Centre for Environment Fisheries & Aquaculture Science

Cefas

Radiological Habits Survey: Sellafield, 2023

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1. Key Points

- The last habits survey completed around the Sellafield nuclear site was in 2018. At the time of publishing, the 2018 Sellafield report could be accessed via www.cefas.co.uk/expertise/surveys/habits.
- Several Nephrops vessels based part-time at Whitehaven Harbour temporarily re-located and fished out of Scottish harbours in 2023. This was due to the more productive prawn fishing areas in Scottish waters.
- In 2023, there was a significant decrease in the consumption rates of crustaceans, molluscs and wildfowl. This was due to a small number of high-rate people from the last survey in 2018 who were no longer consuming these foods in 2023.
- Beef cattle, sheep and dairy cattle were grazing on salt marsh in the aquatic survey area, and beef, lamb and milk were consumed. The consumption of these foods had not previously been identified.
- The activities being undertaken on intertidal substrates in 2023 were broadly similar to those identified in 2018. However, there were significant increases in occupancy rates, including over mud and sand, over rock, and over stones, in 2023.
- In the terrestrial area in 2023, there was a significant increase in the consumption rates of venison. Conversely, there was a significant decrease in consumption rates for other vegetables, potato, domestic fruit and poultry.
- The number of properties in the direct radiation survey area was the same as the previous survey.
- The direct radiation maximum occupancy rates were broadly similar in 2023 compared with the previous survey, except for a slight increase in the >0.25 – 0.5 km zone indoor occupancy rate.

2. Summary

This report presents the results of a survey conducted in 2023 to determine the habits and consumption patterns of people living, working and pursuing recreational activities in the vicinity of the Sellafield nuclear licensed site. The survey was expanded to include the Low Level Waste Repository (LLWR) nuclear site, due to its proximity to the Sellafield site (approximately 5 km between the site centres). However, separate reports have been produced to provide data for dose assessments for each site. The survey was undertaken on behalf of the Environment Agency (EA), the Food Standards Agency (FSA) and the Office for Nuclear Regulation (ONR) in order to support their respective roles in protecting the public from exposure to radiation.

The Sellafield site ceased fuel reprocessing at the Magnox Reprocessing Plant in July 2022, following which, the focus was on clean up and decommissioning. The site discharges liquid radioactive wastes into the Irish Sea, gaseous radioactive wastes via stacks to the atmosphere, and contains sources of direct radiation.

The fieldwork was carried out over three types of survey area: an aquatic survey area relating to liquid discharges; a terrestrial survey area relating to the deposition of gaseous discharges; and a direct radiation survey area relating to ionising radiation emanating directly from the site. The aquatic survey area was the same for the Sellafield and LLWR sites and the terrestrial survey areas for both sites overlapped. Therefore, data for these areas were identical in both reports. The occupancy data collected from the direct radiation survey area are also applicable to inhalation and external exposure arising from gaseous releases from the site.

The following potential exposure pathways were investigated:

- The consumption of food from the aquatic survey area.
- Activities and occupancy over intertidal substrates.
- The handling of fishing gear and sediment.
- Activities and occupancy in and on water.
- The use of seaweed as a fertiliser or animal feed.
- The consumption of food from the terrestrial survey areas.
- The use and destination of produce originating from the survey areas.
- The consumption and use of groundwater and surface water in the terrestrial survey areas.
- Activities and occupancy within the direct radiation survey areas.
- Any new or unusual exposure pathways.

The nuclear site operator was asked about the potential transfer of contamination off-site by wildlife since radionuclides could enter the food chain or contaminate the environment through this pathway. Further details can be found in Section 7.3.

Mud rescue training undertaken by the Royal National Lifeboat Institution (RNLI) and the Maritime Coastguard Agency (MCA) at Ravenglass was also included in the survey at the request of the EA.

Information was collected from members of the public by means of interviews, and the data obtained for 562 individuals are presented and discussed. High rates of consumption, occupancy over intertidal substrates, and handling of sediment and fishing gear are identified using established methods comprising (a) a ‘cut-off’ to define the high-rate group and (b) 97.5th percentiles. The rates 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 (Figure 5) was defined as the intertidal areas between Parton and Tarn Bay and the adjacent sea area up to 11 km offshore.

The main commercial fishery in the area was potting for crab and lobster. Trawling for Nephrops and mixed fish species was also undertaken but it was reported that the Nephrops catch had declined in recent years. Hobby fishing (setting lines from the shore and potting) and boat angling were popular. The collection of molluscs from the shore has continued to decline. Shore angling was popular and angling clubs held regular competitions in the area.

Activities taking place on intertidal areas included angling, dog walking, walking, collecting litter, rock pooling, rescue duties, collecting samphire, undertaking bird surveys and tending livestock. Collecting litter from the shore had increased significantly in recent years. Wildfowling took place in the Ravenglass Estuary and at Newbiggin Marsh. The RNLI and the MCA used the intertidal areas at Ravenglass for training.

The terrestrial survey area

The terrestrial survey area (Figure 6) covered the land within 5 km from the approximate centre of the Sellafield site. The land is primarily agricultural. Interviews were conducted at 25 working farms, where milk, beef, lamb, pork and arable crops were produced commercially. Grass (for haylage and silage), fodder beet and barley were grown for animal feed. Arable crops were not being produced for human consumption. No smallholdings were identified.

One allotment site was identified within the terrestrial survey area where a wide variety of fruit and vegetables were grown. A small number of private gardens were identified growing produce. Eight beekeepers were identified who kept hives in the survey area and the consumption of honey was recorded. Game shooting was identified taking place on farmland in the terrestrial survey area, with pheasant, partridge, hare, rabbit, wood pigeon and venison being consumed by the farming families. Wild foods including blackberries, mushrooms and sloes were collected and consumed.

Foods from the terrestrial survey area were consumed from the following 16 food groups: green vegetables; other vegetables; root vegetables; potato; domestic fruit; milk; cattle meat; sheep meat; poultry; eggs; wild/free foods; rabbits/hares; honey; wild fungi; venison; freshwater fish. 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 nine food groups: green vegetables; root vegetables; potato; milk; cattle meat; sheep meat; eggs; rabbits/hares; honey.

The human consumption of spring water was identified at one residence, no other groundwater consumption was identified. Livestock were identified drinking mains water, spring water and some had access to streams.

The nuclear site operator was asked about the potential transfer of contamination off-site by wildlife since radionuclides could enter the food chain or contaminate the environment through this pathway. The Sellafield representatives reported that gulls and pigeons were nesting on site building roofs and could access the open ponds. However, since more work was being undertaken around the ponds, it was anticipated that birds will be deterred from landing in the area.

The direct radiation survey area

The direct radiation survey area (Figure 7) covered the land and sea within 1 km of the Sellafield nuclear licensed site boundary. The occupancy data collected from the direct radiation survey area are also applicable to inhalation and external exposure pathways arising from gaseous releases from the site.

The occupancy rates were analysed in zones according to the distance from the nuclear licensed site boundary. The zones were 0 – 0.25 km, >0.25 – 0.5 km and >0.5 – 1.0 km. In all zones, the highest indoor, outdoor and total occupancy rates were for residents.

Gamma dose rates were measured indoors and outdoors at most of the properties where interviews were conducted in the direct radiation survey area. Background readings were taken over grass at distances beyond 5 km from the Sellafield site centre. Of the 11 measurements taken indoors at locations within the direct radiation survey area, seven readings were higher than the maximum background reading. The measurements taken inside properties are expected to be higher than those taken outdoors because building materials and ground type can increase the gamma dose rates. Of the 14 measurements taken outdoors at locations within the direct radiation survey area, one reading was higher than the maximum background reading.

Comparisons with the previous surveys

Comparisons were made (for adult data only) with the results from the previous habits survey undertaken at Sellafield in 2018. Reasons for changes in the consumption and occupancy rates were identified for certain pathways and these are presented in Section 10 of the report.

There were notable changes in the consumption of foods from the aquatic survey area (Figure 1). The mean consumption rates decreased significantly for crustaceans, molluscs and wildfowl in 2023. The consumption of beef, lamb and milk from cattle that were grazed on salt marsh was identified in 2023 but not in 2018. The consumption of wild fungi that were collected from salt marsh was identified in 2018 but not in 2023.

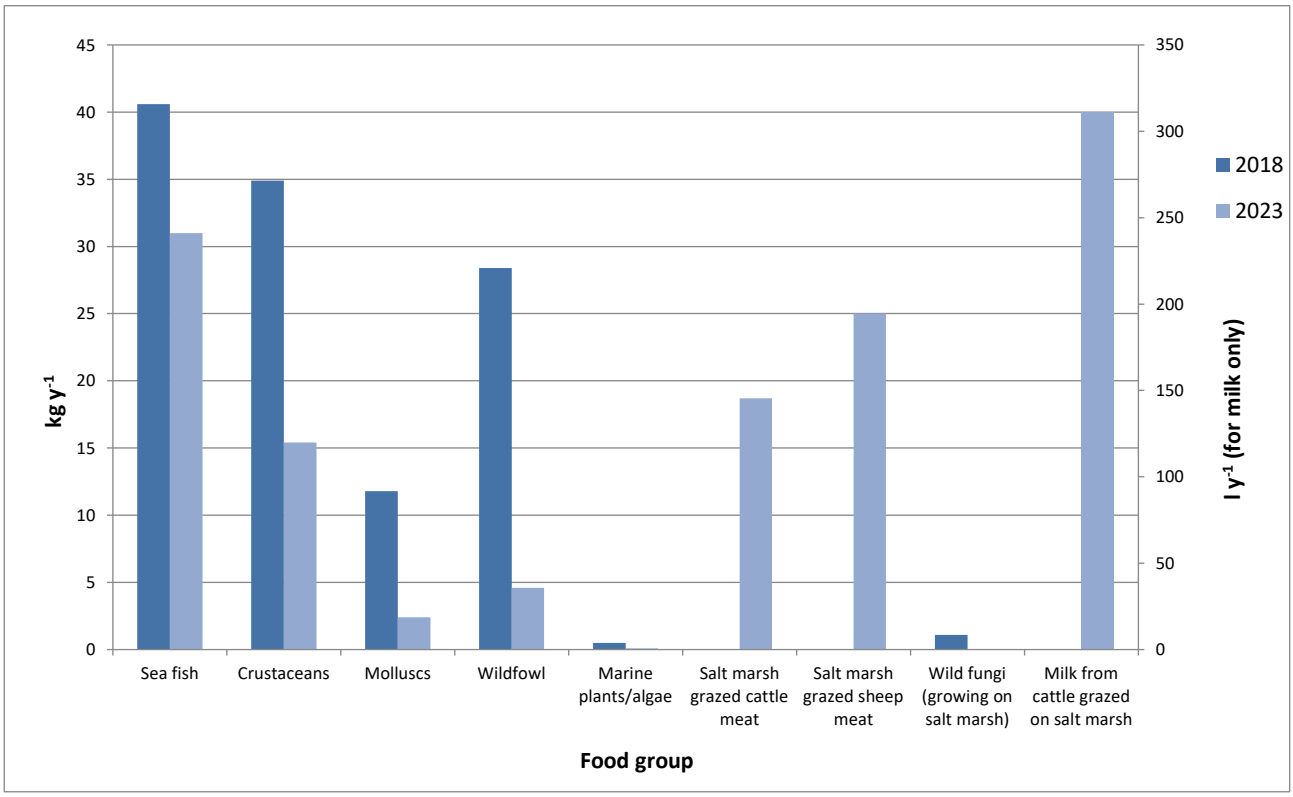

Figure 1. Comparison between 2018 and 2023 mean rates for the high-rate groups for aquatic foods

There were significant changes in occupancy over intertidal substrates in 2023 (Figure 2). The most significant increases in 2023 were for occupancy over the following substrates: mud and sand; rock; salt marsh; sand and stones; stones. Time spent on a boat resting on mud was not identified in 2023.

The most notable changes in the consumption of foods from the terrestrial survey area in 2023 were the increased consumption rates of venison and sheep meat, and the decrease in the consumption rates of green vegetables, other vegetables, potato, domestic fruit, and poultry compared with 2018 (Figure 3).

The maximum occupancy rates in the direct radiation survey area in 2023 were broadly similar to those in 2018 (Figure 4), except for an increase in the maximum indoor occupancy rate in the >0.25 – 0.5 km zone in 2023.

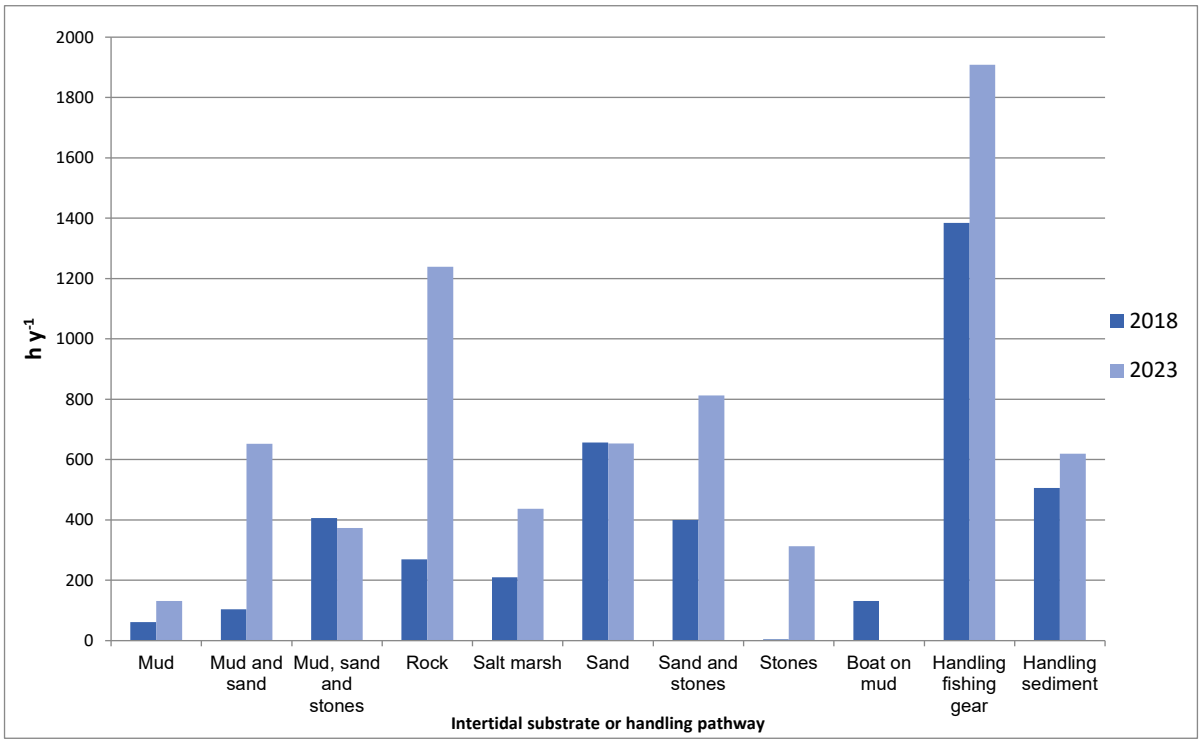

Figure 2. Comparison between 2018 and 2023 mean rates for the high-rate groups for occupancy over intertidal substrates, and handling pathways

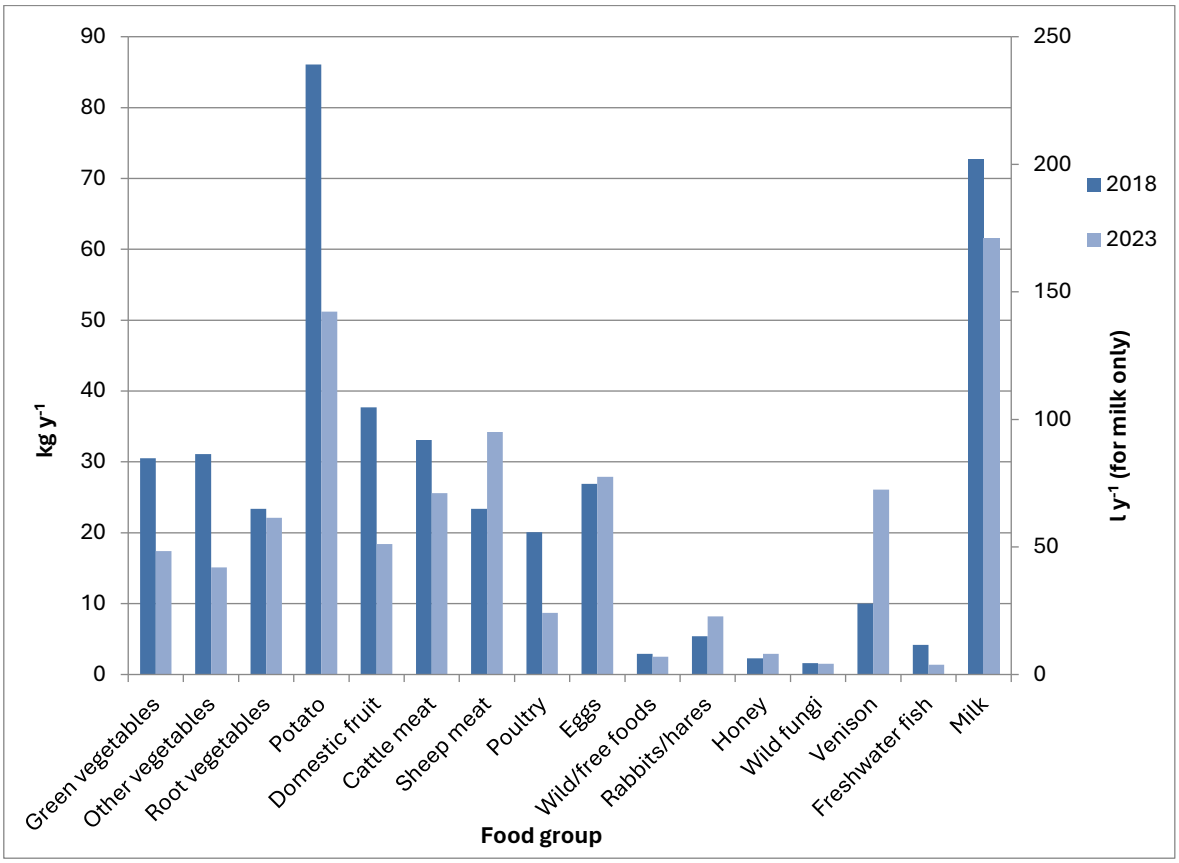

Figure 3. Comparison between 2018 and 2023 mean consumption rates for the high-rate groups for terrestrial foods

