
739/2/1	F	52	0.4	-	-	-	**38.3**	**29.0**	-	**29.0**	-	**8.9**	**2.3**	-	-	-	-	-	-	-	-	-	-	-	-
739/3/1	M	21	0.4	-	-	-	**38.3**	**29.0**	-	**29.0**	-	**8.9**	-	-	-	-	-	-	-	-	-	-	-	-	-
739/4/1	M	19	0.4	-	-	-	**38.3**	**29.0**	-	**29.0**	-	**8.9**	-	-	-	-	-	-	-	-	-	-	-	-	-
740/1/1	M	76	1.4	3.5	5.1	21.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
740/2/1	F	63	1.4	3.5	5.1	21.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
740/3/1	F	42	1.4	3.5	5.1	21.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
740/4/1	M	39	1.4	3.5	5.1	21.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
740/5/1	F	U	1.4	3.5	5.1	21.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
741/1/1	M	U	**20.9**	**24.3**	**13.6**	21.8	**15.3**	-	-	-	-	**22.3**	**1.4**	-	-	-	-	-	-	-	-	-	-	-	-
741/2/1	F	U	**20.9**	**24.3**	**13.6**	21.8	**15.3**	-	-	-	-	**22.3**	**1.4**	-	-	-	-	-	-	-	-	-	-	-	-
742/1/1	M	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**10.4**	-	-	-	-	-	-	-
742/2/1	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**5.2**	-	-	-	-	-	-	-
745/1/1	F	58	-	-	-	-	3.0	-	-	-	-	**17.8**	0.5	-	-	-	-	-	-	-	-	-	-	4914	138
746/1/1	M	84	-	7.2	-	-	4.1	1.7	-	-	-	-	**0.9**	-	-	**0.5**	-	-	-	-	-	-	-	7471	351
746/2/1	F	82	-	7.2	-	-	4.1	1.7	-	-	-	-	**0.9**	-	-	**0.5**	-	-	-	-	-	-	-	7120	702
747/1/1	M	34	-	0.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4185	945

Annex 1. Adults' consumption rates (kg y^{-1}) and occupancy rates (h y^{-1}) in the Harwell area

Person ID number	Gender	Age	Green vegetables	Other vegetables	Root vegetables	Potato	Domestic fruit	Cattle meat	Pig meat	Sheep meat	Poultry	Eggs	Wild/free foods	Rabbits/hares	Honey	Wild fungi	Venison	Freshwater fish[a]	Riverbank occupancy over mud and grass	Occupancy in close proximity (<1 m) to sewage	Occupancy in close proximity (<3 m) to sewage sludge and sewage cake	Occupancy in water	Occupancy on water	Indoor occupancy within 1 km of the licensed site boundary	Outdoor occupancy within 1 km of the licensed site boundary
747/2/1	F	32	-	0.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5715	315
748/1/1	F	U	-	-	-	-	-	-	-	-	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
748/2/1	M	U	-	-	-	-	-	-	-	-	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
749/1/1	M	70	2.3	2.7	6.5	3.6	3.4	6.0	-	4.0	-	**8.9**	0.5	-	-	-	-	-	-	-	-	-	-	7149	695
749/2/1	F	68	2.3	2.7	6.5	3.6	3.4	6.0	-	4.0	-	**8.9**	0.5	-	-	-	-	-	-	-	-	-	-	6280	1564
750/1/1	F	37	-	0.9	-	0.6	3.7	-	-	-	-	**17.8**	**1.7**	-	-	-	-	-	-	-	-	-	-	6338	1461
750/2/1	M	45	-	0.9	-	0.6	3.7	-	-	-	-	**17.8**	**1.7**	-	-	-	-	-	-	-	-	-	-	4183	1643
752/1/1	M	70	0.1	**12.2**	2.7	9.1	6.4	**17.7**	-	**17.7**	-	**8.9**	**2.3**	-	-	-	-	-	-	-	-	-	-	5497	574
752/2/1	F	68	0.1	**12.2**	2.7	9.1	6.4	**17.7**	-	**17.7**	-	**8.9**	**2.3**	-	-	-	-	-	-	-	-	-	-	6651	470
753/1/1	F	50	-	-	-	-	-	**13.0**	-	**13.0**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
753/2/1	M	50	-	-	-	-	-	**13.0**	-	**13.0**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
753/3/1	F	16	-	-	-	-	-	**13.0**	-	**13.0**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
753/4/1	F	19	-	-	-	-	-	**13.0**	-	**13.0**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
754/1/1	F	36	-	-	-	-	6.7	-	**17.9**	-	-	-	**2.0**	-	-	-	-	-	-	-	-	-	-	-	-
754/2/1	M	37	-	-	-	-	6.7	-	**17.9**	-	-	-	**2.0**	-	-	-	-	-	-	-	-	-	-	-	-
755/1/1	M	U	-	-	-	-	-	-	-	-	1.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-
755/2/1	F	U	-	-	-	-	-	-	-	-	1.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-
755/3/1	U	U	-	-	-	-	-	-	-	-	1.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-
755/4/1	U	U	-	-	-	-	-	-	-	-	1.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-
755/5/1	U	U	-	-	-	-	-	-	-	-	1.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-
756/1/1	M	71	-	-	-	-	6.8	-	-	-	-	-	0.5	-	0.5	-	-	-	-	-	-	-	-	6789	660
756/2/1	F	61	-	-	-	-	6.8	-	-	-	-	-	0.5	-	0.5	-	-	-	-	-	-	-	-	6977	660

Annex 1. Adults' consumption rates (kg y^{-1}) and occupancy rates (h y^{-1}) in the Harwell area

Person ID number	Gender	Age	Green vegetables	Other vegetables	Root vegetables	Potato	Domestic fruit	Cattle meat	Pig meat	Sheep meat	Poultry	Eggs	Wild/free foods	Rabbits/hares	Honey	Wild fungi	Venison	Freshwater fish[a]	Riverbank occupancy over mud and grass	Occupancy in close proximity (<1 m) to sewage	Occupancy in close proximity (<3 m) to sewage sludge and sewage cake	Occupancy in water	Occupancy on water	Indoor occupancy within 1 km of the licensed site boundary	Outdoor occupancy within 1 km of the licensed site boundary
757/1/1	M	47	-	-	-	-	-	3.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5350	417
757/2/1	F	37	-	-	-	-	-	3.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7358	313
758/1/1	F	47	-	-	-	-	-	-	-	-	-	-	0.3	-	-	-	-	-	-	-	-	-	-	5421	1097
758/2/1	M	47	-	-	-	-	-	-	-	-	-	-	0.3	-	-	-	-	-	-	-	-	-	-	5942	1097
759/1/1	F	45	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6317	548
759/2/1	M	45	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4310	209
760/1/1	M	U	-	-	-	-	-	-	-	5.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
760/2/1	M	U	-	-	-	-	-	-	-	5.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
761/1/1	M	71	-	-	-	-	1.0	0.6	-	0.6	-	-	-	-	-	-	-	-	-	-	-	-	-	7234	588
761/2/1	F	69	-	-	-	-	1.0	0.6	-	0.6	-	-	-	-	-	-	-	-	-	-	-	-	-	7600	222
762/1/1	M	U	-	-	-	-	3.8	-	-	-	-	**8.9**	0.5	-	-	-	-	-	-	-	-	-	-	6745	548
762/2/1	F	63	-	-	-	-	3.8	-	-	-	-	**8.9**	0.5	-	-	-	-	-	-	-	-	-	-	6745	548
763/1/1	M	47	-	-	-	-	-	-	-	-	-	-	**1.3**	-	-	-	-	-	-	-	-	-	-	6224	187
763/2/1	F	48	-	-	-	-	-	-	-	-	-	-	**1.3**	-	-	-	-	-	-	-	-	-	-	7162	187
764/1/1	F	27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4991	1305
764/2/1	M	27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7182	1109
765/1/1	M	57	-	-	-	-	-	**13.0**	-	-	-	4.1	-	-	-	-	-	-	-	-	-	-	-	5014	223
765/2/1	F	59	-	-	-	-	-	**13.0**	-	-	-	4.1	-	-	-	-	-	-	-	-	-	-	-	5014	223
767/1/1	M	41	-	-	-	**26.1**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5178	287
767/2/1	F	36	-	-	-	**26.1**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5178	287
768/1/1	M	24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4745	365
768/2/1	F	24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5449	182

Annex 1. Adults' consumption rates (kg y^{-1}) and occupancy rates (h y^{-1}) in the Harwell area