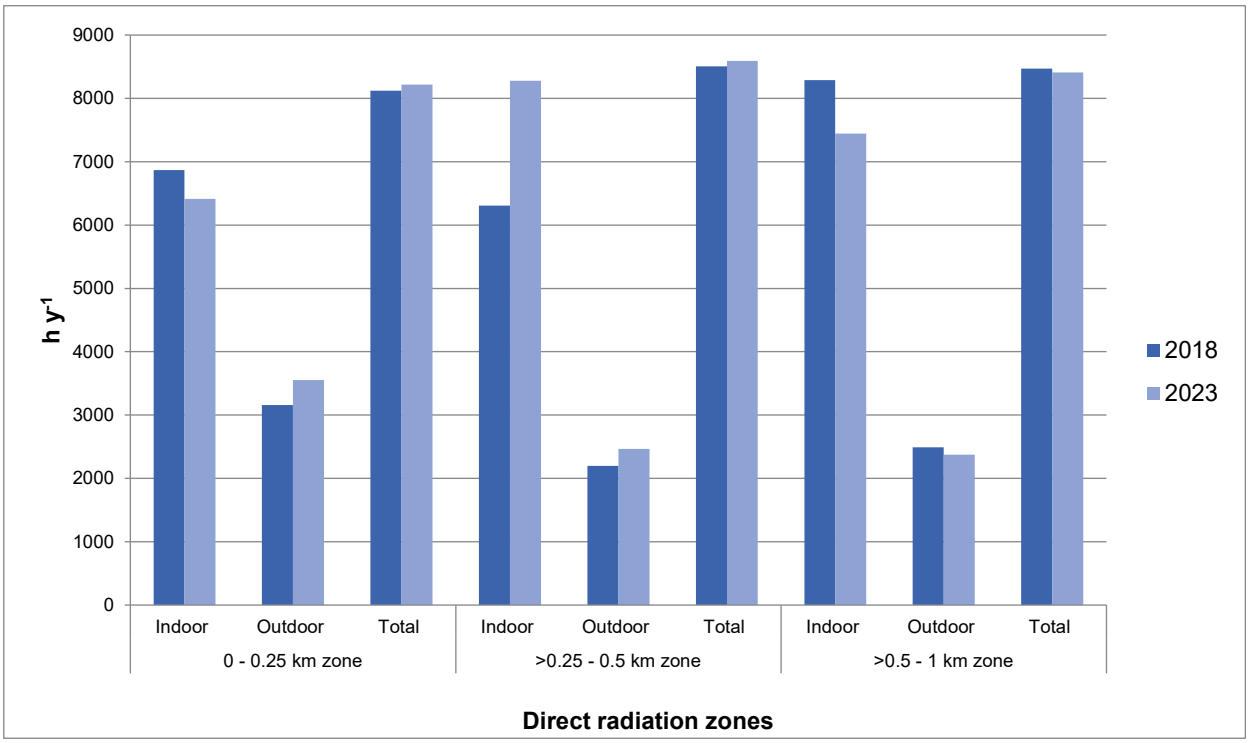

Figure 4. Comparison between 2018 and 2023 maximum direct radiation occupancy rates

Habits survey information for consideration when selecting samples and measurements for Environment Agency and Food Standards Agency monitoring programmes

The foods and intertidal locations identified in the 2023 Sellafield habits survey could be used to assist in the selection of samples and measurements for future 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 12.2. These foods could be considered for sample selection for the Food Standards Agency monitoring programme. The current environmental monitoring programme carried out for the Environment Agency adequately covers the Sellafield area and no changes are suggested.

3. Introduction

Members of the public might be exposed to radiation as a result of the operations on the Sellafield 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 Sellafield nuclear licensed site, which may influence their

radiation exposure. The study has been funded by the EA, FSA and ONR in order to support their respective roles in protecting the public from exposure to radiation.

Reviews of sea fish and shellfish consumption, and intertidal occupancy, are conducted annually at Sellafield, except every fifth year when a full survey (encompassing aquatic, terrestrial and direct radiation pathways) is undertaken. This report details the full survey undertaken in 2023.

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’. ICRP (2007) recommendations use the term ‘representative person’ for assessing doses to members of the public. It is defined as ‘an individual receiving a dose that is representative of the more highly exposed individuals in the population’. The ‘representative person’ concept is considered equivalent to the previously used ‘critical group’.

3.1. Regulatory framework

In England, the EA regulates the discharges of radioactive waste under Environmental Permitting (England and Wales) Regulations 2016 (UK Parliament, 2016). These regulations transpose parts of the revised EU Basic Safety Standards (BSS) Directive 2013/59/Euratom (EC, 2014) which embody the recommendations of the ICRP, particularly ICRP 103 (ICRP, 2007). The revised BSS Directive was adopted in 2013 to consolidate and update existing Euratom provisions for protection against the harmful effects of ionising radiation by replacing five existing Directives and a Commission Recommendation into one Directive covering occupational, medical and public exposure (EC, 2014). Installation and operation of certain prescribed activities can only occur on sites if they are licensed under the Nuclear Installations Act 1965 (as amended) (NIA 65) (UK Parliament, 1965). The ONR has implemented this legislation and is also responsible for regulating, under the Ionising Radiations Regulations 2017 (IRR 17) (UK Parliament, 2017), the exposure of the public to direct radiation from the operations occurring on these sites.

Appropriate discharge limits are set by the EA, after wide-ranging consultations that include the FSA. The FSA is responsible 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 FSA also ensures that public radiation exposure via the food chain is within acceptable limits.

3.2. Radiological protection framework

Dose standards for the public are embodied in the national policy (UK Parliament, 2012; BEIS, 2018), 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 2013/59/Euratom (EC, 2014). The public dose standards were incorporated into UK law under IRR 17. The requirement to observe the conditions laid down in the Basic Safety Standards (BSS) in England and Wales is incorporated in Environmental Permitting (England and Wales) Regulations 2016 (UK Parliament, 2016). 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, considering the effective pathways of transmission of radioactive substances. Guidance on the principles underlying prospective radiological assessments (for assessments of potential future doses) were provided by the National Dose Assessment Working Group (NDAWG), which consisted of representatives of UK Government Bodies and other organisations with responsibilities for dose assessments (EA, SEPA, DoENI, NRPB and FSA, 2002). NDAWG also published principles underlying retrospective radiological assessment (for assessments 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 and others, 2005). NDAWG agreed that the optimal method for performing retrospective dose assessments would be to use habits profiles (profiling method) as described in Camplin and others (2005). This approach was adopted in Radioactivity in Food and the Environment (RIFE) publications, (for example: EA, FSA, FSS, NRW, NIEA and SEPA, 2023). NDAWG published reports on the collection and use of habits survey data in retrospective and prospective dose assessments (NDAWG, 2005; NDAWG, 2012); the principles described in these reports are consistent with those used here. The UK environment agencies, UK Health Security Agency (formerly, Public Health England) and the FSA jointly produced an update of the

2002 interim guidance and principles for assessing prospective doses (EA, SEPA, NIEA, HPA and FSA, 2012).

4. The survey

4.1. Site activity

The Sellafield nuclear licensed site is located on the west coast of Cumbria. The site is managed and operated by Sellafield Ltd, on behalf of the Nuclear Decommissioning Authority (NDA). The Sellafield site started operations in 1964 and ceased fuel reprocessing at the Magnox Reprocessing Plant in July 2022. The focus is now on clean up and decommissioning, including retrieving waste from old facilities, decommissioning redundant buildings, and managing spent fuel.

Under the radioactive substances provisions of Environmental Permitting (England and Wales) Regulations 2016 (UK Parliament, 2016), Sellafield Ltd is permitted to undertake radioactive substances activities at the nuclear site. This includes permission to discharge gaseous radioactive wastes via stacks to the atmosphere and liquid radioactive wastes to the Irish Sea. The site is licensed for the purposes of operating certain activities prescribed under the Nuclear Installations Act, 1965 (as amended). The site contains sources of direct radiation. Details of the amounts of gaseous and liquid radioactive waste discharged are published in the RIFE reports (for example: EA, FSA, FSS, NRW, NIEA and SEPA, 2023).

4.2. Survey objectives

The Centre for Environment, Fisheries & Aquaculture Science (Cefas) undertook the Sellafield habits survey in 2023 on behalf of the EA, FSA, and ONR. 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 Sellafield nuclear licensed site. The survey was expanded to include the LLWR site due to the proximity of the two sites, and the results can be found in a separate report (Moore and others, 2024a).

Specifically, investigations were conducted into the following:

- The consumption of food from the aquatic survey area.
- Activities and occupancy over intertidal substrates.
- The handling of fishing gear and sediment.
- Activities and occupancy in and on water.

- The use of seaweed as a fertiliser or animal feed.
- The consumption of food from the terrestrial survey areas.
- The use and destination of produce originating from the survey areas.
- The consumption and use of groundwater and surface water in the terrestrial survey areas.
- Activities and occupancy within the direct radiation survey areas.
- Any new or unusual exposure pathways.

Additionally, information on the potential transfer of contamination off-site by wildlife was obtained from the nuclear site operator. Further details can be found in Section 7.3.

Mud rescue training by the Royal National Lifeboat Institution (RNLI) and the Maritime Coastguard Agency (MCA) at Ravenglass was also included in the survey at the request of the EA.

4.3. Survey areas

The geographic extents of potential effects from liquid discharges, deposition from gaseous releases, and 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, terrestrial survey areas relating to deposition from gaseous discharges, and direct radiation survey areas relating to ionising radiation emanating directly from the nuclear licensed site.

The aquatic survey area (Figure 5) was defined as the intertidal areas between Parton and Tarn Bay and the adjacent sea area up to 11 km offshore. This survey area was the same for the LLWR site.

The terrestrial survey area shown in Figure 6, includes the overlap of the Sellafield and LLWR areas. The terrestrial survey area covered all land, watercourses and freshwater bodies within 5 km of the site centre (National Grid Reference: NY 028 038), to encompass the main areas of potential deposition from gaseous discharges.

The direct radiation survey area is shown in Figure 7. The area was defined as all land and sea within 1 km of the nuclear licensed site boundary, split into three zones, which were 0 – 0.25 km, >0.25 – 0.5 km and >0.5 – 1.0 km. 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, terrestrial and direct radiation survey areas were used in the previous habits surveys conducted by Cefas around the Sellafield nuclear site in 2018 (Moore and others, 2019).

Figure 5. The aquatic survey area

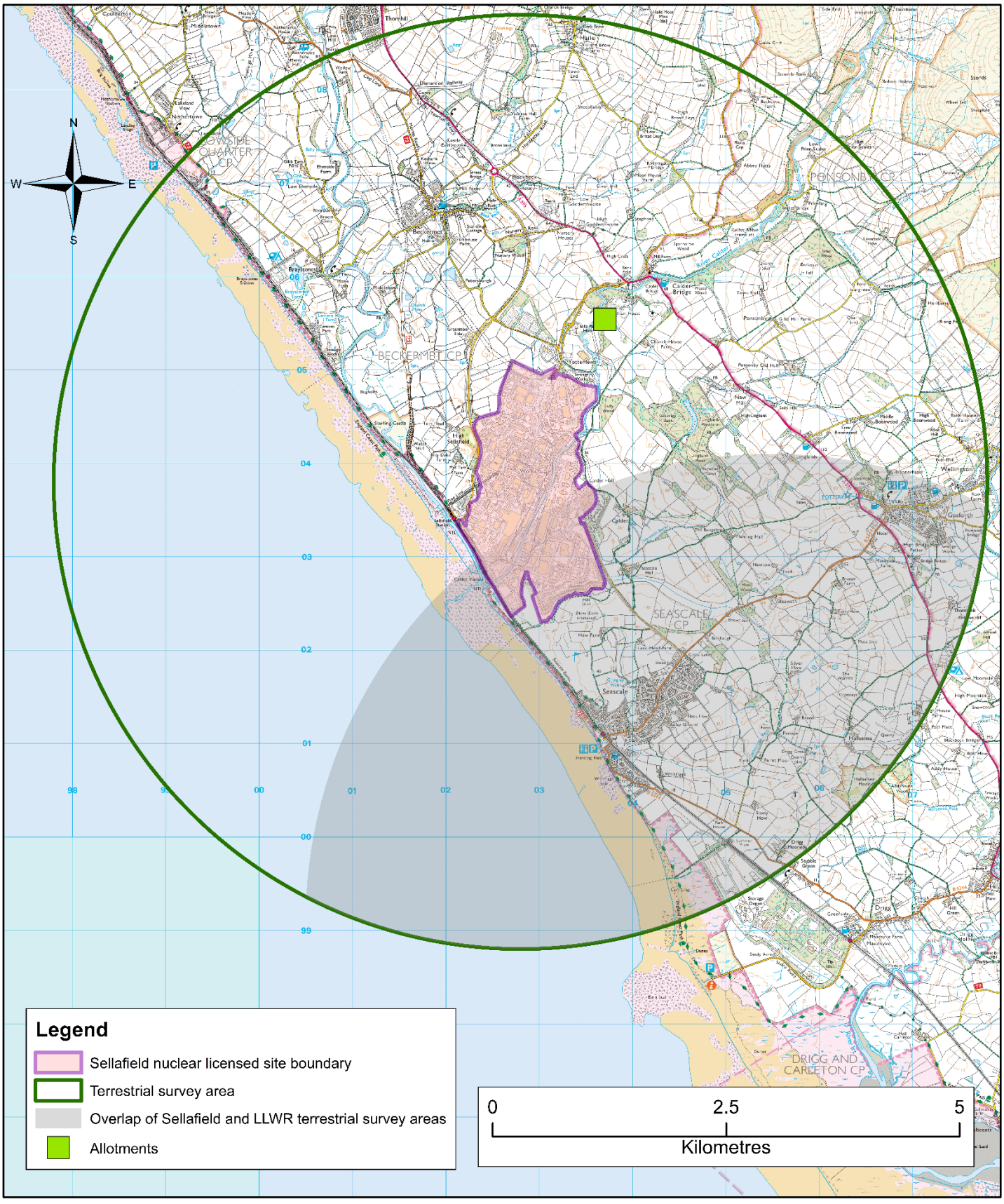

Figure 6. The terrestrial survey area

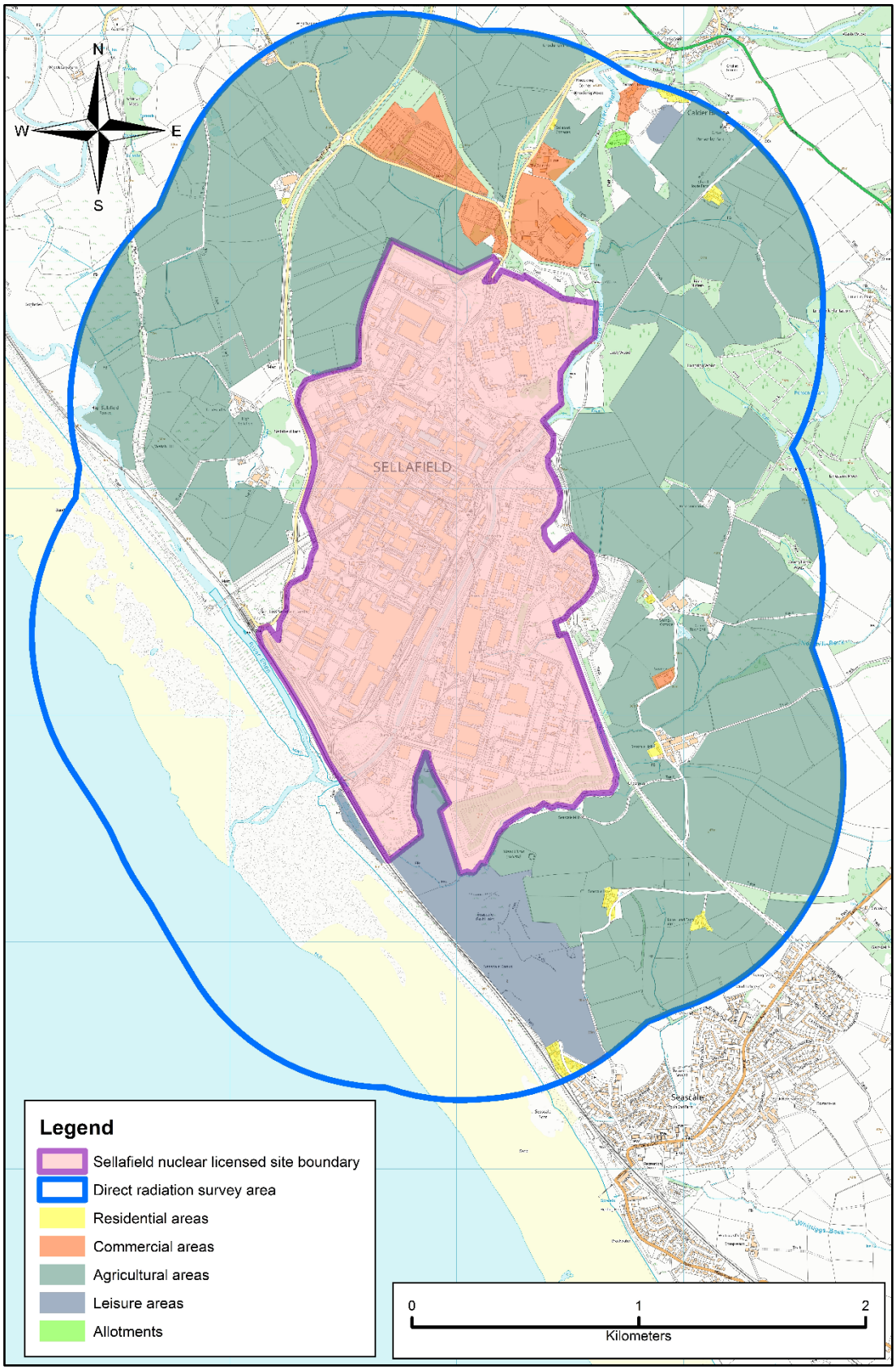

Figure 7. The direct radiation survey area and land usage

4.4. Conduct of the survey

As part of the pre-survey preparation, the EA, FSA and ONR 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 Sellafield nuclear licensed site. People with local knowledge of the survey areas were contacted for information relevant to the various exposure pathways. These included an allotment association, who provided access to the local allotments, Marine Management Organisation officers, and local fishermen who provided information on activites in the aquatic survey area.

The fieldwork was carried out from the 3rd August to the 11th August 2023 using survey techniques consistent with the previous Sellafield habits survey report (Moore and others, 2019). A meeting was held with members of the survey team and representatives from Sellafield, who provided details about current site activities, local information, potential exposure pathways, activities in the area, and the potential for transfer of contamination off-site by wildlife.

The following information was obtained during the Sellafield site meeting:

- The Magnox Reprocessing Plant had stopped reprocessing spent fuel.
- Routine site operations were being undertaken at the time of the survey including storage of nuclear fuel, remediation and decommissioning, retrieval of legacy waste including box encapsulation and box stores, and waste management.
- A number of stacks had been reduced in height and outlets were redirected. Pile 1 stack was reduced to roof level height and the outlets had ceased and were redirected to the south stack. The Magnox Reprocessing Plant stack was reduced to 6m above roof level and outlets were redirected to the Separation Area Ventillation (SAV) stack.
- A new Magnox Swarf Storage Silo (MSSS) stack had been built to replace an old stack, but at the time of the meeting it had not been comissioned.
- There was surface water run off into the River Calder which flows through the site. There had been low but rising levels of strotium-90 in the River Calder. This location is believed to be influenced by contaminated groundwater.
- No changes were made to the nuclear licensed site boundary or locations of sources of direct radiation since 2018.
- Gulls and pigeons were nesting on site building roofs and could access the open ponds. However, since more work is being undertaken around the ponds, it is anticipated that it will deter birds from landing in the area.

- Information about potential exposure pathways and activities in the survey areas included angling locations and activities in the direct radiation area.
- The land previously intended for the proposed Moorside nuclear power station is now owned by the NDA.

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, people spending time on intertidal substrates, 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 intertidal 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 centres. All gamma dose rate measurements were taken using multiple Thermo RadEye GX Survey Meters, each connected to a compensated Geiger-Müller tube.

For practical and resource reasons, the survey did not involve the whole population in the vicinity of the Sellafield nuclear licensed 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 has been calculated as a percentage of the estimated complete coverage for that group (where it was possible to make such an estimate). The results are summarised in Table 25. These '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 the most recent UK Office of National Statistics residential data for electoral wards (www.ons.gov.uk) there were approximately 3000 people living in the Sellafield terrestrial survey area, although information was obtained from a significantly smaller number of residents. The survey did not include employees or contractors at the nuclear licensed site while they were at work. This is because dose criteria applicable to these people whilst at work and the dose assessment methods (IRR 17) 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 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, the occupancy rates for employees of a business within the direct radiation survey area.

5. Methods for data analysis

5.1. 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 (for example: interviewees who wished to remain anonymous), the data were checked for reasonableness or accepted at face value. The raw data were entered into a data capture application and then uploaded to 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 groups of people were collected, such as occupancy rates in the direct radiation survey area for employees at businesses, 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 Sellafield groups are presented in Annex 1 for adults, Annex 2 for children and Annex 3 for infants, with the high-rate group members indicated in bold.

If accurate, quantifiable data cannot be obtained from interviews, but pathways are known to exist, it is sometimes necessary to provide estimated habits data for use in dose assessments. In this series of habits survey reports, such data is presented in Annex 4. It was not necessary to estimate data for the Sellafield survey, but Annex 4 is included in this report to maintain consistency of presentation through the series of reports.

5.2. 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 (for example: 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; Good Housekeeping, 1994), edible fraction data researched by Cefas, and information supplied by the Meat and Livestock Commission.

5.3. 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' expert 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 26. Specific food types relevant to this survey are presented in the subsequent tables. The data are structured into groups when it is reasonable to assume that consistent concentrations or dose rates would apply within the group. For example, when considering terrestrial food consumption, all types of root vegetables are grouped together in a food group called root vegetables. For external exposure over intertidal sediments, occupancies over the same substrate (for example: mud and sand) are grouped together.

Data were structured into age groups because different dose coefficients (in other words, the factors which convert intakes of radioactivity into dose) can apply to different ages. The names used for the age groups, based on the recommendations in ICRP 103 (ICRP, 2007), are shown in Table 1.

Table 1. Names of age groups and range of ages within each age group

Name of age group	Age range in group
Infant	0 to 5-year-old
Child	6-year-old to 15-year-old
Adult	16-year-old and over

For direct radiation pathways, the data were grouped into distance zones from the nuclear site boundaries 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.

5.4. Approaches for the identification of high rates

The habits data have been analysed to identify high rates of consumption, occupancy and handling, which can be used in radiological assessments. Two approaches have been used.

Firstly, the ‘cut-off’ method described by Hunt and others (1982) was used. With the ‘cut-off’ method, the appropriate high rate was calculated by taking the arithmetic mean of the values between the maximum observed rate and one third of the maximum observed rate. In this report, the term ‘high-rate group’ is used to represent the individuals derived by the ‘cut-off’ method. The mean of the high-rate group was calculated for each food group, intertidal substrate and handling pathway identified in the survey. 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 described in MAFF (1996). 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 and others, 1995.

The mean rates for the high-rate groups for children and infants for consumption, occupancy over intertidal substrates and handling pathways, have been calculated. However, if there are cases where few child or infant observations are identified, an alternative approach can be used for assessments 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 as described in Dewar (2013). Ratios for this purpose for the consumption and occupancy of intertidal substrates pathways, based on generic 97.5th percentile rates, are provided in Annex 5. The age ranges within the age groups in Annex 5 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 prenatal dose, consumption and occupancy rates are provided for women of childbearing age in Annex 6. 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, the maximum occupancy rates are used instead of calculating the mean occupancy rates and 97.5th percentile rates. This is due to the complex nature of the direct radiation dose rates, which are dependent on both the distance and direction from the primary sources of direct radiation on site (the spatial extent). Additional factors include the local geography and geology, as well as other structures on the site, which can provide additional shielding between these sources on the site and the local receptor points for direct radiation. For simple (cautious) dose assessment of direct radiation, it is appropriate to use the maximum dose and occupancy rates.

5.5. 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 and others, 2005. The profiles for adults are used to assess total dose integrated across all pathways of exposure in the RIFE reports (for example: EA, FSA, FSS, NRW, NIEA, and SEPA, 2023).

Matrices of profiles for adults, children, infants and women of childbearing age are presented in

Annex 7, Annex 8, Annex 9 and Annex 10. 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.

5.6. 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 considered 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 EA, FSA and ONR.
- Final reports were only issued when the EA, FSA and ONR were entirely satisfied with the format and content of the draft reports.

6. Aquatic radiation pathways

6.1. Aquatic survey area

The aquatic survey area (Figure 5) covered all tidal waters and intertidal areas from Parton in the north to Tarn Bay in the south and extended 11 km offshore. The Ravenglass Estuary and tidal stretches of the rivers Calder, Ehen, Irt, Mite and Esk were also included. This survey area is the same for both the Sellafield and LLWR sites.

The shore in the northern part of the survey area between Parton and St Bees is predominately rocky except for the beaches at Parton, Whitehaven, Fleswick and St Bees. From St Bees to Drigg, the low-lying shore is primarily a mixture of sand, stones and boulder scars with extensive areas of sand or mud and sand exposed at low tide. The rivers Calder and Ehen converge to the south-west of the Sellafield site. The Drigg Dunes Nature Reserve comprises a large sand dune system to the north of the Ravenglass Estuary. The rivers Irt, Mite and Esk converge at the Ravenglass Estuary. Tarn Bay at the southernmost point of the survey area is a 4 km long sand and stones beach in front of the Ministry of Defence (MOD) owned Eskmeals firing range. The Cumbrian Coastal Way is a popular long-distance walk which follows the shore and the Ravenglass Estuary along the entire survey area.

Parton

Parton (Figure 8) is located at the northernmost point of the survey area. The beach at Parton has a stony upper shore with large sea defence boulders that meet the land. The mid and lower shore is sand interspersed with a mixture of mud, stones and rocks. Activities identified at Parton included dog walking, angling, swimming, paddleboarding, rock pooling, snorkelling, beachcombing, litter collecting, rescue duties, hooking for crabs and lobsters, collecting winkles, and collecting edible seaweed. On a high tide, the water

reached the sea defence boulders, so people walked along a grassy path around the beach, which was not intertidal. There is a public slipway for launching small boats, with a nearby car park and secure compound where members of an angling club kept their boats and fishing gear. Hobby fishermen were identified setting pots offshore for crab and lobster. The Cumbrian Wildlife Trust (CWT) held several foraging courses at Parton to educate members of the public about collecting edible foods from the shore. The CWT also held other courses at Parton including snorkel safaris and wild swimming.

Figure 8. Parton

Whitehaven

Whitehaven North Beach is a mixture of sand and stones backed by large sea defence boulders. It is easily accessed from nearby car parks and was popular with walkers, dog walkers and anglers. During the survey there was unusually high quantities of seaweed on the shore (Figure 9). Whitey Rock is located at the northern end of the beach.

Figure 9. Whitehaven North Beach

The harbour at Whitehaven is split into two parts: an outer harbour, which partially dries out at low tide; and an inner harbour, which is kept at a constant sea level by maintained lock gates. The marina offered 400 fully serviced pontoon berths for leisure and commercial fishing vessels, and had a pontoon for wind farm vessels to berth. The commercial fishing vessels were predominately Nephrops trawlers with several potting vessels; most of the trawlers were tied up in the harbour for the duration of the habits survey. In the outer harbour, the upper shore is predominately sand, which was popular with dog walkers. At low tide, a large expanse of mud and sand is exposed (Figure 10). Activities identified at Whitehaven North Beach and Whitehaven Harbour included boat maintenance, dog walking, angling, playing, bait digging, collecting winkles, beachcombing, and hooking for crab and lobster.

A large structure was being constructed on the harbour next to the Wellington Inn car park at the time of the survey (Figure 10). This building is planned to be a new coastal activities centre which will house changing facilities, a café, public toilets, meeting rooms, a gallery and overnight accommodation. A new slipway is planned as part of the project.

The north and south piers of the harbour extended into the sea and were popular with anglers who preferred to fish into deep water. Local angling clubs held regular fishing competitions in the area.

Figure 10. Whitehaven Outer Harbour

Whitehaven South Beach is predominately sand and stones with patches of rocks. The cliff was unstable due to an historic colliery spoil, (which was thought to be disposed of at this location in the 1800s) and access to the beach was restricted due to a fatality in 2007. Nobody was identified using this beach during the survey.

St Bees

St Bees Head has steep sandstone cliffs, which were popular with rock climbers. The shore around St Bees Head is accessed via several paths down the cliffs, the easiest of which leads to Fleswick Bay. The beach at St Bees has a stony bank on the upper shore and is sand on the mid to lower shore (Figure 11). There are rock pools at the northern end of the beach where it meets St Bees Head.

Figure 11. St Bees

The 2 km long beach at St Bees was very popular with locals, tourists and people staying at the caravan site at the northern end of the beach. There is a large car park and a concrete promenade by the beach at St Bees and another car park at the southern end of the beach at Seamill. Dog walking, hooking for crabs and lobsters, angling, bird watching, walking, beachcombing, playing, collecting winkles and bait digging took place on the shore. People were also kayaking, paddleboarding, swimming and paddling. Many of the activities were taking place at the northern end of the beach. The Cumbrian Wildlife Trust organised an annual beach festival (Seafest) at St Bees in the summer. This attracted several hundred people, and included beach yoga, rockpool rambles, kayaking and a sculpture competition. Winkles were collected from the northern end of the beach for personal consumption. The RNLI has a station based at St Bees and volunteers regularly respond to service calls and run training exercises within the survey area. Small leisure craft can be launched from the public slipway.

Coulderton, Nethertown and Braystones

To the south of Seamill, a railway track inhibits access to the shore. However, further south there is access to the beach at the villages of Coulderton, Nethertown and Braystones. There is no public parking at Coulderton but there is vehicle access to the houses on the shore. There is a large parking area at Nethertown and a small parking area at Braystones. At Coulderton and Nethertown, the upper shore has a bank of stones and the mid to lower shore has a mixture of boulder scars with reefs of honeycomb worm and

areas of sand. The beach at Braystones (Figure 12) is similar but with larger areas of sand, and mud and sand exposed at low tide.

There are houses situated at the top of the stone bank at Coulderton, Nethertown and Braystones, which are used as residential and holiday homes. There are two large static caravan sites at Braystones, one is a holiday park and the other is a private site. The beaches were used by the residents, by people staying at the caravan sites and other members of the public who were angling, bait digging, walking, dog walking, playing, rock pooling, sitting on the beach, surfing, kayaking, paddleboarding, paddling and swimming. Winkles were being collected from the shore at Nethertown. Hobby fishermen were setting nets from the shore at Coulderton for mixed fish species.

Figure 12. Braystones

Sellafield

The beach at Sellafield is mainly sand, with areas of sand and stones. The beach is backed by sand dunes, behind which, the River Ehen flows from the north-west along the southern end of the Sellafield site. The River Calder flows from the north-east through the Sellafield site and converges with the River Ehen at the Calder Viaduct before flowing out to sea (Figure 13). People were walking to Sellafield along the beach from Braystones and Seascale or cycling along a coastal cycle track from Seascale. Many people drove their vehicles along the beach from Braystones. Individuals were identified walking, dog walking, angling, playing, bait digging and collecting litter.

Figure 13. Mouth of the River Calder at Sellafield

Seascale

Seascale is a popular tourist destination, which has good access to the shore (Figure 14), a large car park and local amenities. The shore is predominately sand with a strip of stones and boulder scars on the upper shore. Activities identified at Seascale included bait digging, dog walking, shore angling, boat angling, paddleboarding, paddling, swimming, walking, undertaking bird surveys, litter collecting and playing on the beach. There is a public slipway for launching small boats and a secure compound where members of an angling club keep their boats. Many families were visiting on holiday during the survey. The beach was particularly busy close to the amenities and walkers and dog walkers were mainly found further along the beach.

Figure 14. Seascale

Drigg

The beach at Drigg is predominantly sand, with a strip of stones on the upper shore, boulder scars on the lower shore, and is backed by complex sand dunes (Figure 15). There are two main boulder scars: Drigg Barn Scar and Kokoarrah Scar, the latter of which is below the low water mark and can only be accessed by foot at low water on a spring tide. There is road access from Drigg Village, a parking area, and a track to the shore. The beach in the vicinity of the track was used by families who were playing. Cattle were grazing on the sand dunes at Drigg. Activities taking place along the upper shore included walking, dog walking, shore angling, litter collecting, quadbiking and undertaking bird surveys. At low tide, people were bait digging on the vast sand flats and hooking for crab and lobster on the boulder scars. Razor shells were collected from the beach for consumption and people were setting lines from the shore for mixed fish species. People were also swimming, kayaking, paddleboarding and boat angling.

Figure 15. Drigg Beach

The River Irt and Saltcoats

The River Irt flows from the north-east past Holmrook, through farmland, along the sand dunes at Drigg, and into the Ravenglass Estuary to the south of Saltcoats Village. The river can be accessed via farm fields, or a track which runs from Shore Road at the southern side of the LLWR site to a ford. Swimming and playing was taking place on higher stretches of the River Irt within the tidal limit. Several people were kayaking and canoeing along the Rivert Irt and down into Ravenglass Estuary. The shore at Saltcoats is a mixture of mud, sand, stones and salt marsh. A caravan site with privately owned caravans was located at Saltcoats. Activities being undertaken at Saltcoats included tending to livestock on salt marsh, angling and dog walking.

River Mite, Ravenglass and the Ravenglass Estuary

The River Mite flows from the north-east through farmland and past Ravenglass Village where it joins the rivers Irt and Esk in the Ravenglass Estuary. The River Mite can be crossed at very low tide via a ford between Saltcoats and Ravenglass. There is a railway and pedestrian bridge over the River Mite from Saltcoats to Ravenglass.

Ravenglass is a busy tourist village with easy access to the shore via steps and two slipways at either end of the village. The upper shore is a mixture of mud, sand and stones leading to a soft mud at the lower shore at low tide (Figure 16).

Figure 16. Ravenglass

Walkers and dog walkers frequently used the beach and many tourists were walking on the beach for short amounts of time. Activities being undertaken in the Ravenglass Estuary included samphire collection, wildfowling, walking, kayaking, canoeing, boat angling, playing, angling, bait digging, undertaking bird surveys, horse riding, bird watching, collecting litter and paddleboarding. Multiple boats were moored in the estuary and rested on the mud at low tide. Commercial fishermen spent time potting along the coastline.

The Copeland Canoe Club runs an annual navigation event at Ravenglass called Seaquest. Competitors orienteer around the course, which covers the rivers Irt, Mite and Esk, on kayaks, paddleboards, canoes and boats. Sixty-four adults and children completed the course in 2023. An obstacle course race takes place annually around the Ravenglass Estuary and the River Esk.

The RNLI and MCA used Ravenglass as one of their training locations. It was reported that the RNLI also used the intertidal areas between Ravenglass and Parton.

The River Esk

The River Esk flows from the north-east, under the Eskmeals Viaduct and into the Ravenglass Estuary where it joins the rivers Irt and Mite. The banks of the river are predominately soft mud and salt marsh. There are two fords on the lower stretches of the Esk, one near Waberthwaite Church and one near to the Eskmeals Viaduct, where it is possible to cross the river at very low tide. The ford near Waberthwaite Church has soft steep banks and deep gullies. The ford near the Eskmeals Viaduct has a firm substrate of

mud, sand and stones, and the banks of the river at this location are salt marsh and soft mud. No one was identified crossing the fords at the time of the survey. Tending livestock was taking place along the River Esk and wildfowling was taking place at Newbiggin Marsh. Dairy cows were grazed on the salt marsh along the River Esk and their milk consumed.

Eskmeals and Tarn Bay

To the south of Ravenglass Estuary, a shingle spit marks the start of the Eskmeals Dunes Nature Reserve. The sand, shingle and salt marsh shore and extensive sand dune system can be accessed via a footpath running alongside the River Esk or along the shoreline from Eskmeals. Eskmeals Dunes is leased by Cumbria Wildlife Trust from the MOD. The MOD Eskmeals firing range is operational to the south of the nature reserve and runs parallel to the coastline for approximately 3 km. The beach alongside the Eskmeals firing range is predominantly sand with patches of stones and a large expanse of mud, sand and boulder scars at low tide. The nature reserve and parts of the beach are closed to the public when firing is taking place on the range. The beach can be accessed through the nature reserve or via a road at the southern end of the beach near Tarn Bay.

Tarn Bay was comprised of stones on the upper shore and sand on the lower shore. The beach was particularly popular with bait diggers, families playing and dog walkers. Tarn Bay marks the southern limit of the survey area.

6.2. Commercial fisheries

Approximately 10 small commercial trawlers were based at Whitehaven Harbour, which is the only port in the survey area. However, the North Western Inshore Fisheries and Conservation Authority (NWIFCA) and the Marine Management Organisation (MMO) reported that a small number of these trawlers were used regularly and more trawlers were based at Maryport but continued to fish in the survey area. The trawlers mainly fished for Nephrops as well as mixed fish species. For a number of years, the Nephrops catch in the area has been declining and the fishery has been reported to be poor. As the vessels are relatively small they are subject to weather conditions, which has an impact on the frequency of their fishing trips. Whelk landings into Whitehaven have continued to decline. Several Nephrops vessels based part-time at Whitehaven Harbour temporarily re-located and fished out of Scottish harbours in 2023. This was due to the more productive prawn fishing areas in Scottish waters.