Person ID number	Gender	Age	Green vegetables	Other vegetables	Root vegetables	Potato	Domestic fruit	Cattle meat	Pig meat	Sheep meat	Poultry	Eggs	Wild/free foods	Rabbits/hares	Honey	Wild fungi	Venison	Freshwater fish[a]	Riverbank occupancy over mud and grass	Occupancy in close proximity (<1 m) to sewage	Occupancy in close proximity (<3 m) to sewage sludge and sewage cake	Occupancy in water	Occupancy on water	Indoor occupancy within 1 km of the licensed site boundary	Outdoor occupancy within 1 km of the licensed site boundary
769/1/1	M	29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7164	104
769/2/1	M	58	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7039	261
769/3/1	F	55	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6099	261
770/1/1	F	25	-	-	-	-	1.1	-	-	-	-	-	0.7	-	-	-	-	-	-	-	-	-	-	7094	182
770/2/1	M	41	-	-	-	-	1.1	-	-	-	-	-	0.7	-	-	-	-	-	-	-	-	-	-	6332	104
771/1/1	M	58	-	-	-	-	-	3.2	-	3.2	-	-	-	-	-	-	-	-	-	-	-	-	-	4592	391
771/2/1	F	49	-	-	-	-	-	3.2	-	3.2	-	-	-	-	-	-	-	-	-	-	-	-	-	4592	391
771/3/1	F	16	-	-	-	-	-	3.2	-	3.2	-	-	-	-	-	-	-	-	-	-	-	-	-	4592	391
772/1/1	M	50	2.3	3.1	2.0	-	4.0	-	-	-	-	-	0.3	-	0.3	-	-	-	-	-	-	-	-	5152	914
772/2/1	F	42	2.3	3.1	2.0	-	4.0	-	-	-	-	-	0.3	-	0.3	-	-	-	-	-	-	-	-	5152	914
772/3/1	M	17	2.3	3.1	2.0	-	4.0	-	-	-	-	-	0.3	-	0.3	-	-	-	-	-	-	-	-	5152	914
773/1/1	M	57	-	1.0	1.0	-	-	2.7	-	-	-	2.1	-	-	-	**0.5**	-	-	-	-	-	-	-	5280	660
773/2/1	F	56	-	1.0	1.0	-	-	2.7	-	-	-	2.1	-	-	-	**0.5**	-	-	-	-	-	-	-	7684	141
774/1/1	M	67	-	-	-	-	-	-	-	-	-	**17.8**	-	-	0.2	-	-	-	-	-	-	-	-	7029	602
774/2/1	F	63	-	-	-	-	-	-	-	-	-	**17.8**	-	-	0.2	-	-	-	-	-	-	-	-	7246	385
775/1/1	M	U	**18.9**	4.7	**23.6**	-	**25.8**	**13.0**	**13.0**	**13.0**	**8.0**	**17.8**	-	-	**2.7**	-	-	-	-	-	-	-	-	-	-
775/2/1	F	U	**18.9**	4.7	**23.6**	-	**25.8**	**13.0**	**13.0**	**13.0**	-	**17.8**	-	-	**2.7**	-	-	-	-	-	-	-	-	-	-
776/1/1	F	U	-	-	-	-	6.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
776/2/1	M	U	-	-	-	-	6.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
777/1/1	M	U	-	-	-	-	-	-	-	-	1.8	-	-	-	0.5	-	1.0	-	-	-	-	-	-	-	-
777/2/1	U	U	-	-	-	-	-	-	-	-	-	-	-	-	0.5	-	-	-	-	-	-	-	-	-	-
777/3/1	F	U	-	-	-	-	-	-	-	-	1.8	-	-	-	0.5	-	1.0	-	-	-	-	-	-	-	-

Annex 1. Adults' consumption rates (kg y^{-1}) and occupancy rates (h y^{-1}) in the Harwell area

Person ID number	Gender	Age	Green vegetables	Other vegetables	Root vegetables	Potato	Domestic fruit	Cattle meat	Pig meat	Sheep meat	Poultry	Eggs	Wild/free foods	Rabbits/hares	Honey	Wild fungi	Venison	Freshwater fish[a]	Riverbank occupancy over mud and grass	Occupancy in close proximity (<1 m) to sewage	Occupancy in close proximity (<3 m) to sewage sludge and sewage cake	Occupancy in water	Occupancy on water	Indoor occupancy within 1 km of the licensed site boundary	Outdoor occupancy within 1 km of the licensed site boundary
778/1/1	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5280	-	-
778/2/1	M	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4656	-	-
779/1/1	M	48	-	-	-	-	-	-	-	-	0.4	-	-	-	0.2	-	0.4	-	-	-	-	-	-	6193	1053
779/2/1	F	44	-	-	-	-	-	-	-	-	0.4	-	-	-	0.2	-	0.4	-	-	-	-	-	-	6018	526
781/1/1	M	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1778	202
781/1/2	M	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1778	202
781/1/3	M	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1778	202
781/1/4	M	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1778	202
781/1/5	M	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1778	202
781/2/1	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1778	202
781/2/2	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1778	202
781/2/3	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1778	202
781/2/4	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1778	202
781/2/5	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1778	202
782/1/1	M	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1592	318
782/1/2	M	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1592	318
782/1/3	M	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1592	318
782/1/4	M	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1592	318
782/1/5	M	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1592	318
782/2/1	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1592	318
782/2/2	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1592	318
782/2/3	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1592	318

Annex 1. Adults' consumption rates (kg y^{-1}) and occupancy rates (h y^{-1}) in the Harwell area

Person ID number	Gender	Age	Green vegetables	Other vegetables	Root vegetables	Potato	Domestic fruit	Cattle meat	Pig meat	Sheep meat	Poultry	Eggs	Wild/free foods	Rabbits/hares	Honey	Wild fungi	Venison	Freshwater fish[a]	Riverbank occupancy over mud and grass	Occupancy in close proximity (<1 m) to sewage	Occupancy in close proximity (<3 m) to sewage sludge and sewage cake	Occupancy in water	Occupancy on water	Indoor occupancy within 1 km of the licensed site boundary	Outdoor occupancy within 1 km of the licensed site boundary
782/2/4	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1592	318
782/2/5	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1592	318
783/1/1	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1395	465
783/1/2	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1395	465
783/1/3	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1395	465
783/1/4	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1395	465
783/1/5	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1395	465
783/1/6	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1395	465
783/1/7	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1395	465
783/1/8	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1395	465
783/1/9	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1395	465
783/1/10	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1395	465
784/1/1	M	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1738	198
784/1/2	M	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1738	198
784/1/3	M	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1738	198
784/1/4	M	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1738	198
784/1/5	M	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1738	198
784/1/6	M	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1738	198
784/1/7	M	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1738	198
784/1/8	M	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1738	198
784/2/1	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1738	198
784/2/2	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1738	198

Annex 1. Adults' consumption rates (kg y^{-1}) and occupancy rates (h y^{-1}) in the Harwell area

Person ID number	Gender	Age	Green vegetables	Other vegetables	Root vegetables	Potato	Domestic fruit	Cattle meat	Pig meat	Sheep meat	Poultry	Eggs	Wild/free foods	Rabbits/hares	Honey	Wild fungi	Venison	Freshwater fish[a]	Riverbank occupancy over mud and grass	Occupancy in close proximity (<1 m) to sewage	Occupancy in close proximity (<3 m) to sewage sludge and sewage cake	Occupancy in water	Occupancy on water	Indoor occupancy within 1 km of the licensed site boundary	Outdoor occupancy within 1 km of the licensed site boundary
784/2/3	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1738	198
784/2/4	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1738	198
784/2/5	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1738	198
784/2/6	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1738	198
784/2/7	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1738	198
784/2/8	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1738	198
784/3/1	M	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1210	132
784/3/2	M	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1210	132
784/4/1	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1210	132
784/4/2	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1210	132
785/1/1	F	U	-	-	-	-	-	-	-	-	-	-	-	-	**4.0**	-	-	-	-	-	-	-	-	-	-
785/1/2	F	U	-	-	-	-	-	-	-	-	-	-	-	-	**4.0**	-	-	-	-	-	-	-	-	-	-
785/1/3	F	U	-	-	-	-	-	-	-	-	-	-	-	-	**4.0**	-	-	-	-	-	-	-	-	-	-
785/2/1	M	U	-	-	-	-	-	-	-	-	-	-	-	-	**4.0**	-	-	-	-	-	-	-	-	-	-
785/2/2	M	U	-	-	-	-	-	-	-	-	-	-	-	-	**4.0**	-	-	-	-	-	-	-	-	-	-
785/2/3	M	U	-	-	-	-	-	-	-	-	-	-	-	-	**4.0**	-	-	-	-	-	-	-	-	-	-
786/1/1	M	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1694	198
786/1/2	M	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1694	198
786/1/3	M	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1694	198
786/1/4	M	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1694	198
786/1/5	M	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1694	198
786/2/1	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1694	198