NWIFCA introduced a potting permit byelaw in 2022 requiring commercial fishing vessels to hold a permit to fish. Four commercial fishermen were identified potting for brown crabs and common lobsters in the survey area and one of these fishermen was also catching small quantities of whelks. The fishermen moored their boats at Whitehaven Harbour, in

the Ravenglass Estuary and on the beach at Coulderton. The main potting areas were from Parton to Nethertown and Sellafield to Tarn Bay.

The NWIFCA continued to recommend that fishermen do not use fishing nets in a specified area around St Bees Head in order to protect nesting sea birds during the breeding season (13th March to 24th July).

6.3. Destination of seafood originating from the aquatic survey area

Small quantities of sea fish, Nephrops, brown crabs and common lobsters were sold locally, but the bulk of the commercial catch was sold and consumed outside the survey area. Most of the sea fish were sent to Fleetwood and Lowestoft markets with smaller quantities sent to North Shields market. Most of the Nephrops were sent to processors before being sold throughout the UK and exported to Europe. Brown crabs and common lobsters were exported to France and Spain. Whelks were exported to South Asia. Whelk landings into Whitehaven have continued to decline.

6.4. Hobby fishing, angling and non-commercial shellfish collection

In this report, the term ‘hobby fishing’ is used to describe recreational fishing on a small scale with gear such as nets or pots. It is usually carried out by fishermen who do not have commercial fishing licences and therefore it is illegal to offer the catch for sale. Several hobby fishermen operated in the survey area who were mainly potting offshore of Parton, Drigg and Whitehaven North Beach or setting lines from the shore at Drigg. Hobby fishermen mainly caught brown crabs, common lobster, cod, thornback ray, mackerel, and plaice.

Individuals caught brown crabs and common lobsters from the boulder scars at Drigg and the rocks at Whitehaven North Beach, Seamill, St Bees and Parton by hand and using handheld crabbing hooks. The catches were consumed by the fishermen’s families and friends.

Boat angling was popular throughout the survey area. Angling boats were based at Whitehaven Harbour and in the Ravenglass Estuary; launched from slipways at Parton, St Bees and Seascale; or launched from the shore at Coulderton, Nethertown and Braystones. Shore angling was identified at many locations including Parton, Whitehaven North Beach, St Bees, Coulderton, Nethertown, Braystones, Sellafield, Seascale, Drigg, Eskmeals and Tarn Bay. Many of the anglers interviewed on the north and south piers at Whitehaven Harbour were visiting the area, fishing for the first time, or were releasing their catch.

The main edible species caught by anglers were cod, bass, brill and thornback ray. Anglers were also identified fishing for salmon and sea trout on the lower stretches of the rivers Calder, Ehen, Irt and Esk.

Small quantities of molluscs were being collected and consumed. This included winkles from Parton, Whitehaven North Beach, Nethertown, St Bees and Drigg, razor shells from Drigg, and mussels from Seascale. Whelks were caught as a by-catch of a commercial potting vessel and were consumed by two individuals. The consumption of molluscs has been in steady decline since 2006 (Moore and others, 2023). Historically, there were larger numbers of people that were collecting significant quantities of molluscs for consumption in the Sellafield area, including winkles, mussels, cockles and razor shells. It was reported that there were less people collecting molluscs than in previous years and several people (previously interviewed) have now stopped collecting and consuming molluscs for reasons such as old age and ill health (Moore and others, 2023).

6.5. Wildfowling

Two wildfowling clubs were identified shooting in the survey area. One club, with approximately 30 members, had the rights to shoot on the rivers Irt and Mite. The other club had the rights to shoot on the River Esk at Newbiggin Marsh. The wildfowling season was from 1st September to 20th February. The wildfowl being shot and consumed included greylag goose, pink-footed goose and mallard. Wildfowlers were shooting over salt marsh and mud, and were lying or kneeling on sediment in gullies or the edge of riverbanks.

6.6. Other pathways

The collection of seaweed for use as a fertiliser or as livestock feed was investigated but it was not identified within the survey area. Sheep and beef cattle were grazing on salt marsh along the River Irt and the River Esk, and lamb and beef were consumed. Dairy cattle were grazing on salt marsh along the River Esk and milk was consumed. These pathways were newly idenitifed.

6.7. Food consumption data

The people consuming the greatest quantities of food from the aquatic survey area were commercial fishermen and their families. Consumption data for aquatic foods potentially affected by liquid discharges are presented from Table 27 to Table 34 for adults and Table 35 to Table 38 for children and infants.

Adults' consumption rate

Table 2 presents a summary of the adults' consumption rates for the following food groups: sea fish; crustaceans; molluscs; marine plants/algae; salt marsh grazed cattle meat; salt marsh grazed sheep meat; milk from cattle grazed on salt marsh. 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 for sea fish and crustaceans based on national data, which are referred to as 'generic' data in this report. No generic consumption rates are available for marine plants/algae, salt marsh grazed cattle meat, salt marsh grazed sheep meat or milk from cattle grazed on salt marsh.

Table 2. Summary of adults' consumption rates of foods from the aquatic survey area

	Food group							
	Sea fish	Crustaceans	Molluscs	Wildfowl	Marine plants/algae	Salt marsh grazed cattle meat	Salt marsh grazed sheep meat	Milk from cattle grazed on salt marsh
Number of observations	67	32	10	2	6	3	2	3
Number of high-rate consumers	10	9	4	2	6	3	2	2
Observed maximum for the high-rate group (kg y^{-1} or l y^{-1})	50.9	24.6	3.3	4.6	0.2	18.7	25.0	414.6
Observed minimum for the high-rate group (kg y^{-1} or l y^{-1})	17.7	8.4	1.5	4.6	0.08	18.7	25.0	207.3
Observed mean for the high-rate group (kg y^{-1} or l y^{-1})	31.0	15.4	2.4	4.6	0.1	18.7	25.0	311.0
Observed 97.5th percentile (kg y^{-1} or l y^{-1})	39.3	24.6	3.3	4.6	0.2	18.7	25.0	404.3
Generic mean (kg y^{-1} or l y^{-1})	15.0	3.5	3.5	Not determined	Not determined	Not determined	Not determined	Not determined
Generic 97.5th percentile (kg y^{-1} or l y^{-1})	40.0	10.0	10.0	Not determined	Not determined	Not determined	Not determined	Not determined

The predominant species of sea fish consumed by adults were bass, brill, cod and thornback ray, with smaller quantities of herring, mackerel, plaice, and pollack. The sea fish were caught throughout the aquatic survey area. Of the sea fish consumed by the 10 people in the high-rate group, the percentage breakdown of species (rounded to the nearest 5%) was 25% cod, 20% bass, 20% brill, 15% thornback ray and a 20% mix of Dover sole, flounder, herring, mackerel, plaice, pollack and sea trout.

The main species of crustaceans consumed by adults were common lobster and brown crab, with smaller quantities of Nephrops. The common lobsters and brown crabs were caught using pots throughout the survey area. Nephrops were caught using trawler nets. Of the crustaceans consumed by the nine people in the high rate-group, the percentage breakdown of species (rounded to the nearest 5%, which equals 105%) was 60% common lobster, 30% brown crab and 15% Nephrops.

The main species of molluscs consumed by adults was winkles, with smaller quantities of razor shells. The winkles were collected from the shore at St Bees and Drigg. The razor shells were collected from the shore at Drigg. Of the molluscs consumed by the four people in the high rate-group, the percentage breakdown of species (rounded to the nearest 5%) was 95% winkles and 5% razor shells.

The main species of wildfowl consumed by adults was greylag goose and pink-footed goose, with smaller quantities of mallard. All of the geese and mallard were shot at Newbiggin Marsh. Of the wildfowl consumed by the two people in the high rate-group, the percentage breakdown of species (rounded to the nearest 5%) was 70% greylag goose, 20% pink-footed goose and 10% mallard.

The main species of marine plants/algae consumed by adults was samphire, with smaller quantities of sea lettuce and dulse. The sea lettuce and dulse was collected at Parton. The samphire was collected at Ravenglass. Of the marine plants/algae consumed by the six people in the high rate-group, the percentage breakdown of species (rounded to the nearest 5%, which equals 95%) was 65% samphire, 15% dulse and 15% sea lettuce.

Beef and lamb from livestock grazed on salt marsh on the River Esk were consumed. Milk from cattle grazed on salt marsh along the River Esk was also consumed.

Children’s and infants’ consumption rates

Table 3 and Table 4 presents a summary of children’s and infants’ consumption rates of foods originating from the aquatic survey area. Children were identified consuming sea fish and crustaceans. Infants were identified consuming sea fish and marine plants/algae. The tables include the mean consumption rates for the high-rate group and the observed 97.5th percentile rates. No generic rates have been determined for the child or infant age groups.

Table 3. Summary of children's consumption rates of foods from the aquatic survey area

	Food group	
	Sea fish	Crustaceans
Number of observations	2	1
Number of high-rate consumers	1	1
Observed maximum for the high-rate group (kg y^{-1})	27.4	0.7
Observed minimum for the high-rate group (kg y^{-1})	27.4	0.7
Observed mean for the high-rate group (kg y^{-1})	27.4	0.7
Observed 97.5th percentile (kg y^{-1})	26.8	Not applicable

Table 4. Summary of infants' consumption rates of foods from the aquatic survey area

	Food group	
	Sea fish	Marine plants/algae
Number of observations	2	1
Number of high-rate consumers	2	1
Observed maximum for the high-rate group (kg y^{-1})	2.0	0.04
Observed minimum for the high-rate group (kg y^{-1})	1.8	0.04
Observed mean for the high-rate group (kg y^{-1})	1.9	0.04
Observed 97.5th percentile (kg y^{-1})	2.0	Not applicable

6.8. Occupancy over intertidal substrates

Occupancy rates over intertidal areas for adults, children and infants are presented in Table 39, Table 40 and Table 41. It should be noted that there is often more than one substrate at one named location and that substrates at a given location are prone to change over time. Activities were assigned to the predominant substrate over which they were taking place.

Adults' occupancy rates over intertidal substrates

Table 5 presents a summary of the adults' occupancy rates over intertidal substrates 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 5. Summary of adults' intertidal occupancy rates

	Intertidal substrate							
	Mud	Mud and sand	Mud, sand and stones	Rock	Salt marsh	Sand	Sand and stones	Stones
Number of observations	5	12	29	48	9	198	91	5
Number of people in the high-rate group	2	3	9	1	5	29	14	1
Maximum of the high-rate group (h y^{-1})	131	674	483	1239	546	1095	1294	313
Mean of the high-rate group (h y^{-1})	131	652	373	1239	437	654	813	313
Observed 97.5th percentile (h y^{-1})	131	674	483	105	546	875	1125	291

The activities undertaken by people in the adult high-rate groups for occupancy over the following intertidal substrates included:

- For mud: wildfowling in the Ravenglass Estuary.
- For mud and sand: dog walking at Whitehaven Outer Harbour.
- For mud, sand and stones: angling, bait digging, dog walking, litter collecting, undertaking bird surveys, and playing at Ravenglass; dog walking at Saltcoats.
- For rock: angling at Parton and St Bees.
- For salt marsh: tending livestock at Saltcoats, Newbiggin Marsh and along the rivers Esk and Irt.
- For sand:
  - angling, bait digging, beachcombing, bird watching and dog walking at St Bees;
  - angling, bait digging, dog walking, litter collecting and undertaking bird surveys at Sellafield;
  - angling, bait digging, beachcombing, bird watching, dog walking, playing, litter collecting, undertaking bird surveys, and walking at Seascale;
  - angling, bait digging, bird watching, dog walking, litter collecting, undertaking bird surveys, tending livestock, and walking at Drigg;
  - dog walking at Eskmeals;
  - angling, bait digging, litter collecting and undertaking bird surveys at Tarn Bay;
  - setting nets at Coulderton.
- For sand and stones: dog walking and litter collecting at Parton; angling and dog walking at Whitehaven North Beach; angling and dog walking at Coulderton; angling and dog walking at Drigg.
- For stones: angling at Parton.

In addition, mud rescue training undertaken by the RNLI and the MCA at Ravenglass was identified. The RNLI estimated that 22 crew spent approximately 9 h y^{-1} on intertidal areas between Ravenglass to Parton. The MCA surveyors estimated that up to five individuals spent approximately 7 h y^{-1} on intertidal areas, but they were not able to specify the substrate.

Children's and infants' occupancy rates over intertidal substrates

Table 6 and Table 7 present a summary of the children's and infants' occupancy rates over intertidal substrates in the aquatic survey area. These tables include the mean occupancy rates for the high-rate groups and the observed 97.5th percentile rates.

Table 6. Summary of children's intertidal occupancy rates

	Intertidal substrate				
	Mud	Mud and sand	Rock	Sand	Sand and stones
Number of observations	3	1	2	21	13
Number of people in the high-rate group	3	1	2	3	4
Maximum of the high-rate group (h y^{-1})	10	118	20	313	196
Mean of the high-rate group (h y^{-1})	10	118	20	190	138
Observed 97.5th percentile (h y^{-1})	10	Not applicable	20	221	196

The activities undertaken in the child age group high-rate groups for occupancy over each of the intertidal substrates were:

- For mud: playing along the River Irt.
- For mud and sand: playing at Whitehaven Outer Harbour.
- For rock: rock pooling at Coulderton.
- For sand: playing at St Bees; litter collecting and playing at Seascale; litter collecting at Drigg; angling, bait digging and playing at Tarn Bay.
- For sand and stones: beachcombing at Parton; playing between St Bees and Seascale.

Table 7. Summary of infants' intertidal occupancy rates

	Intertidal substrate			
	Mud, sand and stones	Sand	Sand and stones	Stones
Number of observations	1	12	5	1
Number of people in the high-rate group	1	2	1	1
Maximum of the high-rate group (h y^{-1})	483	209	196	96
Mean of the high-rate group (h y^{-1})	483	169	196	96
Observed 97.5th percentile (h y^{-1})	Not applicable	187	180	Not applicable

The activities undertaken in the infant age group high-rate groups for occupancy over each of the intertidal substrates were:

- For mud, sand and stones: dog walking and playing at Ravenglass.
- For sand: playing at Coulderton, St Bees and Seascale.
- For sand and stones: beachcombing and playing at Parton.
- For stones: beachcombing and playing at Parton.

6.9. Gamma dose rate measurements

Gamma dose rate measurements were taken over six intertidal substrates. All measurements were taken at a height of 1 metre above the substrate. The results are presented in Table 42 and are summarised in Table 8.

Table 8. Summary of gamma dose rate measurements taken over intertidal substrates

	Substrate					
	Mud and sand	Mud, sand and stones	Salt marsh	Sand	Sand and stones	Stones
Number of measurements taken	1	1	2	8	1	2
Minimum gamma dose rate at 1 metre[a] (μGy h^{-1})	0.088	0.099	0.099	0.059	0.086	0.117
Maximum gamma dose rate at 1 metre[a] (μGy h^{-1})	0.088	0.099	0.112	0.106	0.086	0.123

Notes

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

For comparison, natural background rates across the UK have been estimated at 0.05 μGy h^{-1} over sandy substrates, 0.07 μGy h^{-1} over mud and over salt marsh, and 0.06 μGy h^{-1} over other substrates (EA, FSA, FSS, NRW, NIEA and SEPA, 2023).

6.10. Handling of fishing gear and sediment

Handling fishing gear (nets and pots) that has become entrained with fine sediment particles, or handling sediment while undertaking activities such as bait digging or mollusc collecting, can potentially give rise to skin exposure from beta radiation. Doses to the skin are considered within the dose limitation system (ICRP, 1992).

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 intertidal areas and it has therefore been omitted from the report.

Handling of angling equipment (rod and line) was not considered to be a significant pathway.

Handling rates of fishing gear and sediment for adults and children are presented in Table 43 and Table 44 and are summarised in Table 9 and Table 10, respectively. No infants were identified handling sediment or fishing gear.

Adults' handling rates of fishing gear and sediment

Table 9 presents a summary of the handling rates of fishing gear and sediment for adults. The table includes the mean handling rates for the high-rate groups and the observed 97.5th percentile rates.

Table 9. Summary of adults' handling rates

	Handling activity	
	Handling fishing gear	Handling sediment
Number of observations	13	42
Number of people in the high-rate group	5	6
Maximum of the high-rate group (h y^{-1})	1908	720
Mean of the high-rate group (h y^{-1})	1908	619
Observed 97.5th percentile (h y^{-1})	1908	720

The activities undertaken by people in the high-rate groups for handling included:

- For handling fishing gear: potting between Sellafield and Ravenglass.
- For handling sediment: bait digging at Sellafield, Seascale, Drigg, Ravenglass and Tarn Bay.

Children's handling rates of fishing gear and sediment

Table 10 presents a summary of the handling rates of sediment for children. The table includes the mean handling rates for the high-rate groups and the observed 97.5th percentile rates. No children were identified handling fishing gear.

Table 10. Summary of children's handling rates

	Handling sediment
Number of observations	2
Number of people in the high-rate group	1
Maximum of the high-rate group (h y^{-1})	104
Mean of the high-rate group (h y^{-1})	104
Observed 97.5th percentile (h y^{-1})	102

The activity undertaken by the child in the high-rate group for handling sediment was bait digging at Tarn Bay.

6.11. Water based activities

Activities taking place in or on 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 consumption of foods produced in the vicinity of a nuclear site. However, relevant data have been collected for consideration in dose assessments.

For habits surveys, activities involving a high likelihood of an individual's face submerging under water are classified as activities 'in water', as they are more likely to lead to ingestion of water. All other water-based activities are classified as activities 'on water'.

Occupancy rates for on water activities in the aquatic survey area are presented in Table 45 for adults, Table 46 for children and Table 47 for infants. Where generic data for groups of people were collected, for example members of angling clubs, only representative examples have been included in the data presented.

Activities in water

The activities identified taking place in water in the aquatic survey area included surfing, kayaking, paddleboarding, snorkelling and swimming. Kayaking and paddleboarding are classified as 'in water' activities since they are likely to lead to the ingestion of seawater. Thirty-nine observations were recorded for adults, 10 were recorded for the child age group and no observations were recorded for the infant age group. The highest occupancy rate for adults was 490 h y^{-1} for one individual who went swimming regularly at Coulderton.

The highest occupancy rate for children was 45 h y^{-1} for two individuals who were surfing at Coulderton.

Activities on water

The activities taking place on water in the aquatic survey area included being on a boat, power boating, canoeing, boat angling, commercial fishing (including trawling and potting), and paddling. Fifty observations were recorded for adults, eight were recorded for the child age group and two were recorded for the infant age group. The highest occupancy rate for adults was 2600 h y^{-1} for two commercial fishermen who were potting between Sellafield and Ravenglass as well as undertaking boat maintenance. The highest occupancy rate for the child age group was 36 h y^{-1} for two children who were paddling between Seascale and St Bees. The highest occupancy rate for the infant age group was 13 h y^{-1} for one infant who was paddling at Seascale.