Annex 1. Adults' consumption rates (kg y^{-1}) and occupancy rates (h y^{-1}) in the Harwell area

Person ID number	Gender	Age	Green vegetables	Other vegetables	Root vegetables	Potato	Domestic fruit	Cattle meat	Pig meat	Sheep meat	Poultry	Eggs	Wild/free foods	Rabbits/hares	Honey	Wild fungi	Venison	Freshwater fish[a]	Riverbank occupancy over mud and grass	Occupancy in close proximity (<1 m) to sewage	Occupancy in close proximity (<3 m) to sewage sludge and sewage cake	Occupancy in water	Occupancy on water	Indoor occupancy within 1 km of the licensed site boundary	Outdoor occupancy within 1 km of the licensed site boundary
786/2/2	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1694	198
786/2/3	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1694	198
786/2/4	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1694	198
786/2/5	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1694	198
786/3/1	M	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1474	418
786/4/1	M	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	772	68
786/5/1	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	772	68
787/6/1	M	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	112	-	-
787/6/2	M	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	112	-	-
787/6/3	M	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	112	-	-
787/6/4	M	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	112	-	-
788/1/1	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1056	88
788/1/2	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1056	88
788/1/3	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1056	88
788/1/4	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1056	88
788/1/5	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1056	88
788/2/1	M	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1056	88
788/2/2	M	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1056	88
788/2/3	M	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1056	88
788/2/4	M	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1056	88
788/2/5	M	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1056	88
788/3/1	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1672	88

Annex 1. Adults' consumption rates (kg y^{-1}) and occupancy rates (h y^{-1}) in the Harwell area

Person ID number	Gender	Age	Green vegetables	Other vegetables	Root vegetables	Potato	Domestic fruit	Cattle meat	Pig meat	Sheep meat	Poultry	Eggs	Wild/free foods	Rabbits/hares	Honey	Wild fungi	Venison	Freshwater fish[a]	Riverbank occupancy over mud and grass	Occupancy in close proximity (<1 m) to sewage	Occupancy in close proximity (<3 m) to sewage sludge and sewage cake	Occupancy in water	Occupancy on water	Indoor occupancy within 1 km of the licensed site boundary	Outdoor occupancy within 1 km of the licensed site boundary
788/4/1	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1056	88
788/4/2	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1056	88
788/4/3	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1056	88
788/4/4	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1056	88
788/4/5	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1056	88
788/5/1	M	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1056	88
788/5/2	M	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1056	88
788/5/3	M	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1056	88
788/5/4	M	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1056	88
788/5/5	M	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1056	88
789/1/1	M	62	1.8	**9.6**	0.4	**36.4**	2.2	-	-	-	-	-	0.2	-	-	-	-	-	-	-	-	-	-	-	-
789/2/1	F	59	1.8	**9.6**	0.4	**36.4**	2.2	-	-	-	-	-	0.2	-	-	-	-	-	-	-	-	-	-	-	-
789/3/1	M	20	1.8	**9.6**	0.4	**36.4**	2.2	-	-	-	-	-	0.2	-	-	-	-	-	-	-	-	-	-	-	-
789/4/1	F	92	1.8	**9.6**	0.4	**36.4**	2.2	-	-	-	-	-	0.2	-	-	-	-	-	-	-	-	-	-	-	-
789/5/1	F	17	1.8	**9.6**	0.4	**36.4**	2.2	-	-	-	-	-	0.2	-	-	-	-	-	-	-	-	-	-	-	-
791/1/1	M	46	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	118	-	-	13	52	-	-
791/2/1	F	45	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	118	-	-	13	52	-	-
792/1/1	M	53	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	234	-	-	-	-	-	-
793/1/1	M	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**507**	-	-	-	-	-	-
796/1/1	M	85	**19.6**	**19.3**	**20.9**	**61.4**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
796/2/1	F	84	**19.6**	**19.3**	**20.9**	**61.4**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
797/1/1	M	67	14.3	**15.4**	**27.3**	16.7	**13.6**	6.5	-	-	-	-	**1.7**	-	-	-	-	-	-	-	-	-	-	-	-

Annex 1. Adults' consumption rates (kg y^{-1}) and occupancy rates (h y^{-1}) in the Harwell area

Person ID number	Gender	Age	Green vegetables	Other vegetables	Root vegetables	Potato	Domestic fruit	Cattle meat	Pig meat	Sheep meat	Poultry	Eggs	Wild/free foods	Rabbits/hares	Honey	Wild fungi	Venison	Freshwater fish[a]	Riverbank occupancy over mud and grass	Occupancy in close proximity (<1 m) to sewage	Occupancy in close proximity (<3 m) to sewage sludge and sewage cake	Occupancy in water	Occupancy on water	Indoor occupancy within 1 km of the licensed site boundary	Outdoor occupancy within 1 km of the licensed site boundary
797/2/1	F	63	14.3	**15.4**	**27.3**	16.7	**13.6**	6.5	-	-	-	-	**1.7**	-	-	-	-	-	-	-	-	-	-	-	-
797/3/1	M	72	14.3	**15.4**	**27.3**	16.7	**13.6**	-	-	-	-	-	0.7	-	-	-	-	-	-	-	-	-	-	-	-
797/4/1	F	39	14.3	**15.4**	**27.3**	16.7	**13.6**	-	-	-	-	-	0.7	-	-	-	-	-	-	-	-	-	-	-	-
797/5/1	M	40	14.3	**15.4**	**27.3**	16.7	**13.6**	-	-	-	-	-	0.7	-	-	-	-	-	-	-	-	-	-	-	-
798/1/1	M	36	-	-	-	-	1.0	0.9	-	-	-	-	**1.0**	-	-	-	-	-	-	-	-	-	-	5331	344
798/2/1	F	32	-	-	-	-	1.0	0.9	-	-	-	-	**1.0**	-	-	-	-	-	-	-	-	-	-	6536	344
799/1/1	F	43	-	0.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7496	248
799/2/1	M	40	-	0.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5696	157
800/1/1	F	63	11.6	**54.9**	**24.1**	**31.2**	**37.5**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
800/2/1	M	63	11.6	**54.9**	**24.1**	**31.2**	**37.5**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
800/3/1	F	30	1.8	9.1	4.9	7.8	5.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
800/4/1	M	32	1.8	9.1	4.9	7.8	5.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
802/1/1	M	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	170	135	-	-	-	-

Notes

U = Unknown

Emboldened observations are the high-rate individuals

[a] Fish consumed from waters within the terrestrial survey area that are potentially affected by gaseous discharges.

Annex 2. Children's and infants' consumption rates (kg y^{-1}) and occupancy rates (h y^{-1}) in the Harwell area

Person ID number	Gender	Age	Green vegetables	Other vegetables	Root vegetables	Potato	Domestic fruit	Cattle meat	Pig meat	Poultry	Eggs	Wild/free foods	Honey	Venison	Freshwater fish[a]	Riverbank occupancy over mud and grass	Occupancy in water	Occupancy on water	Indoor occupancy within 1 km of the licensed site boundary	Outdoor occupancy within 1 km of the licensed site boundary
Child age group (6 - 15 years old)																				
699/4/1	M	8	-	-	-	-	-	-	-	-	-	-	-	-	-	**108**	-	-	-	-
713/4/1	M	15	**4.9**	0.5	2.0	4.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
713/5/1	F	11	**4.9**	0.5	2.0	4.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
713/6/1	F	9	**4.9**	0.5	2.0	4.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
715/2/1	F	8	-	-	-	-	-	-	-	-	-	-	-	-	-	**67**	-	-	-	-
720/2/1	M	13	**13.8**	0.3	**6.3**	2.0	0.7	-	-	-	-	**1.2**	-	-	-	-	-	-	-	-
723/5/1	M	10	**8.7**	3.4	**2.3**	**15.5**	**3.4**	-	-	-	-	-	-	-	-	-	-	-	-	-
723/6/1	M	7	**8.7**	3.4	**2.3**	**15.5**	**3.4**	-	-	-	-	-	-	-	-	-	-	-	-	-
725/5/1	F	12	**7.4**	**14.7**	**4.9**	**10.4**	1.7	-	-	-	-	-	-	-	-	-	-	-	-	-
725/6/1	F	15	**7.4**	**14.7**	**4.9**	**10.4**	1.7	-	-	-	-	-	-	-	-	-	-	-	-	-
726/5/1	F	14	2.4	2.1	-	-	**8.7**	**9.0**	-	-	**8.2**	-	**0.6**	-	-	-	-	-	5345	537
732/3/1	F	10	-	-	-	-	-	-	-	-	-	-	-	-	-	**78**	-	-	-	-
732/4/1	M	7	-	-	-	-	-	-	-	-	-	-	-	-	-	**78**	-	-	-	-
733/3/1	M	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	-	-
733/4/1	M	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	-	-
742/3/1	F	15	-	-	-	-	-	-	-	-	-	-	-	-	**5.2**	-	-	-	-	-
742/4/1	M	10	-	-	-	-	-	-	-	-	-	-	-	-	**5.2**	-	-	-	-	-
748/3/1	F	10	-	-	-	-	-	-	-	**0.2**	-	-	-	-	-	-	-	-	-	-
748/4/1	F	7	-	-	-	-	-	-	-	**0.2**	-	-	-	-	-	-	-	-	-	-

Annex 2. Children's and infants' consumption rates (kg y^{-1}) and occupancy rates (h y^{-1}) in the Harwell area

Person ID number	Gender	Age	Green vegetables	Other vegetables	Root vegetables	Potato	Domestic fruit	Cattle meat	Pig meat	Poultry	Eggs	Wild/free foods	Honey	Venison	Freshwater fish[a]	Riverbank occupancy over mud and grass	Occupancy in water	Occupancy on water	Indoor occupancy within 1 km of the licensed site boundary	Outdoor occupancy within 1 km of the licensed site boundary
750/3/1	F	7	-	0.6	-	0.4	2.8	-	-	-	**13.4**	**1.3**	-	-	-	-	-	-	4819	1348
750/4/1	M	6	-	0.6	-	0.4	2.8	-	-	-	**13.4**	**1.3**	-	-	-	-	-	-	4819	1348
757/3/1	F	8	-	-	-	-	-	2.4	-	-	-	-	-	-	-	-	-	-	5554	313
757/4/1	F	7	-	-	-	-	-	2.4	-	-	-	-	-	-	-	-	-	-	5554	313
758/3/1	M	13	-	-	-	-	-	-	-	-	-	0.3	-	-	-	-	-	-	3957	1097
758/4/1	F	11	-	-	-	-	-	-	-	-	-	0.3	-	-	-	-	-	-	3957	1097
763/3/1	F	10	-	-	-	-	-	-	-	-	-	**1.3**	-	-	-	-	-	-	6697	652
772/4/1	F	15	2.3	3.1	2.0	-	**4.0**	-	-	-	-	0.3	**0.3**	-	-	-	-	-	5152	914
772/5/1	F	12	2.3	3.1	2.0	-	**4.0**	-	-	-	-	0.3	**0.3**	-	-	-	-	-	5152	914
776/3/1	M	10	-	-	-	-	1.2	-	-	-	-	-	-	-	-	-	-	-	-	-
776/4/1	F	13	-	-	-	-	1.2	-	-	-	-	-	-	-	-	-	-	-	-	-
787/1/1	M	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	108	-	-
787/1/2	M	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	108	-	-
787/2/1	M	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	108	-	-
787/2/2	M	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	108	-	-
787/3/1	M	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	108	-	-
787/3/2	M	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	108	-	-
787/4/1	M	13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	108	-	-
787/4/2	M	13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	108	-	-
787/5/1	M	14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	108	-	-

Annex 2. Children's and infants' consumption rates (kg y^{-1}) and occupancy rates (h y^{-1}) in the Harwell area

Person ID number	Gender	Age	Green vegetables	Other vegetables	Root vegetables	Potato	Domestic fruit	Cattle meat	Pig meat	Poultry	Eggs	Wild/free foods	Honey	Venison	Freshwater fish[a]	Riverbank occupancy over mud and grass	Occupancy in water	Occupancy on water	Indoor occupancy within 1 km of the licensed site boundary	Outdoor occupancy within 1 km of the licensed site boundary
787/5/2	M	14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	108	-	-
798/4/1	M	6	-	-	-	-	0.8	0.7	-	-	-	**0.8**	-	-	-	-	-	-	5265	913
799/4/1	F	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	704	78
799/5/1	F	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	704	78
Infant age group (0 - 5 years old)																				
699/3/1	5	F	-	-	-	-	-	-	-	-	-	-	-	-	-	**108**	-	-	-	-
699/5/1	1	F	-	-	-	-	-	-	-	-	-	-	-	-	-	**108**	-	-	-	-
723/7/1	4	F	**5.8**	2.3	1.5	**10.4**	**2.3**	-	-	-	-	-	-	-	-	-	-	-	-	-
725/4/1	2	M	1.8	**3.7**	1.2	2.6	0.4	-	-	-	-	-	-	-	-	-	-	-	-	-
737/9/1	3	M	-	-	-	-	1.3	-	-	**0.6**	**1.5**	0.1	**0.1**	-	-	-	-	-	-	-
737/10/1	2	M	-	-	-	-	1.3	-	-	**0.6**	**1.5**	0.1	**0.1**	-	-	-	-	-	-	-
737/11/1	1	M	-	-	-	-	1.0	-	-	**0.4**	**1.1**	0.1	**0.1**	-	-	-	-	-	-	-
737/12/1	5	F	-	-	-	-	1.3	-	-	**0.6**	**1.5**	0.1	**0.1**	-	-	-	-	-	-	-
754/3/1	4	M	-	-	-	-	**3.2**	-	**8.9**	-	-	**0.9**	-	-	-	-	-	-	-	-
754/4/1	2	M	-	-	-	-	2.1	-	**5.9**	-	-	**0.6**	-	-	-	-	-	-	-	-
757/5/1	3	M	-	-	-	-	-	**1.6**	-	-	-	-	-	-	-	-	-	-	7511	313
757/6/1	1	M	-	-	-	-	-	**0.8**	-	-	-	-	-	-	-	-	-	-	7511	313
759/3/1	4	F	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4894	548
761/3/1	4	M	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	275	25
770/3/1	4	F	-	-	-	-	0.5	-	-	-	-	**0.4**	-	-	-	-	-	-	6708	182

Annex 2. Children's and infants' consumption rates (kg y^{-1}) and occupancy rates (h y^{-1}) in the Harwell area

Person ID number	Gender	Age	Green vegetables	Other vegetables	Root vegetables	Potato	Domestic fruit	Cattle meat	Pig meat	Poultry	Eggs	Wild/free foods	Honey	Venison	Freshwater fish[a]	Riverbank occupancy over mud and grass	Occupancy in water	Occupancy on water	Indoor occupancy within 1 km of the licensed site boundary	Outdoor occupancy within 1 km of the licensed site boundary
770/4/1	2	F	-	-	-	-	0.3	-	-	-	-	0.2	-	-	-	-	-	-	8534	182
779/3/1	5	F	-	-	-	-	-	-	-	**0.2**	-	-	**0.1**	**0.2**	-	-	-	-	6068	351
783/2/1	2	F	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1080	540
783/3/1	2	M	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1080	540
783/4/1	3	F	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1080	540
783/5/1	3	M	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1080	540
783/6/1	4	M	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1080	540
783/7/1	4	F	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1080	540
783/8/1	5	F	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1080	540
783/9/1	5	M	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1080	540
797/6/1	3	M	**7.1**	**7.7**	**8.4**	**8.3**	**6.8**	-	-	-	-	**0.3**	-	-	-	-	-	-	-	-
797/7/1	3	F	**7.1**	**7.7**	**8.4**	**8.3**	**6.8**	-	-	-	-	**0.3**	-	-	-	-	-	-	-	-
798/3/1	4	F	-	-	-	-	0.5	0.5	-	-	-	**0.5**	-	-	-	-	-	-	5265	913
799/3/1	1	M	-	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7496	248
800/5/1	1	F	-	-	-	-	1.5	-	-	-	-	-	-	-	-	-	-	-	-	-

Notes

Emboldened observations are the high-rate individuals

[a] Fish consumed from waters within the terrestrial survey area that are potentially affected by gaseous discharges.