7. Terrestrial radiation pathways

7.1. Terrestrial survey area

The terrestrial survey area (Figure 6) covered the land and watercourses within 5 km of the Sellafield site centre (National Grid Reference: NY 028 038). The overlap with the LLWR terrestrial survey area is shown in Figure 6.

The land in the terrestrial survey area is predominantly agricultural. Several villages were located within the terrestrial survey area including Beckermet to the north, Gosforth to the east, and the coastal village of Seascale to the south. The River Ehen flows from the north-west along the south-western boundary of the Sellafield site and the River Calder flows from the north-east and through the middle of the Sellafield site. The rivers converge at the Calder Viaduct and flow into the Irish Sea.

Interviews were conducted at 25 working farms in the Sellafield terrestrial survey area. These farms produced the following:

- Cows’ milk
- Beef cattle
- Store cattle
- Young dairy cows
- Lambs
- Pigs
- Arable crops

Grass (for haylage and silage), fodder beet and barley were grown for animal feed and rye was grown for energy production. Arable crops were not produced for human consumption in the survey area. Farmers and their families were consuming beef, lamb, milk produced on their own farms.

One allotment site was located within the terrestrial survey area. A wide variety of fruit and vegetables were grown on the allotment and small quantities of produce were also grown in a small number of private gardens.

Eight beekeepers were identified with a total of 56 hives in the survey area. These hives were located on farmland within the survey area. The average production of honey per hive was 10 kg y^{-1}. The honey was consumed by the beekeepers, their families and friends.

Wild foods that were collected and consumed from within the survey area included blackberries, sloes and mushrooms. Game shooting was identified taking place on farmland in the terrestrial survey area, where pheasant, partridge, hare, rabbit, wood pigeon and venison were shot and consumed.

The human consumption of spring water was identified at one residence, no other groundwater consumption was identified. Livestock were identified drinking mains water, spring water and some had access to streams.

7.2. Destination of food originating from the terrestrial survey area

The destination of foods produced in the survey area included the following:

- Beef cattle were sold at a range of livestock markets in Cumbria, sent directly to an abattoir and then to national supermarket chains, and to other local farms.
- Lambs were sold at a range of livestock markets in Cumbria, sent directly to an abattoir and then to national supermarket chains, and were sold privately.
- Dairy cattle were sold at a livestock market in Cumbria and sold privately.
- Pigs were sold to a food processing company.
- Milk was sold to dairy co-operatives and a national milk processing company.

7.3. The potential transfer of contamination off-site by wildlife

The nuclear site operator was asked for information about the potential transfer of contamination off-site by wildlife since radionuclides could enter the food chain or

contaminate the environment through this pathway. Gulls and pigeons were nesting on site building roofs and could access the open ponds. Measures are in place to control feral pigeons and gulls on site, and further control measures for gulls are planned, pending the formal issuing of licenses by Natural England.

7.4. Food consumption data

Consumption data for locally produced foodstuffs potentially affected by deposition of gaseous discharges are presented from Table 48 to Table 63 for adults and Table 64 to Table 80 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 5.4 are given at the foot of each table. In order to provide information relevant to monitoring and assessments studies, the consumption rate data collected during the survey were analysed to indicate the percentage that each food type contributed to each food group. These data are summarised in Table 81.

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; milk; cattle meat; sheep meat; poultry; eggs; wild/free foods; rabbits/hares; honey; wild fungi; venison; freshwater fish. No consumption was identified for the food group pig meat.

Table 11 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.

Table 11. Summary of adults' consumption rates of foods from the terrestrial survey area

	Food group															
	Green vegetables	Other vegetables	Root vegetables	Potato	Domestic fruit	Milk	Cattle meat	Sheep meat	Poultry	Eggs	Wild/free foods	Rabbits/ hares	Honey	Wild fungi	Venison	Freshwater fish
Number of observations	39	43	44	57	63	18	7	31	19	33	37	2	11	14	6	1
Number of high-rate consumers	11	13	12	22	14	17	7	5	5	15	22	1	8	2	1	1
Observed maximum for the high-rate group (kg y^{-1} or l y^{-1})	28.1	24.2	41.9	83.6	29.5	273.8	37.5	43.6	13.0	38.9	3.5	8.2	3.4	1.5	26.1	1.4
Observed minimum for the high-rate group (kg y^{-1} or l y^{-1})	10.9	10.0	14.3	38.8	11.0	104.3	14.7	20.0	5.0	17.7	1.4	8.2	2.7	1.5	26.1	1.4
Observed mean for the high-rate group (kg y^{-1} or l y^{-1})	17.4	15.1	22.1	51.2	18.4	171.2	25.6	34.2	8.7	27.9	2.5	8.2	2.9	1.5	26.1	1.4
Observed 97.5th percentile (kg y^{-1} or l y^{-1})	28.1	24.0	31.9	70.2	29.5	273.8	37.5	43.6	12.6	38.9	3.5	8.0	3.4	1.5	23.4	Not applicable
Generic mean * (kg y^{-1} or l y^{-1})	15.0	20.0	10.0	50.0	20.0	95.0	15.0	8.0	10.0	8.5	7.0	6.0	2.5	3.0	Not determined	Not determined
Generic 97.5th percentile* (kg y^{-1} or l y^{-1})	45.0	50.0	40.0	120.0	75.0	240.0	45.0	25.0	30.0	25.0	25.0	15.0	9.5	10.0	Not determined	Not determined

Notes

*Generic rates based on data from Byrom and others, 1995.

The observed mean consumption rate for the high-rate group was greater than the generic 97.5th percentile consumption rate for sheep meat and eggs. Nine of the mean consumption rates for the high-rate groups exceeded the generic mean consumption rates. These were for green vegetables, root vegetables, potato, milk, cattle meat, sheep meat, eggs, rabbits/hares and honey. Three of the observed 97.5th percentile consumption rates exceeded the generic 97.5th percentile consumption rates, which were for milk, sheep meat and eggs.

Children's and infants' consumption rates

Fourteen individuals in the child age group and eight individuals in the infant age group were identified consuming foods from the terrestrial survey area. Table 12 presents a summary of children's consumption rates and Table 13 presents a summary of infants' consumption rates. The tables include 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 and infant group. In the child age group, no consumption of foods from the following food groups was identified: milk; pig meat; poultry; rabbits/hares; honey; venison; freshwater fish. In the infant age group, no consumption of foods from the following food groups was identified: green vegetables; other vegetables; root vegetables; potato; pig meat; eggs; rabbits/hares; honey; venison; freshwater fish.

Table 12. Summary of children's consumption rates of foods from the terrestrial survey area (Age range: 6-year-old to 15-year-old)

	Food group									
	Green vegetables	Other vegetables	Root vegetables	Potato	Domestic fruit	Cattle meat	Sheep meat	Eggs	Wild/free foods	Wild fungi
Number of observations	4	2	4	6	8	4	8	5	8	2
Number of high-rate consumers	2	2	4	2	2	4	8	2	4	2
Observed maximum for the high-rate group (kg y^{-1})	6.4	4.8	1.8	8.3	16.1	30.0	8.1	26.0	3.5	0.3
Observed minimum for the high-rate group (kg y^{-1})	3.2	2.4	0.8	8.3	8.0	11.0	3.3	26.0	1.4	0.1
Observed mean for the high-rate group (kg y^{-1})	4.8	3.6	1.1	8.3	12.1	25.3	4.3	26.0	2.0	0.2
Observed 97.5th percentile (kg y^{-1})	6.1	4.8	1.7	8.3	14.7	30.0	7.4	26.0	3.2	0.3

Table 13. Summary of infants' consumption rates of foods from the terrestrial survey area (Age range: 0 to 5-year-old)

	Food group						
	Domestic fruit	Milk	Cattle meat	Sheep meat	Poultry	Wild/free foods	Wild fungi
Number of observations	2	1	1	2	2	4	1
Number of high-rate consumers	1	1	1	2	2	2	1
Observed maximum for the high-rate group (kg y^{-1})	4.0	44.5	4.9	2.7	0.7	0.9	0.07
Observed minimum for the high-rate group (kg y^{-1})	4.0	44.5	4.9	2.0	0.5	0.5	0.07
Observed mean for the high-rate group (kg y^{-1})	4.0	44.5	4.9	2.3	0.6	0.7	0.07
Observed 97.5th percentile (kg y^{-1})	3.9	Not applicable	Not applicable	2.7	0.7	0.8	Not applicable

8. Direct radiation pathways

8.1. Direct radiation survey area

The direct radiation survey area (Figure 7) covered the land and sea within 1 km of the Sellafield nuclear licensed site boundary. The survey area was split into three zones, which were 0 – 0.25 km, >0.25 – 0.5 km and >0.5 – 1.0 km from the Sellafield nuclear licensed site boundary. The occupancy data collected from the direct radiation survey area are also applicable to inhalation and external exposure pathways arising from gaseous releases from the site.

The large area of land to the north and west of the Sellafield site which was previously acquired by NuGeneration Ltd. (NuGen) for the development of a new generation nuclear power station is now owned by the NDA. As a result of this, three residential properties to the west of the site were unoccupied and boarded up, but the land in this area was still being farmed.

One hotel and residential properties are located to the north of the site. One residential road in Calderbridge Village is located to the north of the site at the outer limit of the survey area. Pelham House, owned by the NDA, is located to the south of Calderbridge and local residents have access to the walled garden at the house, which is used as an allotment site. Residents of Calderbridge spent time in the area walking and dog walking, particularly in the grounds of Pelham House. The River Calder flows from the north-east, through the middle of the site, and joins the River Ehen at the Calder Viaduct. The river is accessible up to the site boundary and members of local fishing clubs had the rights to fish on the north-eastern stretch of the river.

Farmland covers most of the land to the east and south-east of the site, from the boundary of the Sellafield site to the outer limit of the survey area. The woodland around Newton Manor, which is located on the outer limit of the survey area, was used for game shooting. The manor was scheduled to be demolished in 2018, but at the time of the survey was standing.

A golf course occupies a large part of the survey area to the south and south-east of the site from the site boundary to the outer limit of the survey area. The outskirts of Seascale fall within the survey area at the outer limit, which includes a small number of properties. Many residents and tourists visited the beach at Seascale and walked north to Sellafield. A nature reserve covered a small area of sand dunes which was located directly to the south of the Sellafield site near the viaduct. This nature reserve was visited by volunteers.

The Sellafield Rail Station is located close to the western side of the site. The rail tracks run parallel to the shore along the south-western edge of the Sellafield site and there is a manned signal box. A footbridge near the rail station crosses the River Ehen but this has

been closed to the public for many years. A cycle track runs along the south-western side of the site and the beach occupies a large part of the survey area to the south and west.

8.2. Residential activities

Residential properties were scattered across the survey area. The two main residential areas were in the outer limits of the survey area. Calderbridge Village was located to the north, and the outskirts of Seascale were located to the south. Interviews were conducted in all three zones at 15 residences, two of which had children or infants. Of the 15 properties, two were within the 0 – 0.25 km zone, four were within the >0.25 – 0.5 km zone, and nine were within the >0.5 – 1.0 km zone. In addition, four properties were unoccupied and boarded up, three of which were to the west of the site on the proposed Moorside land, and one was to the north.

8.3. Leisure activities

A variety of leisure activities were undertaken in the direct radiation survey area. Many people were walking and dog walking in the area around the site and on the beach between Sellafield and Seascale. Angling and hobby fishing took place from the shore at Sellafield. Two angling clubs were identified that had the rights to fish on the River Calder within the survey area upriver of Duke's Bridge. Angling is not permitted along the section of the River Calder that flows through the Sellafield site. One well used allotment site with 20 plots was located to the north of the survey area.

8.4. Commercial activities

A small number of businesses were identified within the survey area. Several farmers had fields within the survey area, some of which bordered the Sellafield site boundary. A golf course was located to the south and south-east of the site. The Sellafield Rail Station was unmanned, but occupancy rates were obtained for the manned signal box near the station. A sewage treatment works is located to the north-east of the site, approximately 0.2 km from the site fence. No data were obtained for the sewage treatment works.

The large area of land to the north and north-west of the Sellafield site, was previously managed by NuGen and owned by Toshiba, for the development of a new generation nuclear power station called Moorside. NuGen announced that it was suspending work on its nuclear new build projects in January 2019. The NDA, which has acquired this land has proposed using the land for a series of nuclear projects, including a new European Pressurised Reactor (EPR), Small Modular Reactors and Advanced Modular Reactors as part of the Moorside Clean Energy Hub.

Interviews were conducted at businesses and farms, three of which were in the 0 – 0.25 km zone, three were in the >0.25 – 0.5 km zone and four were in the >0.5 – 1.0 km zone. The number of employees at these businesses ranged from one to 22.

The activities of Sellafield site employees and contractors, and those working at NDA owned locations including Pelham House and Fellside Heat and Power Ltd, while at work were not considered in the direct radiation survey, as radiation workers are subject to different radiation protection criteria.

8.5. Occupancy rates

The indoor, outdoor and total occupancy data for adults, children and infants in the Sellafield direct radiation area are presented in Table 82 and an analysis of the data by distance zones and occupancy rates is shown in Table 83. A summary of occupancy rates in the direct radiation survey area is presented in Table 14. Where generic data for groups of people were collected, for example employees of businesses, only representative examples have been included in the presented data.

Table 14. Summary of direct radiation occupancy rates

	Zone		
	0 - 0.25 km	>0.25 - 0.5 km	>0.5 - 1.0 km
Number of observations	62	12	52
Highest indoor occupancy (h y^{-1})	6411	8278	7443
Highest outdoor occupancy (h y^{-1})	3550	2466	2373
Highest total occupancy (h y^{-1})	8216	8592	8411

0 - 0.25 km from the nuclear licensed site boundary

Occupancy data for 62 individuals in the 0 - 0.25 km zone were included in the analysis. The observations were for two residents, eight employees and 52 individuals who were undertaking leisure activities. The highest indoor and total occupancy rates was for a resident. The highest outdoor occupancy rate was for a different resident.

>0.25 - 0.5 km from the nuclear licensed site boundary

Occupancy data for 12 individuals in the >0.25 - 0.5 km zone were included in the analysis. The observations were for eight residents, and four employees. The highest indoor and total occupancy rates were for a resident. The highest outdoor occupancy was for a different resident.

>0.5 - 1.0 km from the nuclear licensed site boundary

Occupancy data for 52 people in the >0.5 - 1.0 km zone were included in the analysis. The observations were for 16 residents, 23 employees, three allotment holders, five dog walkers, four individuals walking and one angler. The highest indoor and total occupancy rates were for a resident. The highest outdoor occupancy rate was for another resident.

8.6. Gamma dose rate measurements

Gamma dose rates were measured indoors and outdoors at most properties where interviews were conducted in the Sellafield direct radiation survey area. Where possible, outdoor measurements were taken approximately 5 to 10 metres from the nearest building and 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 multiple Thermo RadEye GX Survey Meters, each connected to a compensated Geiger-Müller tube. The indoor and outdoor measurements have not been adjusted for background dose rates. The indoor and outdoor results are presented in Table 84 and the background results are presented in Table 85. These are summarised in Table 15.

Table 15. Summary of gamma dose rate measurements taken in the direct radiation survey area

Substrate	Number of measurements taken	Minimum gamma dose rate at 1 metre (μGy h^{-1})	Maximum gamma dose rate at 1 metre (μGy h^{-1})
Indoor measurements[a]			
Stone	3	0.092	0.126
Concrete	6	0.095	0.142
Wood	2	0.072	0.090
Outdoor measurements[a]			
Grass	13	0.074	0.092
Stones	1	0.096	0.096
Background measurements			
Grass	3	0.087	0.095

Note

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

Of the 11 measurements taken indoors at locations within the direct radiation survey area, seven readings were higher than the maximum background reading. Of the 14 measurements taken outdoors at locations within the direct radiation survey area, one reading was higher than the maximum background reading. 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 in residential areas are expected to be higher than those taken in rural areas.

The gamma dose rates can be compared with readings taken by the Radiological Response and Emergency Management System (RREMS) programme, which continuously monitors radiation levels at a network of 89 fixed monitors and several mobile monitors distributed throughout the UK (www.gov.uk). The nearest fixed RREMS station was at Barrow-in-Furness, which was approximately 36 km away from Sellafield. The ambient (background) gamma dose rates at Barrow-in-Furness during the survey period, ranged from 0.08 μGy h^{-1} to 0.12 μGy h^{-1}. Most of the readings taken at the time of the survey were within or below the range observed for the RREMS system, with rates at two locations being higher due to environmental variability.

9. Uses of habits data for dose assessments

9.1. 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, Annex 2 and Annex 3 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 86. Each of the 43 combinations shown in Table 86 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 86 because they have fewer pathways and a dose assessment for them would be adequately covered by one of the 43 listed combinations.

9.2. Prenatal dose assessment

Dose assessment of prenatal children 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 UKHSA (formerly, 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 prenatal children.

Therefore, consumption and occupancy data collected during the Sellafield habits survey for females of childbearing age are presented in Annex 10. The Office of National Statistics classifies women to be of childbearing age if they are between 15 and 44 years old (www.ons.gov.uk); this age range has been used in Annex 8. 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 8 as they might be women of childbearing age.

9.3. ‘Total dose’ assessment

The UK environment agencies and the FSA 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) considered this approach to assessing retrospective total doses (Camplin and others, 2005) and 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 (for example: EA, FSA, FSS, NRW, NIEA and SEPA, 2023).

The relevant matrix for the adults’ profiled habits data is shown in Annex 7. Additionally, profiles have been created for the child and infant age groups, and for women of childbearing age. These are shown in Annex 8, Annex 9 and Annex 10, 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.

10. Comparisons with the previous survey

The results from this 2023 survey are compared below with results from the last full habits survey undertaken at Sellafield in 2018. The aquatic, terrestrial and direct radiation survey areas in the 2023 survey were the same as those in the 2018 survey. The comparison of occupancy rates in the direct radiation area is for all age groups combined. All other comparisons are for adults only.

10.1. Aquatic survey area

Activities undertaken in the aquatic survey area were similar in 2018 and 2023. However, the Nephrops catch was reported to be in decline and some of the commercial fishing vessels had temporarily moved to harbours outside of the survey area. There was an increase in people collecting litter from the beaches in 2023 at many locations. Foraging on the shore had also become more popular.

The main species of sea fish consumed by the adult high-rate group in 2023 were cod, bass, brill and thornback ray, and the main species of sea fish consumed by the adult high-rate group in 2018 were cod, thornback ray and plaice. The main species of crustaceans consumed by the adult high-rate group in 2018 were brown crab, common lobster and brown shrimp, whereas in 2023 the main species were common lobster and brown crab. The main species of molluscs consumed by the high-rate group in 2018 were winkles, mussels and limpets, whereas in 2023, the only species consumed by the high-rate group were winkles. In 2023, the only species of marine plants/algae consumed by the adult high-rate group was samphire, whereas in 2018, the main species consumed by the high-rate group was sea lettuce.