Annex 3. Qualitative and estimated data for use in dose assessments

Details of activity	Exposure pathways involved	Estimated rate	Potential associated exposure pathways
It was reported that coarse fish (such as perch or pike) were being caught by anglers in the aquatic survey area and were occasionally consumed.	Coarse fish consumption from water potentially affected by liquid discharges	1 kg y^{-1} per person (based on the consumption of perch by an angler in the 2007 Harwell habits survey report)	Signal crayfish consumption and riverbank occupancy
It was reported that small quantities of signal crayfish were being consumed. The crayfish were said to be caught in the aquatic survey area in traps set by hobby fishermen or commercial fishermen, and were also caught unintentionally by anglers on their fishing lines.	Signal crayfish consumption from water potentially affected by liquid discharges	1 kg y^{-1} per person (based on the consumption of crayfish by an angler in the 2007 Harwell habits survey report)	Coarse fish consumption, riverbank occupancy and occupancy on water (on a boat)
It was reported that commercial and hobby trapping for signal crayfish was carried out within the survey area. Only a small proportion of the commercial fishing time was said to be spent within the survey area.	Handling of crayfish traps	10 h y^{-1} (based on the fishing times of a hobby fisherman in the 2007 Harwell habits survey report)	Signal crayfish consumption, occupancy on water (on a boat) and riverbank occupancy

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

Group	Ratio[a]	
	Child[e]/adult	Infant[e]/adult
Fish[b]	0.200	0.050
Crustaceans[b]	0.250	0.050
Molluscs[b]	0.250	0.050
Green vegetables	0.444	0.222
Other vegetables	0.500	0.200
Root vegetables	0.500	0.375
Potatoes	0.708	0.292
Domestic fruit	0.667	0.467
Milk	1.000	1.333
Cattle meat	0.667	0.222
Pig meat	0.625	0.138
Sheep meat	0.400	0.120
Poultry	0.500	0.183
Eggs	0.800	0.600
Wild/free foods[c]	0.490	0.110
Game[d]	0.500	0.140
Honey	0.789	0.789
Wild fungi	0.450	0.150
Freshwater fish[b]	0.250	0.050
External exposure over intertidal substrates[b]	0.500	0.030

Notes

[a]Excepting notes b and c, consumption ratios were derived from Byrom et al., (1995) which presented data for infants aged 6 to 12 months and children aged 10 to 11 years.

[b]Ratios were derived from Smith and Jones, (2003) which presented data for infants and children of unspecified ages.

[c]Ratios were derived from FSA data for wild fruit and nuts for infants and 10-year-old children.

[d]Game includes rabbits/hares and venison.

[e]Note that the age ranges within the age groups in this table do not correspond exactly with the age ranges within the age groups used throughout the rest of this report.

Annex 5. Consumption rates (kg y^{-1}) and occupancy rates (h y^{-1}) for women of childbearing age[a] in the Harwell area, for use in foetal dose assessments

Person ID number	Gender	Age	Green vegetables	Other vegetables	Root vegetables	Potato	Domestic fruit	Cattle meat	Pig meat	Sheep meat	Poultry	Eggs	Wild/free foods	Rabbits/hares	Honey	Wild fungi	Venison	Freshwater fish[b]	Riverbank occupancy over mud and grass	Occupancy on water	Indoor occupancy within 1 km of the licensed site boundary	Outdoor occupancy within 1 km of the licensed site boundary
680/1/1	F	U	18.8	6.3	5.4	18.0	18.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
689/5/1	F	30	14.1	20.0	25.3	27.0	1.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
693/4/1	F	U	2.6	19.3	28.4	51.6	5.2	-	-	-	-	-	0.6	-	-	-	-	-	-	-	-	-
693/6/1	F	U	2.6	19.3	28.4	51.6	5.2	-	-	-	-	-	0.6	-	-	-	-	-	-	-	-	-
698/3/1	F	U	5.2	0.4	15.1	12.1	3.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
699/2/1	F	25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	108	-	-	-
706/3/1	F	U	-	-	-	-	1.1	1.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
706/4/1	F	U	-	-	-	-	1.1	1.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
706/5/1	F	U	-	-	-	-	1.1	1.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
706/6/1	F	U	-	-	-	-	1.1	1.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
707/2/1	F	U	8.8	8.0	22.7	22.3	4.1	-	-	-	-	-	1.0	-	-	-	-	-	-	-	-	-
707/4/1	F	U	1.9	1.7	4.9	4.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
707/6/1	F	U	1.9	1.7	4.9	4.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
709/1/1	F	U	-	-	-	-	2.9	-	-	-	16.4	-	1.4	1.2	5.9	0.2	3.0	-	-	-	-	-
722/4/1	F	20	9.0	10.1	1.9	3.0	8.1	-	-	-	-	-	0.3	-	-	-	-	-	-	-	-	-
723/2/1	F	U	42.9	16.9	13.1	76.9	4.9	4.6	-	-	-	8.9	-	-	-	-	-	-	-	-	-	-
723/4/1	F	U	11.5	4.5	3.0	20.7	4.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
725/6/1	F	15	7.4	14.7	4.9	10.4	1.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
726/4/1	F	17	2.4	2.1	-	-	8.7	9.0	-	-	-	8.2	-	-	0.6	-	-	-	-	-	5345	537
732/2/1	F	33	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	78	-	-	-
733/2/1	F	39	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	-	-
734/2/1	F	U	-	-	-	-	0.8	-	-	-	1.2	-	0.2	-	-	0.2	-	-	-	-	-	-
735/1/1	F	U	-	-	-	-	2.0	-	-	0.6	3.1	-	2.0	-	-	-	-	-	-	-	-	-

Annex 5. Consumption rates (kg y^{-1}) and occupancy rates (h y^{-1}) for women of childbearing age[a] in the Harwell area, for use in foetal dose assessments

Person ID number	Gender	Age	Green vegetables	Other vegetables	Root vegetables	Potato	Domestic fruit	Cattle meat	Pig meat	Sheep meat	Poultry	Eggs	Wild/free foods	Rabbits/hares	Honey	Wild fungi	Venison	Freshwater fish[b]	Riverbank occupancy over mud and grass	Occupancy on water	Indoor occupancy within 1 km of the licensed site boundary	Outdoor occupancy within 1 km of the licensed site boundary
737/4/1	F	36	-	2.2	5.2	10.4	3.9	2.8	-	-	1.7	4.5	0.8	-	0.4	-	-	-	-	-	-	-
737/5/1	F	31	-	-	-	-	3.9	2.8	-	-	1.7	4.5	0.8	-	0.4	-	-	-	-	-	-	-
737/7/1	F	37	-	-	-	-	3.9	2.8	-	-	1.7	4.5	0.8	-	0.4	-	-	-	-	-	-	-
738/4/1	F	U	13.4	8.8	9.0	13.7	2.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
738/6/1	F	U	8.9	5.9	6.0	9.1	1.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
740/3/1	F	42	1.4	3.5	5.1	21.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
740/5/1	F	U	1.4	3.5	5.1	21.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
741/2/1	F	U	20.9	24.3	13.6	21.8	15.3	-	-	-	-	22.3	1.4	-	-	-	-	-	-	-	-	-
742/2/1	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.2	-	-	-	-
742/3/1	F	15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.2	-	-	-	-
747/2/1	F	32	-	0.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5715	315
748/1/1	F	U	-	-	-	-	-	-	-	-	0.2	-	-	-	-	-	-	-	-	-	-	-
750/1/1	F	37	-	0.9	-	0.6	3.7	-	-	-	-	17.8	1.7	-	-	-	-	-	-	-	6338	1461
753/3/1	F	16	-	-	-	-	-	13.0	-	13.0	-	-	-	-	-	-	-	-	-	-	-	-
753/4/1	F	19	-	-	-	-	-	13.0	-	13.0	-	-	-	-	-	-	-	-	-	-	-	-
754/1/1	F	36	-	-	-	-	6.7	-	17.9	-	-	-	2.0	-	-	-	-	-	-	-	-	-
755/2/1	F	U	-	-	-	-	-	-	-	-	1.5	-	-	-	-	-	-	-	-	-	-	-
757/2/1	F	37	-	-	-	-	-	3.2	-	-	-	-	-	-	-	-	-	-	-	-	7358	313
764/1/1	F	27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4991	1305
767/2/1	F	36	-	-	-	26.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5178	287
768/2/1	F	24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5449	182
770/1/1	F	25	-	-	-	-	1.1	-	-	-	-	-	0.7	-	-	-	-	-	-	-	7094	182
771/3/1	F	16	-	-	-	-	-	3.2	-	3.2	-	-	-	-	-	-	-	-	-	-	4592	391

Annex 5. Consumption rates (kg y^{-1}) and occupancy rates (h y^{-1}) for women of childbearing age[a] in the Harwell area, for use in foetal dose assessments

Person ID number	Gender	Age	Green vegetables	Other vegetables	Root vegetables	Potato	Domestic fruit	Cattle meat	Pig meat	Sheep meat	Poultry	Eggs	Wild/free foods	Rabbits/hares	Honey	Wild fungi	Venison	Freshwater fish[b]	Riverbank occupancy over mud and grass	Occupancy on water	Indoor occupancy within 1 km of the licensed site boundary	Outdoor occupancy within 1 km of the licensed site boundary
772/2/1	F	42	2.3	3.1	2.0	-	4.0	-	-	-	-	-	0.3	-	0.3	-	-	-	-	-	5152	914
772/4/1	F	15	2.3	3.1	2.0	-	4.0	-	-	-	-	-	0.3	-	0.3	-	-	-	-	-	5152	914
775/2/1	F	U	18.9	4.7	23.6	-	25.8	13.0	13.0	13.0	-	17.8	-	-	2.7	-	-	-	-	-	-	-
776/1/1	F	U	-	-	-	-	6.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
777/3/1	F	U	-	-	-	-	-	-	-	-	1.8	-	-	-	0.5	-	1.0	-	-	-	-	-
778/1/1	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5280	-	-
779/2/1	F	44	-	-	-	-	-	-	-	-	0.4	-	-	-	0.2	-	0.4	-	-	-	6018	526
781/2/1	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1778	202
781/2/2	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1778	202
781/2/3	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1778	202
781/2/4	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1778	202
781/2/5	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1778	202
782/2/1	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1592	318
782/2/2	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1592	318
782/2/3	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1592	318
782/2/4	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1592	318
782/2/5	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1592	318
783/1/1	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1395	465
783/1/2	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1395	465
783/1/3	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1395	465
783/1/4	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1395	465
783/1/5	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1395	465
783/1/6	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1395	465

Annex 5. Consumption rates (kg y^{-1}) and occupancy rates (h y^{-1}) for women of childbearing age[a] in the Harwell area, for use in foetal dose assessments

Person ID number	Gender	Age	Green vegetables	Other vegetables	Root vegetables	Potato	Domestic fruit	Cattle meat	Pig meat	Sheep meat	Poultry	Eggs	Wild/free foods	Rabbits/hares	Honey	Wild fungi	Venison	Freshwater fish[b]	Riverbank occupancy over mud and grass	Occupancy on water	Indoor occupancy within 1 km of the licensed site boundary	Outdoor occupancy within 1 km of the licensed site boundary
783/1/7	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1395	465
783/1/8	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1395	465
783/1/9	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1395	465
783/1/10	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1395	465
784/2/1	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1738	198
784/2/2	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1738	198
784/2/3	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1738	198
784/2/4	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1738	198
784/2/5	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1738	198
784/2/6	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1738	198
784/2/7	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1738	198
784/2/8	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1738	198
784/4/1	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1210	132
784/4/2	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1210	132
785/1/1	F	U	-	-	-	-	-	-	-	-	-	-	-	-	4.0	-	-	-	-	-	-	-
785/1/2	F	U	-	-	-	-	-	-	-	-	-	-	-	-	4.0	-	-	-	-	-	-	-
785/1/3	F	U	-	-	-	-	-	-	-	-	-	-	-	-	4.0	-	-	-	-	-	-	-
786/2/1	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1694	198
786/2/2	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1694	198
786/2/3	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1694	198
786/2/4	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1694	198
786/2/5	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1694	198
786/5/1	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	772	68

Annex 5. Consumption rates (kg y^{-1}) and occupancy rates (h y^{-1}) for women of childbearing age[a] in the Harwell area, for use in foetal dose assessments

Person ID number	Gender	Age	Green vegetables	Other vegetables	Root vegetables	Potato	Domestic fruit	Cattle meat	Pig meat	Sheep meat	Poultry	Eggs	Wild/free foods	Rabbits/hares	Honey	Wild fungi	Venison	Freshwater fish[b]	Riverbank occupancy over mud and grass	Occupancy on water	Indoor occupancy within 1 km of the licensed site boundary	Outdoor occupancy within 1 km of the licensed site boundary
788/1/1	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1056	88
788/1/2	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1056	88
788/1/3	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1056	88
788/1/4	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1056	88
788/1/5	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1056	88
788/3/1	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1672	88
788/4/1	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1056	88
788/4/2	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1056	88
788/4/3	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1056	88
788/4/4	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1056	88
788/4/5	F	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1056	88
789/5/1	F	17	1.8	9.6	0.4	36.4	2.2	-	-	-	-	-	0.2	-	-	-	-	-	-	-	-	-
797/4/1	F	39	14.3	15.4	27.3	16.7	13.6	-	-	-	-	-	0.7	-	-	-	-	-	-	-	-	-
798/2/1	F	32	-	-	-	-	1.0	0.9	-	-	-	-	1.0	-	-	-	-	-	-	-	6536	344
799/1/1	F	43	-	0.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7496	248
800/3/1	F	30	1.8	9.1	4.9	7.8	5.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Notes

U = Unknown

[a] Based on National Statistics guidelines, women were deemed to be of childbearing age if they were between 15 and 44 years old. Women of unknown age were included as they were potentially women of childbearing age.

[b] Fish consumed from waters within the terrestrial survey area that are potentially affected by gaseous discharges.

Annex 6. Summary of profiles for adults in the Harwell area for use in the assessment of total dose