A comparison between the consumption of aquatic foods in 2018 and 2023 is presented in Table 16.

Table 16. Comparison between 2018 and 2023 consumption rates of aquatic food groups for adults

Food group	2018			2023		
	Number in high-rate group	Maximum consumption rate (kg y^{-1} or l y^{-1})	Mean consumption rate for the high-rate group (kg y^{-1} or l y^{-1})	Number in high-rate group	Maximum consumption rate (kg y^{-1} or l y^{-1})	Mean consumption rate for the high-rate group (kg y^{-1} or l y^{-1})
Sea fish	18	67.9	40.6	10	50.9	31.0
Crustaceans	11	58.2	34.8	9	24.6	15.4
Molluscs	4	16.0	11.8	4	3.3	2.4
Wildfowl	2	39.8	28.4	2	4.6	4.6
Marine plants/algae	1	0.5	0.5	6	0.2	0.1
Salt marsh grazed cattle meat	Not identified	Not identified	Not identified	3	18.7	18.7
Salt marsh grazed sheep meat	Not identified	Not identified	Not identified	2	25.0	25.0
Milk from cattle grazed on salt marsh	Not identified	Not identified	Not identified	2	414.6	311.0
Wild fungi growing on salt marsh	5	1.1	1.1	Not identified	Not identified	Not identified

There were fewer people consuming sea fish in 2023, and a significant decrease in the maximum and mean consumption rates of sea fish compared with 2018. The consumption of crustaceans and molluscs also decreased significantly in 2023. This was attributed to individuals who had previously spent a significant amount of time on intertidal areas and consumed large qualities of seafood had given up hobby fishing (bait digging, setting pots and nets, angling, collecting shellfish and hooking for lobsters) due to repeated lockdowns during the COVID-19 pandemic. Many of the anglers were releasing fish rather than taking them for consumption.

For intertidal occupancy in both 2018 and 2023, occupancy over intertidal substrates for adults was recorded over mud; mud and sand; mud, sand and stones; rock; salt marsh; sand; sand and stones; stones. Occupancy over boat on mud was identified in 2018 but not in 2023 as this boat had been relocated to Whitehaven Harbour in 2023.

The following activities were undertaken by the individuals in the adult high-rate groups for occupancy over intertidal substrates:

- In 2018: wildfowling, bait digging, angling, dog walking, collecting seaweed, collecting peeler crabs for bait, horse riding, walking, boat maintenance, hooking for crab and lobster, tending livestock, beachcombing, setting nets, playing, practising golf on the beach, and monitoring beach for radioactive particles (in 2023 this was no longer considered as employees were classed as contractors).
- In 2023: wildfowling, dog walking, angling, bait digging, playing, tending livestock, collecting litter, undertaking bird surveys, setting nets, bird watching, beachcombing and walking.

The following activities were undertaken by individuals in the adult high-rate groups for handling fishing gear:

- In 2018: handling pots and nets.
- In 2023: handling pots and nets.

The following activities were undertaken by individuals in the adult high-rate groups for handling sediment:

- In 2018: bait digging and collecting peeler crabs for bait.
- In 2023: bait digging.

A comparison between the 2013 and 2023 data for adult occupancy over intertidal substrates and handling pathways is shown in Table 17.
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Table 17. Comparison between 2018 and 2023 intertidal occupancy rates and handling rates of fishing gear and sediment for adults

Intertidal substrate or handling pathway	2018			2023		
	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	1	62	62	2	131	131
Mud and sand	3	104	104	3	674	652
Mud, sand and stones	6	730	406	9	483	373
Rock	5	417	269	1	1239	1239
Salt marsh	5	274	210	5	546	437
Sand	23	1234	657	29	1095	654
Sand and stones	12	576	400	14	1294	813
Stones	1	4	4	1	313	313
Boat on mud	1	131	131	Not identified	Not identified	Not identified
Handling fishing gear	6	1716	1384	5	1908	1908
Handling sediment	2	698	506	6	720	619

In 2023, compared to 2018, the mean intertidal rate for the adult high-rate group increased significantly over the following substrates: mud and sand; rock; salt marsh; sand and stones; stones. Occupancy on a boat on mud was identified in 2018, but not in 2023.

The increase in occupancy over mud and sand was attributed to a newly identified professional dog walker who spent a significant amount of time at Whitehaven Outer Harbour. The increase in occupancy over rock was attributed to a newly identified angler who spent time fishing at Parton and St Bees. The increase in occupancy over stones was attributed to a newly identified angler who spent time fishing at Parton.

The mean rate for the adult high-rate groups for handling fishing gear increased in 2023 compared to 2018 as a commercial fisherman had increased their fishing time.

For activities taking place in water in the aquatic survey area, the maximum adult occupancy rate in 2018 was 960 h y^{-1} for an individual who was teaching kayaking and paddleboarding. In 2023, the maximum adult occupancy rate had decreased significantly to 490 h y^{-1}, for one individual who was swimming at Coulderton.

For activities undertaken on the water in the aquatic survey area, the maximum adult occupancy rate increased significantly from 1700 h y^{-1} in 2018 to 2600 h y^{-1} in 2023. In both years the maximum rates were for commercial fishermen who were potting for crabs and lobsters.

10.2. Terrestrial survey area

Activities in the Sellafield terrestrial survey area in 2023 were broadly similar to those in 2018. The principal types of farm produce within the area continued to be cows' milk, beef and lamb. The growing of fruit and vegetables in gardens and on an allotment site, beekeeping and the collection of wild/free foods and game shooting on farmland were identified in both surveys.

The mean consumption rates for the adult high-rate groups for terrestrial food groups from the 2018 and 2023 surveys are shown in Table 18.

Table 18. Comparison between 2018 and 2023 mean consumption rates (kg y^{-1} or l y^{-1}) for the adult high-rate groups for terrestrial food groups

Food group	2018	2023
Green vegetables	30.5	17.4
Other vegetables	31.1	15.1
Root vegetables	23.4	22.1
Potato	86.1	51.2
Domestic fruit	37.7	18.4
Milk	202.1	171.2
Cattle meat	33.1	25.6
Sheep meat	23.4	34.2
Poultry	20.1	8.7
Eggs	26.9	27.9
Wild/free foods	2.9	2.5
Rabbits/hares	5.4	8.2
Honey	2.3	2.9
Wild fungi	1.6	1.5
Venison	10.0	26.1
Freshwater fish	4.2	1.4

In 2023, compared to 2018, the mean consumption rates for the adult high-rate group increased in the following food groups: sheep meat; eggs; rabbits/hares; honey; venison. In 2023 the mean consumption rates for the adult high-rate groups decreased in the following food groups: green vegetables; other vegetable; root vegetables; potato; domestic fruit; milk; cattle meat; poultry; wild/free foods; wild fungi; freshwater fish. The most significant decreases in the consumption rates were for other vegetables, domestic fruit and poultry, whilst the most significant increases were for sheep meat, rabbits/hares and venison.

The decrease in consumption of poultry was due to an individual who was consuming large quantities of pheasant and mallard in 2018 but in 2023 had significantly decreased their consumption. The increase in consumption of venison was due to the new identification of another individual who was shooting deer for consumption. No specific reasons were identified for the other changes in consumption rates.

The human consumption of spring water was identified in 2018 and 2023. Livestock were drinking mains water, spring water and water from streams and ditches in both 2023 and 2018.

The human consumption of spring water was identified at one residence, no other groundwater consumption was identified. Livestock were identified drinking mains water, spring water and some had access to streams.

10.3. Direct radiation survey area

Activities identified in the direct radiation survey area in 2018 and 2023 were similar and included people residing, working and undertaking recreational activities. The survey area remained unchanged from the previous survey in 2018. A comparison between the 2018 and 2023 direct radiation occupancy rates for all age groups combined, by zone, is presented in Table 19.

Table 19. Comparison between 2018 and 2023 direct radiation occupancy rates (h y^{-1}) for all age groups combined

	2018	2023
0 - 0.25 km		
Highest indoor occupancy	6867	6411
Highest outdoor occupancy	3159	3550
Highest total occupancy	8123	8216
>0.25 - 0.5 km		
Highest indoor occupancy	6308	8278
Highest outdoor occupancy	2199	2466
Highest total occupancy	8507	8592
>0.5 - 1.0 km		
Highest indoor occupancy	8290	7443
Highest outdoor occupancy	2493	2373
Highest total occupancy	8472	8411

The occupancy rates in the direct radiation survey area were broadly similar in 2018 and 2023 except for an increase in the indoor occupancy rates in the >0.25 - 0.5 km zone. The highest indoor, outdoor and total occupancy rates in all three zones in 2023 and 2018 were for residents.

Table 20. Comparison between 2018 and 2023 gamma dose rates (µGy h^{-1})

Location	Indoor		Outdoor	
	2018	2023	2018	2023
Residence 1	Not recorded	0.092	0.069	0.081
Residence 2	0.155	0.142	0.090	0.089
Residence 3	0.100	0.095	0.093	0.084
Residence 4	0.135	0.126	0.100	0.091
Residence 5	0.041	Not recorded	0.087	0.092
Residence 6	Not recorded	Not recorded	0.087	0.096
Residence 7	0.106	0.103	0.101	0.092

Notes

These measurements have not been adjusted for background dose rates.
The locations correspond to those in Table 84.

All the indoor readings were lower in 2023, compared with 2018. Three of the outdoor readings were higher in 2023, compared with 2018 and four readings were lower.

11. Main findings

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

- Discharges of liquid radioactive waste into the Irish Sea.
- Discharges of gaseous radioactive waste to the atmosphere.
- Emissions of direct radiation.

Information was obtained by conducting interviews with members of the public including, for example, anglers, people spending time on intertidal 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 562 individuals are presented and discussed in this report. The survey was expanded to include the LLWR site due to the proximity to the Sellafield site. The aquatic survey area was the same for Sellafield and LLWR and the terrestrial survey areas overlapped. Therefore, data for these areas will be identical in both reports. All consumption rates recorded are only for foods produced, collected or caught from within the aquatic and terrestrial survey areas as defined in Section 4.3. The consumption and occupancy rates in this section are presented to two significant figures.

11.1. Aquatic survey area

The mean consumption rates for the adult high-rate groups (as defined in Section 5.4) for the separate aquatic consumption pathways for foods potentially affected by liquid discharges were:

- 31 kg y^{-1} for sea fish
- 15 kg y^{-1} for crustaceans
- 2.4 kg y^{-1} for molluscs
- 4.6 kg y^{-1} for wildfowl
- 0.1 kg y^{-1} for marine plants/algae
- 19 kg y^{-1} for salt marsh grazed cattle meat
- 25 kg y^{-1} for salt marsh grazed sheep meat

- 310 l y^{-1} milk from cattle grazed on salt marsh

The predominant foods consumed by the people in the adult high-rate groups were:

- For sea fish: bass, brill, cod and thornback ray
- For crustaceans: common lobster and brown crab
- For molluscs: winkle
- For wildfowl: greylag goose and pink-footed goose
- For marine plants/algae: samphire

There were no individuals identified collecting seaweed from the survey area for use as fertiliser on allotment plots and vegetable gardens for the production of fruit and vegetables. The use of seaweed as animal feed was not identified, however, livestock had access to the shore at Drigg where they could graze on seaweed.

The mean occupancy rates for the adult high-rate groups over the separate intertidal substrates were:

- 130 h y^{-1} for mud
- 650 h y^{-1} for mud and sand
- 370 h y^{-1} for mud, sand and stones
- 1200 h y^{-1} for rock
- 440 h y^{-1} for salt marsh
- 650 h y^{-1} for sand
- 810 h y^{-1} for sand and stones
- 310 h y^{-1} for stones

The mean rates for the adult high-rate groups for handling were:

- 1900 h y^{-1} for handling fishing gear
- 620 h y^{-1} for handling sediment

The maximum adult occupancy rates for water-based activities were:

- 490 h y^{-1} for ‘in water’
- 2600 h y^{-1} for ‘on water’

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

11.2. 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:

- 17 kg y^{-1} for green vegetables
- 15 kg y^{-1} for other vegetables
- 22 kg y^{-1} for root vegetables
- 51 kg y^{-1} for potato
- 18 kg y^{-1} for domestic fruit
- 170 l y^{-1} for milk
- 26 kg y^{-1} for cattle meat
- 34 kg y^{-1} for sheep meat
- 8.7 kg y^{-1} for poultry
- 28 kg y^{-1} for eggs
- 2.5 kg y^{-1} for wild/free foods
- 8.2 kg y^{-1} for rabbits/hares
- 2.9 kg y^{-1} for honey
- 1.5 kg y^{-1} for wild fungi
- 26 kg y^{-1} for venison
- 1.4 kg y^{-1} for freshwater fish

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

The human consumption of spring water was identified at one residence, no other groundwater consumption was identified. Livestock were identified drinking mains water, spring water and some had access to streams.

11.3. Direct radiation survey area

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

0 - 0.25 km zone

- 6400 h y^{-1} for the indoor occupancy rate
- 3600 h y^{-1} for the outdoor occupancy rate

- 8200 h y^{-1} for the total occupancy rate

>0.25 - 0.5 km zone

- 8300 h y^{-1} for the indoor occupancy rate
- 2500 h y^{-1} for the outdoor occupancy rate
- 8600 h y^{-1} for the total occupancy rate

>0.5 - 1.0 km zone

- 7400 h y^{-1} for the indoor occupancy rate
- 2400 h y^{-1} for the outdoor occupancy rate
- 8400 h y^{-1} for the total occupancy rate

In all three zones, the highest indoor and total occupancy rates were for residents.

12. 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 significant amounts of time.

In England and Wales, the monitoring programme for radioactivity in food is undertaken by the FSA, and the monitoring programme for radioactivity in the environment is conducted by the EA. The results of these programmes are published annually in the RIFE reports (for example: EA, FSA, FSS, NRW, NIEA and SEPA, 2023).

In 2013 the FSA 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.

12.1. Summary of the monitoring programmes

The 2022 monitoring programmes relevant to the Sellafield area included the samples and measurements listed in Table 21, Table 22 and Table 23. The location names, foods and substrate classifications are taken directly from RIFE 28 (EA, FSA, FSS, NRW, NIEA and SEPA, 2023). Some of the samples and measurements taken for the monitoring programmes may be from outside the survey areas used for the 2023 Sellafield habits survey.

Table 21. Aquatic food and environmental samples used in the RIFE 28 monitoring programme

Sample	Location
Cod	Parton
Cod	Whitehaven
Plaice	Whitehaven
Plaice	Ravenglass
Crabs	Parton
Crabs	Sellafield coastal area
Lobsters	Parton
Lobsters	Sellafield coastal area
Winkles	Parton
Winkles	Nethertown
Winkles	Ravenglass
Nephrops	Whitehaven
Mussels	Whitehaven Outer Harbour
Prawns	Seascale
Samphire	Ravenglass
Seaweed	St Bees
Seaweed	Sellafield
Seaweed	Ravenglass
Sediment	Whitehaven Outer Harbour
Sediment	St Bees beach
Sediment	Ehen spit
Sediment	Sellafield beach, S of former pipeline
Sediment	River Calder - downstream
Sediment	River Calder - upstream
Sediment	Seascale beach
Sediment	Ravenglass - Carleton Marsh
Sediment	River Mite Estuary (erosional)
Sediment	Ravenglass - Raven Villa
Sediment	Newbiggin (Eskmeals)

Table 22. Gamma dose rate measurements over intertidal substrates

Location	Substrate
Whitehaven Outer Harbour	Pebbles and sand
Whitehaven Outer Harbour	Sand
St Bees	Sand
Nethertown beach	Shingle
Ehen spit	Pebbles and sand
Ehen spit	Sand and shingle
Braystones	Grass
Braystones beach	Shingle
WAMAC Access gate	Grass
Sellafield dunes	Grass
North of former pipeline on foreshore	Sand
North of former pipeline on foreshore	Sand and stones
South of former pipeline on foreshore	Pebbles and sand
South of former pipeline on foreshore	Sand
River Calder downstream of site	Grass
River Calder downstream of site	Grass and pebbles
River Calder downstream of site	Grass and sand
River Calder upstream of site	Grass
Seascale beach	Pebbles and sand
Seascale beach	Sand
Ravenglass - Carleton Marsh	Salt marsh
Ravenglass - River Mite estuary (erosional)	Salt marsh
Ravenglass - Raven Villa	Salt marsh
Ravenglass - boat area	Pebbles and sand
Ravenglass - boat area	Sand
Ravenglass - boat area	Sand and stones
Ravenglass - ford	Sand
Muncaster Bridge	Grass
Muncaster Bridge	Grass and salt marsh
Muncaster Bridge	Salt marsh
Ravenglass - salmon garth	Mud and sand
Ravenglass - salmon garth	Sand
Ravenglass - salmon garth	Sand and stones
Ravenglass - Eskmeals Nature Reserve	Salt marsh
Newbiggin/Eskmeals Bridge	Salt marsh
Newbiggin/Eskmeals viaduct	Salt marsh
Tarn Bay	Sand

Table 23. Sellafield terrestrial samples used in the RIFE 28 monitoring programme

Sample	Location
Milk	-
Apple	-
Barley	-
Beef kidney	-
Beef liver	-
Beef muscle	-
Beetroot	-
Cabbage	-
Carrots	-
Duck	-
Eggs	-
Mushrooms	-
Pheasant	-
Potatoes	-
Rabbit	-
Sheep muscle	-
Sheep offal	-
Grass	Braystones
Grass	River Calder (upstream)
Grass	River Calder (downstream)
Grass	WAMAC Access gate
Soil	Braystones
Soil	River Calder (upstream)
Soil	WAMAC Access gate

12.2. Information from the 2023 Sellafield habits survey for use in the selection of samples and measurements for monitoring programmes

Food Standards Agency monitoring

The following foods presented in Table 24 were either consumed in the largest quantities in their food groups or were the only food in their food group and could be considered for potentially selecting samples for the FSA monitoring programme.

Table 24. Foods considered for potentially selecting samples for the FSA monitoring programme

Food	Food Group
Cod	Sea fish
Common lobster	Crustaceans
Winkle	Molluscs
Greylag goose	Wildfowl
Samphire	Marine plants/algae
Salt marsh beef	Salt marsh grazed cattle meat
Salt marsh lamb	Salt marsh grazed sheep meat
Cows' milk	Milk from cattle grazed on salt marsh
Courgette	Green vegetables
Tomato	Other vegetables
Onion	Root vegetables
Potato	Potato
Apple	Domestic fruit
Cows' milk	Milk
Beef	Cattle meat
Lamb	Sheep meat
Pheasant	Poultry
Chicken egg	Egg
Blackberry	Wild/free foods
Hare	Rabbits/hares
Honey	Honey
Mushrooms	Wild fungi
Venison	Venison
Brown trout	Freshwater fish

Environment Agency monitoring

The current environmental monitoring programme adequately covers the Sellafield area, and no changes are suggested.

13. Acknowledgements

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Table 25. 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 Sellafield aquatic, terrestrial and direct radiation survey areas.	Number of people resident in the terrestrial survey area (excluding those residents in the direct radiation survey area) (See (B) Terrestrial pathways)	2950[a]	69[b]	2.3%	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)	40	26[b]	65%	Interviews were conducted with members of the public from 14 residences out of an estimated total of 22 permanent residences.
	Number of people working, visiting and undertaking recreational activities in the direct radiation survey area (See (C) Direct radiation pathways)	U	100[b]	U	Excluding employees and contractors at the nuclear licensed 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 affected by liquid discharges (excluding those assigned to other categories above) (See (A) Aquatic pathways)	U	362[b]	U	Where generalised data for groups of people were obtained, for example members of angling clubs, only a limited number of representative individuals have been included.
	Total for aquatic, terrestrial and direct radiation survey areas	U	557[b]	U	

Group	Criteria	Estimate of complete coverage	Number for whom positive data was obtained	Coverage for positive observations	Notes
(A) **Aquatic pathways**					
Commercial and hobby fishermen	Number of commercial and hobby fishermen fishing in the aquatic survey area	U	35	U	
People using the intertidal areas (for example: dog walkers, people playing, etc.)	Number of people undertaking activities on the intertidal areas in the aquatic survey area	U	312	U	
People undertaking activities in or on water (for example: swimming, rowing and kayaking etc.)	Number of people undertaking activities in or on water in the aquatic survey area	U	88	U	
Sea fish and shellfish consumers (from waters subject to liquid discharges)	Number of people consuming sea fish and/or crustaceans from the aquatic survey area	U	82	U	
Wildfowl consumers (from waters or intertidal areas subject to liquid discharges)	Number of people consuming wildfowl from the aquatic survey area	U	2	U	

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, smallholders and their family members consuming food from the terrestrial survey area	U	94	U	Interviews were conducted at 25 farms out of an estimated 32 farms in the terrestrial survey area. Four of the farms interviewed were not consuming any food from the terrestrial survey area.
Allotment holders and gardeners	Number of allotment holders, gardeners and their family members consuming food from the terrestrial survey area	U	40	U	
Honey consumers	Number of people consuming honey produced in the survey area	U	11	U	Four beekeepers were identified who kept hives in the survey area.
(C) **Direct radiation pathways**					
Residents	Number of residents in the survey area	40	26	65%	Interviews were conducted with members of the public from 14 residences out of an estimated total of 22 permanent residences.
Employees	Number of people working in the survey area	U	38	U	Excluding people who were living in the direct radiation survey area and employees and contractors at the nuclear licensed 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.

Group	Criteria	Estimate of complete coverage	Number for whom positive data was obtained	Coverage for positive observations	Notes
(C) **Direct radiation pathways**					
Visitors (people undertaking recreational activities or visiting relatives)	Number of people visiting the area	U	36	U	
Breakdown of age groups for people resident in the 5 km terrestrial survey area					
Adult	16-year-old and over	2600[a]	497	19.1%	
Child	6-year-old to 15-year-old	270[a]	43	15.9%	
Infant	0 to 5-year-old	120[a]	22	18.3%	

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 and consumes foods from the terrestrial area.

U = Unknown.

Table 26. Typical food groups used in habits surveys

Food group	Examples of foods within the group
Green vegetables	Asparagus, broccoli, Brussels sprouts, cabbage, calabrese, cauliflower, chard, courgette, cucumber, gherkin, globe artichoke, herbs, kale, leaf beet, lettuce, marrow, spinach
Other vegetables	Aubergine, broad bean, chili 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

Food group	Examples of foods within the group
Wild fungi	Mushrooms, other edible fungi
Rabbits/hares	Hare, rabbit
Venison[a]	Venison
Fish (sea)	Bass, brill, cod, 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 sea fish due to their mobility and physiology.

Table 27. Adults' consumption rates of sea fish from the aquatic survey area (kg y^{-1})

Person ID number	Bass	Brill	Cod	Dover sole	Flounder	Haddock	Herring	Mackerel	Plaice	Pollack	Salmon	Sea trout	Thornback ray	Total
3824/1/1	**11.8**	**-**	**27.2**	**-**	**5.0**	**-**	**-**	**-**	**5.0**	**-**	**-**	**1.9**	**-**	**50.9**
4354/1/1	**-**	**-**	**34.4**	**-**	**-**	**-**	**9.6**	**-**	**-**	**-**	**-**	**-**	**-**	**44.1**
4296/1/1	**-**	**32.3**	**0.2**	**2.4**	**-**	**-**	**-**	**-**	**1.7**	**-**	**-**	**-**	**0.2**	**36.9**
4296/2/1	**-**	**32.3**	**0.2**	**2.4**	**-**	**-**	**-**	**-**	**1.7**	**-**	**-**	**-**	**0.2**	**36.9**
4329/1/1	**33.4**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**33.4**
4107/1/1	**9.1**	**-**	**-**	**-**	**-**	**-**	**-**	**9.1**	**-**	**9.1**	**-**	**-**	**-**	**27.4**
3909/1/1	**-**	**-**	**0.4**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**23.4**	**23.8**
3854/1/1	**-**	**-**	**5.2**	**-**	**-**	**-**	**-**	**-**	**10.4**	**5.2**	**-**	**-**	**-**	**20.8**
4301/1/1	**-**	**-**	**8.0**	**-**	**-**	**-**	**-**	**-**	**1.8**	**-**	**-**	**-**	**8.0**	**17.7**
4301/2/1	**-**	**-**	**8.0**	**-**	**-**	**-**	**-**	**-**	**1.8**	**-**	**-**	**-**	**8.0**	**17.7**
4319/1/1	-	-	5.2	-	-	-	-	10.5	-	-	-	-	-	15.7
4319/2/1	-	-	5.2	-	-	-	-	10.5	-	-	-	-	-	15.7
4319/3/1	-	-	5.2	-	-	-	-	10.5	-	-	-	-	-	15.7
4095/2/1	-	-	5.2	-	-	-	-	5.2	5.2	-	-	-	-	15.6
3943/1/1	-	-	15.0	-	-	-	-	-	-	-	-	-	-	15.0
4042/1/1	-	-	3.3	-	-	-	-	3.3	3.3	-	-	-	3.3	13.0
4084/3/1	2.9	-	2.9	-	-	-	-	2.9	-	-	1.0	-	2.9	12.7
4136/1/1	6.0	-	-	-	-	-	-	-	-	-	6.0	-	-	12.0
4215/2/1	-	-	6.0	-	-	-	-	-	6.0	-	-	-	-	12.0
3862/1/1	-	-	10.8	-	-	-	-	-	-	-	-	-	-	10.8
4355/1/1	-	-	10.5	-	-	-	-	-	-	-	-	-	-	10.5
4355/2/1	-	-	10.5	-	-	-	-	-	-	-	-	-	-	10.5
3850/1/1	2.6	-	2.6	-	-	-	-	2.6	2.6	-	-	-	-	10.4
3850/2/1	2.6	-	2.6	-	-	-	-	2.6	2.6	-	-	-	-	10.4

Person ID number	Bass	Brill	Cod	Dover sole	Flounder	Haddock	Herring	Mackerel	Plaice	Pollack	Salmon	Sea trout	Thornback ray	Total
3920/1/1	-	-	7.1	-	-	-	-	-	1.8	-	-	-	-	8.9
3920/2/1	-	-	7.1	-	-	-	-	-	1.8	-	-	-	-	8.9
3920/3/1	-	-	7.1	-	-	-	-	-	1.8	-	-	-	-	8.9
4147/3/1	-	-	8.0	-	-	-	-	-	-	-	-	-	-	8.0
4224/1/1	-	-	7.9	-	-	-	-	-	-	-	-	-	-	7.9
4224/2/1	-	-	7.9	-	-	-	-	-	-	-	-	-	-	7.9
3874/1/1	1.5	-	2.6	-	-	-	-	-	-	-	-	-	-	4.1
3874/3/1	1.5	-	2.6	-	-	-	-	-	-	-	-	-	-	4.1
4257/1/1	1.0	-	1.0	-	-	-	-	-	-	1.0	-	-	1.0	4.0
4257/2/1	1.0	-	1.0	-	-	-	-	-	-	1.0	-	-	1.0	4.0
4347/1/1	-	-	-	-	-	-	-	3.6	-	-	-	-	-	3.6
4347/2/1	-	-	-	-	-	-	-	3.6	-	-	-	-	-	3.6
4347/3/1	-	-	-	-	-	-	-	3.6	-	-	-	-	-	3.6
4347/4/1	-	-	-	-	-	-	-	3.6	-	-	-	-	-	3.6
4347/5/1	-	-	-	-	-	-	-	3.6	-	-	-	-	-	3.6
4031/1/1	1.2	-	1.2	-	-	-	-	-	0.8	-	-	-	-	3.2
4054/1/1	3.2	-	-	-	-	-	-	-	-	-	-	-	-	3.2
4224/3/1	-	-	2.6	-	-	-	-	-	-	-	-	-	-	2.6
4224/4/1	-	-	2.6	-	-	-	-	-	-	-	-	-	-	2.6
3871/2/1	2.4	-	-	-	-	-	-	-	-	-	-	-	-	2.4
4320/1/1	-	-	-	-	-	-	-	-	1.2	-	-	-	1.2	2.4
4320/2/1	-	-	-	-	-	-	-	-	1.2	-	-	-	1.2	2.4
4052/1/1	-	-	-	-	-	-	-	-	2.4	-	-	-	-	2.4
3866/1/1	-	-	-	-	-	-	-	1.8	-	-	-	-	-	1.8
4264/1/1	-	-	0.8	-	-	0.8	-	-	-	-	-	-	-	1.6
4264/2/1	-	-	0.8	-	-	0.8	-	-	-	-	-	-	-	1.6

Person ID number	Bass	Brill	Cod	Dover sole	Flounder	Haddock	Herring	Mackerel	Plaice	Pollack	Salmon	Sea trout	Thornback ray	Total
4033/1/1	-	-	1.6	-	-	-	-	-	-	-	-	-	-	1.6
4033/2/1	-	-	1.6	-	-	-	-	-	-	-	-	-	-	1.6
4363/2/1	1.0	-	0.4	-	-	-	-	-	-	-	-	-	-	1.4
4363/5/1	1.0	-	0.4	-	-	-	-	-	-	-	-	-	-	1.4
4053/1/1	-	-	-	-	-	-	-	-	1.2	-	-	-	-	1.2
4190/1/1	-	-	0.4	-	-	0.4	-	-	0.4	-	-	-	-	1.2
4190/2/1	-	-	0.4	-	-	0.4	-	-	0.4	-	-	-	-	1.2
4261/1/1	-	-	-	-	-	-	-	0.8	-	-	-	-	-	0.8
4261/2/1	-	-	-	-	-	-	-	0.8	-	-	-	-	-	0.8
3870/1/1	0.8	-	-	-	-	-	-	-	-	-	-	-	-	0.8
3871/1/1	0.8	-	-	-	-	-	-	-	-	-	-	-	-	0.8
4234/1/1	0.4	-	-	-	-	-	-	-	-	-	-	-	-	0.4
4234/2/1	0.4	-	-	-	-	-	-	-	-	-	-	-	-	0.4
4219/1/1	-	-	-	-	-	-	-	0.4	-	-	-	-	-	0.4
4219/2/1	-	-	-	-	-	-	-	0.4	-	-	-	-	-	0.4
4219/3/1	-	-	-	-	-	-	-	0.4	-	-	-	-	-	0.4
3909/2/1	-	-	0.4	-	-	-	-	-	-	-	-	-	-	0.4

Notes

Emboldened observations are the high-rate consumers

The mean consumption rate of sea fish for adults based on the 10 high-rate consumers is 31.0 kg y^{-1}

The observed 97.5th percentile rate based on 67 observations is 39.3 kg y^{-1}

Table 28. Adults' consumption rates of crustaceans from the aquatic survey area (kg y^{-1})

Person ID number	Brown crab	Common lobster	Nephrops	Total
3909/1/1	**13.4**	**11.2**	**-**	**24.6**
3909/2/1	**13.4**	**11.2**	**-**	**24.6**
4296/3/1	**-**	**-**	**15.5**	**15.5**
4301/1/1	**3.2**	**11.2**	**0.4**	**14.8**
4301/2/1	**3.2**	**11.2**	**0.4**	**14.8**
4363/2/1	**1.1**	**11.2**	**-**	**12.3**
4363/5/1	**1.1**	**11.2**	**-**	**12.3**
4084/3/1	**-**	**7.7**	**3.6**	**11.3**
4354/1/1	**3.3**	**5.2**	**-**	**8.4**
4296/1/1	-	-	7.6	7.6
4296/2/1	-	-	7.6	7.6
4332/1/1	2.7	4.2	-	6.9
4332/2/1	2.7	4.2	-	6.9
4332/3/1	2.7	4.2	-	6.9
4332/4/1	2.7	4.2	-	6.9
4042/1/1	-	6.5	-	6.5
4320/1/1	0.3	0.4	5.2	5.9
4320/2/1	0.3	0.4	5.2	5.9
3917/1/1	1.6	2.6	-	4.2
4037/1/1	1.4	2.2	-	3.5
4033/1/1	1.6	1.3	-	2.9
4033/2/1	1.6	1.3	-	2.9
4363/3/1	-	2.8	-	2.8
4363/4/1	-	2.8	-	2.8
4136/1/1	-	2.2	-	2.2
4363/1/1	1.1	-	-	1.1
4053/1/1	-	1.1	-	1.1
3862/1/1	0.3	0.4	-	0.7
4107/1/1	0.7	-	-	0.7
4219/1/1	0.09	0.07	-	0.2
4219/2/1	0.09	0.07	-	0.2
4219/3/1	0.09	0.07	-	0.2

Notes

Emboldened observations are the high-rate consumers

The mean consumption rate of crustaceans for adults based on the 9 high-rate consumers is 15.4 kg y^{-1}

The observed 97.5th percentile rate based on 32 observations is 24.6 kg y^{-1}

Table 29. Adults' consumption rates of molluscs from the aquatic survey area (kg y^{-1})

Person ID number	Mussel	Razor shell	Whelk	Winkle	Total
4095/1/1	**-**	**-**	**-**	**3.3**	**3.3**
4095/2/1	**-**	**-**	**-**	**3.3**	**3.3**
4033/1/1	**-**	**0.2**	**-**	**1.3**	**1.5**
4033/2/1	**-**	**0.2**	**-**	**1.3**	**1.5**
4320/1/1	-	-	1.1	-	1.1
4320/2/1	-	-	1.1	-	1.1
4319/1/1	-	-	-	0.4	0.4
4264/1/1	0.1	-	-	0.3	0.4
4041/1/1	-	-	-	0.2	0.2
4041/2/1	-	-	-	0.2	0.2

Notes

Emboldened observations are the high-rate consumers

The mean consumption rate of molluscs for adults based on the 4 high-rate consumers is 2.4 kg y^{-1}

The observed 97.5th percentile rate based on 10 observations is 3.3 kg y^{-1}

Table 30. Adults' consumption of wildfowl from the aquatic survey area (kg y^{-1})

Person ID number	Greylag goose	Mallard	Pink-footed goose	Total
3925/1/1	**3.3**	**0.4**	**0.9**	**4.6**
3925/2/1	**3.3**	**0.4**	**0.9**	**4.6**

Notes

Emboldened observations are the high-rate consumers

The mean consumption rate of wildfowl for adults based on the 2 high-rate consumers is 4.6 kg y^{-1}

The observed 97.5th percentile rate based on 2 observations is 4.6 kg y^{-1}

Table 31. Adults' consumption rates of marine plants/algae from the aquatic survey area (kg y^{-1})

Person ID number	Dulse	Samphire	Sea lettuce	Total
4358/1/1	0.1	-	0.1	0.2
4347/1/1	-	0.08	-	0.08
4347/2/1	-	0.08	-	0.08
4347/3/1	-	0.08	-	0.08
4347/4/1	-	0.08	-	0.08
4347/5/1	-	0.08	-	0.08

Notes

Emboldened observations are the high-rate consumers
The mean consumption rate of marine plants/algae for adults based on the 6 high-rate consumers is 0.1 kg y^{-1}
The observed 97.5th percentile rate based on 6 observations is 0.2 kg y^{-1}

Table 32. Adults' consumption rates of salt marsh grazed cattle meat from the aquatic survey area (kg y^{-1})

Person ID number	Salt marsh beef
4336/1/1	18.7
4336/2/1	18.7
4336/3/1	18.7

Notes

Emboldened observations are the high-rate consumers
The mean consumption rate of salt marsh grazed cattle meat for adults based on the 3 high-rate consumers is 18.7 kg y^{-1}
The observed 97.5th percentile rate based on 3 observations is 18.7 kg y^{-1}

Table 33. Adults' consumption rates of salt marsh grazed sheep meat from the aquatic survey area (kg y^{-1})

Person ID number	Salt marsh lamb
4336/2/1	25.0
4336/3/1	25.0

Notes

Emboldened observations are the high-rate consumers
The mean consumption rate of salt marsh grazed sheep meat for adults based on the 2 high-rate consumers is 25.0 kg y^{-1}
The observed 97.5th percentile rate based on 2 observations is 25.0 kg y^{-1}

Table 34. Adults' consumption rates of milk (from cows gazed on salt marsh) from the aquatic survey area (l y^{-1})

Person ID number	Cows' milk
4116/1/1	**414.6**
4116/3/1	**207.3**
4116/2/1	103.7

Notes

Emboldened observations are the high-rate consumers

The mean consumption rate of milk from cattle grazed on salt marsh for adults based on the 2 high-rate consumers is 311.0 l y^{-1}

The observed 97.5th percentile rate based on 3 observations is 404.3 l y^{-1}

Table 35. Children's consumption rates of sea fish from the aquatic survey area (kg y^{-1})

Person ID number	Age	Bass	Cod	Mackerel	Pollack	Total
4107/2/1	**13**	**9.1**	**-**	**9.1**	**9.1**	**27.4**
3874/2/1	9	1.1	1.9	-	-	3.0

Notes

The emboldened observation is the high-rate consumer

The mean consumption rate of sea fish for the child age group based on the high-rate consumer is 27.4 kg y^{-1}

The observed 97.5th percentile rate based on 2 observations is 26.8 kg y^{-1}

Table 36. Infants' consumption rates of sea fish from the aquatic survey area (kg y^{-1})

Person ID number	Age	Bass	Cod	Mackerel	Pollack	Total
3874/4/1	**4**	**0.7**	**1.3**	**-**	**-**	**2.0**
4347/6/1	**4**	**-**	**-**	**1.8**	**-**	**1.8**