Profile Name	Number of individuals	Crustaceans - Affected by liquid discharges	Direct	Eggs	Fish - Affected by liquid discharges	Fish - Affected by gaseous discharges	Fruit - Domestic	Fruit and nuts - Wild	Gamma ext - Riverbank	Honey	Meat - Cow	Meat - Game	Meat - Pig	Meat - Poultry	Meat - Sheep	Mushrooms	Occupancy in close proximity (<1 m) to sewage	Occupancy in close proximity (< 3 m) to sewage sludge and sewage cake	Occupancy IN water	Occupancy ON water	Plume (IN; 0-0.25km)	Plume (MID; >0.25-0.5km)	Plume (OUT; >0.5-1km)	Vegetables - Green	Vegetables - Other Domestic	Vegetables - Potatoes	Vegetables - Root
Notes:		1	2		1	3			4			5									6	6	6				
Units:		kg	-	kg	kg	kg	kg	kg	h	kg	kg	kg	kg	kg	kg	kg	h	h	h	h	h	h	h	kg	kg	kg	kg
Consumers of Crustaceans Affected by Liquid Discharges	**1**	1.0	-	-	1.0	-	-	-	300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Occupants for Direct Radiation	**144**	-	1.00	1.3	-	-	0.74	0.14	-	0.03	0.85	<0.01	-	<0.01	0.38	0.01	-	-	-	-	1220	730	1760	0.14	0.47	0.55	0.18
Egg Consumers	**33**	-	0.42	13.2	-	0.03	10.5	0.79	-	0.26	7.3	-	0.79	0.35	5.9	-	-	-	-	-	460	440	2090	8.7	5.7	13.6	10.7
Consumers of Fish Affected by Liquid Discharges	**1**	1.0	-	-	1.0	-	-	-	300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Consumers of Fish Affected by Gaseous Discharges	**2**	-	-	-	-	7.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Domestic Fruit Consumers	**18**	-	-	6.4	-	-	25.3	0.95	-	0.30	8.6	-	1.4	0.44	7.9	-	-	-	-	-	-	-	-	12.1	16.9	12.5	16.9
Wild Fruit and Nut Consumers	**46**	-	0.22	4.4	-	0.02	7.0	1.5	-	0.37	3.0	0.18	0.78	1.4	2.1	0.03	-	-	-	-	-	-	1500	4.4	5.0	7.0	6.7
Occupants over Riverbank	**8**	0.13	-	-	0.13	-	-	-	490	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Honey Consumers	**10**	-	-	3.6	-	-	5.8	0.27	-	4.1	2.6	0.84	2.6	4.1	2.6	0.05	-	-	-	-	-	-	-	3.8	0.94	-	4.7
Cattle Meat Consumers	**14**	-	0.29	7.0	-	-	15.5	0.65	-	0.39	18.3	-	1.9	0.57	16.4	-	-	-	-	-	-	750	940	2.8	2.4	1.3	3.8
Game Meat Consumers	**7**	-	-	-	-	-	2.1	0.45	-	1.7	-	4.2	-	7.8	5.7	0.19	-	-	-	-	-	-	-	0.93	5.8	11.4	7.9
Pig Meat Consumers	**4**	-	-	8.9	-	-	16.3	1.0	-	1.4	6.5	-	15.5	2.0	6.5	-	-	-	-	-	-	-	-	9.4	2.4	-	11.8
Poultry Meat Consumers	**5**	-	-	3.6	-	-	6.3	0.54	-	2.9	2.6	2.9	2.6	11.8	2.6	0.09	-	-	-	-	-	-	-	4.7	8.1	12.3	15.3
Sheep Meat Consumers	**14**	-	0.14	6.4	-	-	15.5	0.68	-	0.39	16.4	0.86	1.9	0.57	18.8	0.06	-	-	-	-	-	-	940	2.8	2.4	1.3	3.8
Mushroom Consumers	**10**	-	0.40	0.41	-	-	1.6	0.54	-	1.2	0.88	2.0	-	3.5	3.4	0.37	-	-	-	-	-	-	2940	-	1.6	-	0.20
Occupants in close proximity (<1 m) to sewage	**1**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	170	140	-	-	-	-	-	-	-	-	-
Occupants in close proximity (< 3 m) to sewage sludge and sewage cake	**1**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	170	140	-	-	-	-	-	-	-	-	-
Occupants IN Water	**2**	-	-	-	-	-	-	-	120	-	-	-	-	-	-	-	-	-	13	52	-	-	-	-	-	-	-
Occupants ON Water	**2**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4970	-	-	-	-	-	-	-
Occupants for Plume Pathways (0 - 0.25 km)	**11**	-	1.00	3.2	-	-	-	-	-	0.04	0.58	-	-	-	-	-	-	-	-	-	6480	-	-	-	-	4.7	-
Occupants for Plume Pathways (>0.25 - 0.5 km)	**10**	-	1.00	2.6	-	-	0.95	0.15	-	-	2.7	-	-	-	0.11	-	-	-	-	-	-	6880	-	-	-	-	-
Occupants for Plume Pathways (>0.5 - 1.0 km)	**38**	-	1.00	3.1	-	-	2.5	0.50	-	0.11	2.3	0.02	-	0.02	1.4	0.05	-	-	-	-	-	-	6610	0.50	1.7	0.70	0.69
Green Vegetable Consumers	**19**	-	-	8.9	-	-	7.7	0.50	-	0.29	3.3	-	1.4	0.42	1.4	-	-	-	-	-	-	-	-	21.4	9.7	31.1	19.7
Other Domestic Vegetable Consumers	**19**	-	-	4.7	-	-	11.2	0.57	-	-	0.45	-	-	-	0.45	-	-	-	-	-	-	-	-	11.2	24.5	36.4	23.9
Potato Consumers	**31**	-	0.06	4.3	-	-	5.5	0.29	-	-	0.86	0.19	-	0.59	0.28	-	-	-	-	-	350	-	-	10.6	15.9	39.7	20.6
Root Vegetable Consumers	**44**	-	-	4.8	-	-	9.0	0.51	-	0.12	1.5	0.14	0.59	0.60	0.79	-	-	-	-	-	-	-	-	13.0	16.2	29.9	23.7

Notes:

1. Estimated consumption rates of crustaceans and fish potentially affected by liquid discharges, which represents a hypothetical angler consuming these species from the aquatic survey area and spending 300 $h\ y^{-1}$ on the riverbank. See Annex 3.
2. Expressed as the proportion of the profile members who are exposed to direct radiation.
3. Fish consumed from waters within the terrestrial survey area that are potentially affected by gaseous discharges.
4. 'Gamma ext - Riverbank' includes occupancy over mud and grass. Includes a hypothetical angler spending 300 $h\ y^{-1}$ on the riverbank and consuming crustaceans and fish from water potentially affected by liquid discharges.
5. 'Meat - Game' includes consumption of venison and rabbits/hares.
6. Plume times are the sums of individuals' indoor and outdoor occupancy rates in each of the direct radiation zones.

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

Annex 7. Summary of profiles for the child age group (6 - 15 years old) in the Harwell area for use in the assessment of total dose

Profile Name	Number of individuals	Direct	Eggs	Fish - Affected by gaseous discharges	Fruit - Domestic	Fruit and nuts - Wild	Gamma ext - Riverbank	Honey	Meat - Cow	Meat - Poultry	Occupancy IN water	Occupancy ON water	Plume (IN; 0-0.25km)	Plume (MID; >0.25-0.5km)	Plume (OUT; >0.5-1km)	Vegetables - Green	Vegetables - Other Domestic	Vegetables - Potatoes	Vegetables - Root
Notes:		1		2			3						4	4	4				
Units:		-	kg	kg	kg	kg	h	kg	kg	kg	h	h	h	h	h	kg	kg	kg	kg
Occupants for Direct Radiation	**13**	1.00	2.7	-	1.8	0.44	-	0.10	1.1	-	-	-	900	780	3500	0.54	0.73	0.07	0.31
Egg Consumers	**3**	1.00	11.7	-	4.8	0.86	-	0.21	3.0	-	-	-	-	-	6070	0.79	1.1	0.29	-
Consumers of Fish Affected by Gaseous Discharges	**2**	-	-	5.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Domestic Fruit Consumers	**5**	0.60	1.6	-	4.7	0.11	-	0.25	1.8	-	-	-	-	-	3600	4.9	3.0	6.2	1.7
Wild Fruit and Nut Consumers	**5**	0.80	5.3	-	1.4	1.2	-	-	0.14	-	-	-	-	-	5170	2.8	0.32	0.57	1.3
Occupants over Riverbank	**4**	-	-	-	-	-	83	-	-	-	-	-	-	-	-	-	-	-	-
Honey Consumers	**3**	1.00	2.7	-	5.6	0.18	-	0.42	3.0	-	-	-	-	-	6000	2.3	2.7	-	1.3
Cattle Meat Consumers	**1**	1.00	8.2	-	8.7	-	-	0.63	9.0	-	-	-	-	-	5880	2.4	2.1	-	-
Poultry Meat Consumers	**2**	-	-	-	-	-	-	-	-	0.21	-	-	-	-	-	-	-	-	-
Occupants IN Water	**10**	-	-	-	-	-	-	-	-	-	4	110	-	-	-	-	-	-	-
Occupants ON Water	**10**	-	-	-	-	-	-	-	-	-	4	110	-	-	-	-	-	-	-
Occupants for Plume Pathways (0 - 0.25 km)	**2**	1.00	-	-	-	-	-	-	2.4	-	-	-	5870	-	-	-	-	-	-
Occupants for Plume Pathways (>0.25 - 0.5 km)	**2**	1.00	-	-	-	0.25	-	-	-	-	-	-	-	5050	-	-	-	-	-
Occupants for Plume Pathways (>0.5 - 1.0 km)	**7**	1.00	5.0	-	3.3	0.74	-	0.18	1.4	-	-	-	-	-	6270	0.99	1.4	0.12	0.58
Green Vegetable Consumers	**8**	-	-	-	1.4	0.15	-	-	-	-	-	-	-	-	-	7.6	4.8	8.5	3.3
Other Domestic Vegetable Consumers	**2**	-	-	-	1.7	-	-	-	-	-	-	-	-	-	-	7.4	14.7	10.4	4.9
Potato Consumers	**4**	-	-	-	2.6	-	-	-	-	-	-	-	-	-	-	8.0	9.1	13.0	3.6
Root Vegetable Consumers	**5**	-	-	-	2.2	0.23	-	-	-	-	-	-	-	-	-	9.2	7.3	10.8	4.1

Notes:

1. Expressed as the proportion of the profile members who are exposed to direct radiation.
2. Fish consumed from waters within the terrestrial survey area that are potentially affected by gaseous discharges.
3. 'Gamma ext - Riverbank' includes occupancy over mud and grass.
4. Plume times are the sums of individuals' indoor and outdoor occupancy rates in each of the direct radiation zones.

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

Annex 8. Summary of profiles for the infant age group (0 - 5 years old) in the Harwell area for use in the assessment of total dose

		Pathway Name																
	Number of individuals	Direct	Eggs	Fruit - Domestic	Fruit and nuts - Wild	Gamma ext - Riverbank	Honey	Meat - Cow	Meat - Game	Meat - Pig	Meat - Poultry	Plume (IN; 0-0.25km)	Plume (MID; >0.25-0.5km)	Plume (OUT; >0.5-1km)	Vegetables - Green	Vegetables - Other Domestic	Vegetables - Potatoes	Vegetables - Root
Notes:		1				2			3			4	4	4				
Profile Name	Units:	-	kg	kg	kg	h	kg	kg	kg	kg	kg	h	h	h	kg	kg	kg	kg
Occupants for Direct Radiation	**17**	1.00	-	0.08	0.06	-	<0.01	0.17	0.01	-	0.01	1680	18	2430	-	0.01	-	-
Egg Consumers	**4**	-	1.4	1.2	0.07	-	0.12	-	-	-	0.54	-	-	-	-	-	-	-
Domestic Fruit Consumers	**4**	-	-	4.8	0.39	-	-	-	-	2.2	-	-	-	-	5.0	4.4	6.8	4.6
Wild Fruit and Nut Consumers	**6**	0.33	-	3.3	0.50	-	-	0.08	-	2.5	-	-	-	2180	2.4	2.6	2.8	2.8
Occupants over Riverbank	**2**	-	-	-	-	110	-	-	-	-	-	-	-	-	-	-	-	-
Honey Consumers	**5**	0.20	1.1	0.96	0.05	-	0.12	-	0.04	-	0.48	-	-	1280	-	-	-	-
Cattle Meat Consumers	**2**	1.00	-	-	-	-	-	1.2	-	-	-	7820	-	-	-	-	-	-
Game Meat Consumers	**1**	1.00	-	-	-	-	0.09	-	0.18	-	0.22	-	-	6420	-	-	-	-
Pig Meat Consumers	**2**	-	-	2.7	0.73	-	-	-	-	7.4	-	-	-	-	-	-	-	-
Poultry Meat Consumers	**5**	0.20	1.1	0.96	0.05	-	0.12	-	0.04	-	0.48	-	-	1280	-	-	-	-
Occupants for Plume Pathways (0 - 0.25 km)	**2**	1.00	-	-	-	-	-	1.2	-	-	-	7820	-	-	-	-	-	-
Occupants for Plume Pathways (>0.25 - 0.5 km)	**1**	1.00	-	-	-	-	-	-	-	-	-	-	300	-	-	-	-	-
Occupants for Plume Pathways (>0.5 - 1.0 km)	**6**	1.00	-	0.23	0.18	-	0.02	0.08	0.03	-	0.04	-	-	6900	-	0.03	-	-
Green Vegetable Consumers	**3**	-	-	5.3	0.22	-	-	-	-	-	-	-	-	-	6.7	5.9	9.0	6.1
Other Domestic Vegetable Consumers	**3**	-	-	4.7	0.22	-	-	-	-	-	-	-	-	-	5.4	6.4	6.4	6.0
Potato Consumers	**3**	-	-	5.3	0.22	-	-	-	-	-	-	-	-	-	6.7	5.9	9.0	6.1
Root Vegetable Consumers	**2**	-	-	6.8	0.33	-	-	-	-	-	-	-	-	-	7.1	7.7	8.3	8.4

Notes:

1. Expressed as the proportion of the profile members who are exposed to direct radiation.
2. 'Gamma ext - Riverbank' includes occupancy over mud and grass.
3. 'Meat - Game' includes consumption of venison.
4. Plume times are the sums of individuals' indoor and outdoor occupancy rates in each of the direct radiation zones.

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

Annex 9. Summary of profiles for women of childbearing age in the Harwell area, for use in the assessment of total dose to the foetus

Profile Name	Number of individuals	Direct	Eggs	Fish - Affected by gaseous discharges	Fruit - Domestic	Fruit and nuts - Wild	Gamma ext - Riverbank	Honey	Meat - Cow	Meat - Game	Meat - Pig	Meat - Poultry	Meat - Sheep	Mushrooms	Occupancy ON water	Plume (IN; 0-0.25km)	Plume (MID; >0.25-0.5km)	Plume (OUT; >0.5-1km)	Vegetables - Green	Vegetables - Other Domestic	Vegetables - Potatoes	Vegetables - Root
Notes:		1		2			3			4						5	5	5				
Units:		-	kg	kg	kg	kg	h	kg	kg	kg	kg	kg	kg	kg	h	h	h	h	kg	kg	kg	kg
Occupants for Direct Radiation	**61**	1.00	0.43	-	0.37	0.07	-	0.02	0.27	<0.01	-	<0.01	0.05	-	-	1320	400	1070	0.11	0.17	0.44	0.07
Egg Consumers	**5**	0.40	15.0	-	11.7	0.62	-	0.67	5.3	-	2.6	-	2.6	-	-	-	-	2740	17.0	9.8	19.9	10.1
Consumers of Fish Affected by Gaseous Discharges	**2**	-	-	5.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Domestic Fruit Consumers	**5**	0.20	9.7	-	16.4	0.41	-	0.67	4.4	-	2.6	-	2.6	-	-	-	-	1180	15.0	10.6	11.3	14.0
Wild Fruit and Nut Consumers	**11**	0.27	4.9	-	4.4	1.2	-	0.64	0.86	0.38	1.6	2.2	0.05	0.02	-	-	-	2000	2.7	3.2	5.0	3.8
Occupants over Riverbank	**2**	-	-	-	-	-	93	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Honey Consumers	**5**	-	3.6	-	5.8	0.27	-	4.1	2.6	0.84	2.6	3.3	2.6	0.05	-	-	-	-	3.8	0.94	-	4.7
Cattle Meat Consumers	**5**	0.20	7.0	-	7.9	-	-	0.67	10.5	-	2.6	-	7.8	-	-	-	-	1180	12.8	4.7	15.4	7.4
Game Meat Consumers	**1**	-	-	-	2.9	1.4	-	5.9	-	4.2	-	16.4	-	0.23	-	-	-	-	-	-	-	-
Pig Meat Consumers	**2**	-	8.9	-	16.3	1.0	-	1.4	6.5	-	15.5	-	6.5	-	-	-	-	-	9.4	2.4	-	11.8
Poultry Meat Consumers	**1**	-	-	-	2.9	1.4	-	5.9	-	4.2	-	16.4	-	0.23	-	-	-	-	-	-	-	-
Sheep Meat Consumers	**3**	-	5.9	-	8.6	-	-	0.91	13.0	-	4.3	-	13.0	-	-	-	-	-	6.3	1.6	-	7.9
Mushroom Consumers	**2**	-	-	-	1.9	0.79	-	3.0	-	2.1	-	8.8	-	0.23	-	-	-	-	-	-	-	-
Occupants ON Water	**1**	-	-	-	-	-	-	-	-	-	-	-	-	-	5280	-	-	-	-	-	-	-
Occupants for Plume Pathways (0 - 0.25 km)	**3**	1.00	-	-	-	-	-	-	1.1	-	-	-	-	-	-	6260	-	-	-	-	8.7	-
Occupants for Plume Pathways (>0.25 - 0.5 km)	**1**	1.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6300	-	-	-	-	-
Occupants for Plume Pathways (>0.5 - 1.0 km)	**10**	1.00	2.6	-	2.2	0.40	-	0.14	1.3	0.04	-	0.04	0.32	-	-	-	-	6530	0.70	1.1	0.06	0.40
Green Vegetable Consumers	**4**	-	12.3	-	16.1	0.34	-	0.68	4.4	-	3.3	-	3.3	-	-	-	-	-	25.4	13.0	29.2	14.0
Other Domestic Vegetable Consumers	**11**	-	2.8	-	6.0	0.33	-	-	0.42	-	-	-	-	-	-	-	-	-	11.9	15.2	28.8	14.3
Potato Consumers	**6**	0.17	1.5	-	3.2	0.23	-	-	0.77	-	-	-	-	-	-	910	-	-	10.7	14.2	44.9	15.9
Root Vegetable Consumers	**9**	-	5.4	-	8.8	0.47	-	0.30	2.0	-	1.4	-	1.4	-	-	-	-	-	14.5	14.3	31.1	22.0

Notes:

1. Expressed as the proportion of the profile members who are exposed to direct radiation.
2. Fish consumed from waters within the terrestrial survey area that are potentially affected by gaseous discharges.
3. 'Gamma ext - Riverbank' includes occupancy over mud and grass.
4. 'Meat - Game' includes consumption of venison and rabbits/hares.
5. Plume times are the sums of individuals' indoor and outdoor occupancy rates in each of the direct radiation zones.

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

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