Notes

The emboldened observation are the high-rate consumers

The mean consumption rate of sea fish for the infant age group based on the 2 high-rate consumers is 1.9 kg y^{-1}

The observed 97.5th percentile rate based on 2 observations is 2.0 kg y^{-1}

Table 37. Children's consumption rates of crustaceans from the aquatic survey area (kg y^{-1})

Person ID number	Age	Brown crab
4107/2/1	**13**	**0.7**

Notes
The emboldened observation is the high-rate consumer
The mean consumption rate of crustaceans for the child age group based on the high-rate consumer is 0.7 kg y^{-1}
The observed 97.5th percentile is not applicable for 1 observation

Table 38. Infants' consumption rates of marine plants/algae from the aquatic survey area (kg y^{-1})

Person ID number	Age	Samphire	Total
4347/6/1	**4**	**0.04**	**0.04**

Notes
The emboldened observation is the high-rate consumer
The mean consumption rate of marine plants/algae for the infant age group based on the high-rate consumer is 0.04 kg y^{-1}
The observed 97.5th percentile is not applicable for 1 observation

Table 39. Adults' intertidal occupancy rates in the aquatic survey area (h y^{-1})

Person ID number	Location	Activity	Mud	Mud and sand	Mud, sand and stones	Rock	Salt marsh	Sand	Sand and stones	Stones
4332/1/1	**Ravenglass Estuary**	**Wildfowling**	**131**	-	-	-	-	-	-	-
			-	-	-	-	22	-	-	-
	Seascale	Playing	-	-	-	-	-	52	-	-
4332/3/1	**Ravenglass Estuary**	**Wildfowling**	**131**	-	-	-	-	-	-	-
			-	-	-	-	22	-	-	-
	Seascale	Playing	-	-	-	-	-	52	-	-
4136/1/1	River Irt	Angling	20	-	-	-	-	-	-	-
4335/1/1	River Irt	Playing	10	-	-	-	-	-	-	-
	Seascale	Dog walking	-	-	-	-	-	30	-	-
4335/2/1	River Irt	Playing	10	-	-	-	-	-	-	-
	Seascale	Dog walking	-	-	-	-	-	30	-	-
4344/1/1	**Whitehaven Outer Harbour**	**Dog walking**	**-**	**674**	-	-	-	-	-	-
	St Bees		**-**	-	-	-	-	**674**	-	-
	Parton		**-**	-	-	-	-	-	**674**	-
4344/2/1	**Whitehaven Outer Harbour**	**Dog walking**	**-**	**674**	-	-	-	-	-	-
	St Bees		**-**	-	-	-	-	**674**	-	-
	Parton		**-**	-	-	-	-	-	**674**	-
3854/1/1	**Whitehaven Outer Harbour**	**Dog walking**	**-**	**608**	-	-	-	-	-	-
	Whitehaven North Beach and Parton		**-**	-	-	-	-	-	**1294**	-
	Whitehaven North Beach	**Angling**	**-**	-	-	-	-	-		-

Person ID number	Location	Activity	Mud	Mud and sand	Mud, sand and stones	Rock	Salt marsh	Sand	Sand and stones	Stones
4181/1/1	Whitehaven Outer Harbour	Playing	-	118	-	-	-	-	-	-
4042/1/1	Whitehaven Outer Harbour	Bait digging	-	104	-	-	-	-	-	-
	St Bees, Seamill and Drigg	Hooking for crab and lobster	-	-	-	10	-	-	-	-
	Tarn Bay, Drigg and St Bees	Angling	-	-	-	-	-	119	-	-
	Nethertown and Braystones		-	-	-	-	-	-	172	-
3857/1/1	Whitehaven Harbour	Dog walking	-	78	-	-	-	-	-	-
3857/2/1	Whitehaven Harbour	Dog walking	-	78	-	-	-	-	-	-
3882/1/1	Whitehaven Harbour	Dog walking	-	69	-	-	-	-	-	-
	St Bees		-	-	-	-	-	69	-	-
	Parton		-	-	-	-	-	-	69	-
4033/1/1	Whitehaven Outer Harbour	Bait digging	-	39	-	-	-	-	-	-
	St Bees	Collecting winkles	-	-	-	4	-	-	-	-
	Drigg and St Bees	Angling and collecting razor shells	-	-	-	-	-	136	-	-
	Parton	Angling	-	-	-	-	-	-	68	-
3850/1/1	Whitehaven Outer Harbour	Dog walking	-	35	-	-	-	-	-	-
	St Bees and Drigg		-	-	-	-	-	70	-	-
3850/2/1	Whitehaven Outer Harbour	Dog walking	-	35	-	-	-	-	-	-
	St Bees and Drigg		-	-	-	-	-	70	-	-
3853/1/1	Whitehaven Inner Harbour	Boat maintenance	-	32	-	-	-	-	-	-
4347/1/1	**Ravenglass**	**Dog walking and playing**	**-**	**-**	**483**	-	-	-	-	-
4347/3/1	**Ravenglass**	**Dog walking and playing**	**-**	**-**	**483**	-	-	-	-	-
4228/1/1	**Ravenglass**	**Angling and bait digging**	**-**	**-**	**469**	-	-	-	-	-

Person ID number	Location	Activity	Mud	Mud and sand	Mud, sand and stones	Rock	Salt marsh	Sand	Sand and stones	Stones
	Drigg and Seascale	**Angling and bait digging**	**-**	**-**	**-**	**-**	**-**	**494**	-	-
4347/2/1	**Ravenglass**	**Dog walking**	**-**	**-**	**365**	-	-	-	-	-
	Saltcoats	**Tending livestock**	**-**	**-**	**-**	**-**	**546**	-	-	-
4347/5/1	**Ravenglass**	**Dog walking**	**-**	**-**	**365**	-	-	-	-	-
	Saltcoats	**Tending livestock**	**-**	**-**	**-**	**-**	**546**	-	-	-
4347/4/1	**Ravenglass**	**Dog walking**	**-**	**-**	**365**	-	-	-	-	-
3807/1/1	**Ravenglass**	**Litter collecting and undertaking bird surveys**	**-**	**-**	**344**	-	-	-	-	-
	Tarn Bay, Drigg, Seascale and Sellafield		**-**	**-**	**-**	**-**	**-**	**1060**	-	-
3824/1/1	**Ravenglass**	**Angling and bait digging**	**-**	**-**	**269**	-	-	-	-	-
	Drigg	**Bait digging**	**-**	**-**	**-**	**-**	**-**	**443**	-	-
	Sellafield, Seascale and Drigg	**Angling**	**-**	**-**	**-**	**-**	**-**		-	-
	Braystones and Nethertown	Angling	-	-	-	-	-	-	174	-
4307/1/1	**Saltcoats and Ravenglass**	**Dog walking**	**-**	**-**	**215**	-	-	-	-	-
	Ravenglass	**Angling**	**-**	**-**		-	-	-	-	-
	Sellafield, Seascale and Drigg	Dog walking	-	-	-	-	-	110	-	-
4037/1/1	Ravenglass	Angling	-	-	58	-	-	-	-	-
	St Bees, Sellafield, Seascale, Drigg and Tarn Bay	**Angling and bait digging**	**-**	**-**	**-**	**-**	**-**	**1095**	-	-
	Coulderton	**Setting nets**	**-**	**-**	**-**	**-**	**-**		-	-
	Coulderton, Nethertown and Braystones	Angling	-	-	-	-	-	-	176	-

Person ID number	Location	Activity	Mud	Mud and sand	Mud, sand and stones	Rock	Salt marsh	Sand	Sand and stones	Stones
4305/2/1	Ravenglass	Horse riding, dog walking and collecting samphire	-	-	53	-	-	-	-	-
	Seascale and Drigg	Horse riding and dog walking	-	-	-	-	-	104	-	-
3805/1/1	Ravenglass	Angling	-	-	50	-	-	-	-	-
	St Bees, Seascale and Tarn Bay		-	-	-	-	-	150	-	-
	Parton, Coulderton, Nethertown and Braystones		-	-	-	-	-	-	200	-
4319/1/1	Ravenglass	Angling	-	-	31	-	-	-	-	-
	St Bees	Collecting winkles	-	-	-	2	-	-	-	-
	St Bees, Sellafield, Seascale, Drigg and Tarn Bay	Angling	-	-	-	-	-	259	-	-
	Seascale and Drigg	Bait digging	-	-	-	-	-		-	-
	Parton, Coulderton, Nethertown and Braystones	Angling	-	-	-	-	-	-	124	-
4261/1/1	Ravenglass Estuary	Bird watching	-	-	26	-	-	-	-	-
	St Bees, Seascale and Drigg	**Bird watching**	**-**	**-**	**-**	**-**	**-**	**461**	-	-
	Seascale and Drigg	**Angling**	**-**	**-**	**-**	**-**	**-**		-	-
4261/2/1	Ravenglass Estuary	**Bird watching**	-	-	26	-	-	-	-	-
	St Bees, Seascale and Drigg		**-**	**-**	**-**	**-**	**-**	**377**	-	-
4097/1/1	Ravenglass	Walking	-	-	13	-	-	-	-	-
	Seascale and Drigg		-	-	-	-	-	39	-	-
4097/2/1	Ravenglass	Walking	-	-	13	-	-	-	-	-
	Seascale and Drigg		-	-	-	-	-	39	-	-

Person ID number	Location	Activity	Mud	Mud and sand	Mud, sand and stones	Rock	Salt marsh	Sand	Sand and stones	Stones
3934/1/1	Ravenglass	Dog walking	-	-	12	-	-	-	-	-
	Drigg		-	-	-	-	-	12	-	-
3934/2/1	Ravenglass	Dog walking	-	-	12	-	-	-	-	-
	Drigg		-	-	-	-	-	12	-	-
4319/2/1	Ravenglass	Angling	-	-	8	-	-	-	-	-
	St Bees, Sellafield, Seascale, Drigg and Tarn Bay		-	-	-	-	-	144	-	-
	Seascale and Drigg	Bait digging	-	-	-	-	-		-	-
	Parton, Coulderton, Nethertown and Braystones	Angling	-	-	-	-	-	-	32	-
4074/1/1	Ravenglass	**Dog walking**	-	-	6	-	-	-	-	-
	Seascale and Drigg		**-**	**-**	**-**	**-**	**-**	**391**	-	-
4074/2/1	Ravenglass	**Dog walking**	-	-	6	-	-	-	-	-
	Seascale and Drigg		**-**	**-**	**-**	**-**	**-**	**391**	-	-
4307/2/1	Saltcoats and Ravenglass	Dog walking	-	-	6	-	-	-	-	-
	Seascale, Sellafield and Drigg		-	-	-	-	-	110	-	-
4306/1/1	Ravenglass	Dog walking	-	-	4	-	-	-	-	-
	St Bees and Seascale		-	-	-	-	-	10	-	-
4240/3/1	Ravenglass Estuary	Walking	-	-	4	-	-	-	-	-
	Seascale and Drigg		-	-	-	-	-	8	-	-
4240/4/1	Ravenglass Estuary	Walking	-	-	4	-	-	-	-	-
	Seascale and Drigg		-	-	-	-	-	8	-	-
4240/5/1	Ravenglass Estuary	Walking	-	-	4	-	-	-	-	-
	Seascale and Drigg		-	-	-	-	-	8	-	-

Person ID number	Location	Activity	Mud	Mud and sand	Mud, sand and stones	Rock	Salt marsh	Sand	Sand and stones	Stones
3993/1/1	Ravenglass	Walking	-	-	2	-	-	-	-	-
	Drigg	Horse riding and walking	-	-	-	-	-	18	-	-
3993/2/1	Ravenglass	Walking	-	-	2	-	-	-	-	-
	Drigg	Horse riding and walking	-	-	-	-	-	18	-	-
4107/1/1	**Parton and St Bees**	**Angling**	**-**	**-**	**-**	**1239**	-	-	-	-
	St Bees	Walking	-	-	-	-	-	78	-	-
4224/1/1	Parton	Angling	-	-	-	105	-	-	-	-
	Nethertown	Bait digging	-	-	-	-	-	266	-	-
	Whitehaven North Beach	Angling	-	-	-	-	-		-	-
	Fleswick, Seascale and Drigg	Dog walking	-	-	-	-	-		-	-
4095/1/1	**Drigg**	Collecting winkles	-	-	-	104	-	-	-	-
		Angling and dog walking	**-**	**-**	**-**	**-**	**-**	**-**	**834**	-
4095/2/1	**Drigg**	Collecting winkles	-	-	-	104	-	-	-	-
		Angling and dog walking	**-**	**-**	**-**	**-**	**-**	**-**	**834**	-
4358/1/1	Parton	Collecting sea lettuce and dulse	-	-	-	50	-	-	-	-
	Parton, Whitehaven North Beach and St Bees	Teaching foraging class	-	-	-		-	-	-	-
	Parton	Rock pooling	-	-	-		-	-	-	-
	St Bees	Sediment surveys	-	-	-	-	-	9	-	-
4084/3/1	Drigg	Hooking for crab and lobster	-	-	-	27	-	-	-	-
4256/1/1	Coulderton	Rock pooling	-	-	-	20	-	-	-	-
		Playing	-	-	-	-	-	-	15	-

Person ID number	Location	Activity	Mud	Mud and sand	Mud, sand and stones	Rock	Salt marsh	Sand	Sand and stones	Stones
4256/2/1	Coulderton	Rock pooling	-	-	-	20	-	-	-	-
		Playing	-	-	-	-	-	-	15	-
3862/1/1	Parton and Whitehaven North Beach	Hooking for crab and lobster	-	-	-	15	-	-	-	-
4358/2/1	Parton, Whitehaven North Beach and St Bees	Teaching foraging class	-	-	-	9	-	-	-	-
4358/3/1	Parton	Collecting sea lettuce and dulse	-	-	-	4	-	-	-	-
4358/3/2	Parton	Collecting sea lettuce and dulse	-	-	-	4	-	-	-	-
4358/3/3	Parton	Collecting sea lettuce and dulse	-	-	-	4	-	-	-	-
4358/3/4	Parton	Collecting sea lettuce and dulse	-	-	-	4	-	-	-	-
4358/3/5	Parton	Collecting sea lettuce and dulse	-	-	-	4	-	-	-	-
4358/3/6	Parton	Collecting sea lettuce and dulse	-	-	-	4	-	-	-	-
4358/3/7	Parton	Collecting sea lettuce and dulse	-	-	-	4	-	-	-	-
4358/3/8	Parton	Collecting sea lettuce and dulse	-	-	-	4	-	-	-	-
4358/3/9	Parton	Collecting sea lettuce and dulse	-	-	-	4	-	-	-	-
4358/3/10	Parton	Collecting sea lettuce and dulse	-	-	-	4	-	-	-	-
4358/4/1	Parton	Rock pooling	-	-	-	3	-	-	-	-
4358/4/2	Parton	Rock pooling	-	-	-	3	-	-	-	-
4358/4/3	Parton	Rock pooling	-	-	-	3	-	-	-	-
4358/4/4	Parton	Rock pooling	-	-	-	3	-	-	-	-
4358/4/5	Parton	Rock pooling	-	-	-	3	-	-	-	-

Person ID number	Location	Activity	Mud	Mud and sand	Mud, sand and stones	Rock	Salt marsh	Sand	Sand and stones	Stones
4358/4/6	Parton	Rock pooling	-	-	-	3	-	-	-	-
4358/4/7	Parton	Rock pooling	-	-	-	3	-	-	-	-
4358/4/8	Parton	Rock pooling	-	-	-	3	-	-	-	-
4358/4/9	Parton	Rock pooling	-	-	-	3	-	-	-	-
4358/4/10	Parton	Rock pooling	-	-	-	3	-	-	-	-
4358/5/1	Parton	Rock pooling	-	-	-	3	-	-	-	-
4358/5/2	Parton	Rock pooling	-	-	-	3	-	-	-	-
4358/5/3	Parton	Rock pooling	-	-	-	3	-	-	-	-
4358/5/4	Parton	Rock pooling	-	-	-	3	-	-	-	-
4358/5/5	Parton	Rock pooling	-	-	-	3	-	-	-	-
4358/5/6	Parton	Rock pooling	-	-	-	3	-	-	-	-
4358/5/7	Parton	Rock pooling	-	-	-	3	-	-	-	-
4358/5/8	Parton	Rock pooling	-	-	-	3	-	-	-	-
4358/5/9	Parton	Rock pooling	-	-	-	3	-	-	-	-
4358/5/10	Parton	Rock pooling	-	-	-	3	-	-	-	-
4041/1/1	Nethertown	Collecting winkles	-	-	-	2	-	-	-	-
3912/1/1	Across The Survey Area	Rescue duties	-	-	-	1	-	-	-	-
			-	-	-	-	-	-	3	-
3912/2/1	Across The Survey Area	Rescue duties	-	-	-	1	-	-	-	-
			-	-	-	-	-	-	3	-
3912/2/2	Across The Survey Area	Rescue duties	-	-	-	1	-	-	-	-
			-	-	-	-	-	-	3	-
3912/2/3	Across The Survey Area	Rescue duties	-	-	-	1	-	-	-	-
			-	-	-	-	-	-	3	-
4336/1/1	**River Irt**	**Tending livestock**	**-**	**-**	**-**	**-**	**365**	**-**	**-**	**-**
	Drigg		**-**	**-**	**-**	**-**	**-**	**410**	**-**	**-**

Person ID number	Location	Activity	Mud	Mud and sand	Mud, sand and stones	Rock	Salt marsh	Sand	Sand and stones	Stones
4336/2/1	**River Irt**	**Tending livestock**	**-**	**-**	**-**	**-**	**365**	-	-	-
	Drigg		**-**	**-**	**-**	**-**	**-**	**410**	-	-
4116/1/1	**River Esk and Newbiggin Marsh**	**Tending livestock**	**-**	**-**	**-**	**-**	**365**	-	-	-
3925/1/1	Newbiggin	Wildfowling	-	-	-	-	26	-	-	-
4116/3/1	River Esk and Newbiggin Marsh	Tending livestock	-	-	-	-	20	-	-	-
4233/1/1	**St Bees, Seascale and Eskmeals**	**Dog walking**	**-**	**-**	**-**	**-**	**-**	**1047**	-	-
3832/1/1	**St Bees**	**Dog walking**	**-**	**-**	**-**	**-**	**-**	**912**	-	-
3832/2/1	**St Bees**	**Dog walking**	**-**	**-**	**-**	**-**	**-**	**912**	-	-
4260/1/1	**Sellafield and Seascale**	**Dog walking**	**-**	**-**	**-**	**-**	**-**	**872**	-	-
4260/2/1	**Sellafield and Seascale**	**Dog walking**	**-**	**-**	**-**	**-**	**-**	**872**	-	-
4164/1/1	**St Bees and Seascale**	**Beachcombing**	**-**	**-**	**-**	**-**	**-**	**733**	-	-
	Nethertown	Collecting winkles	-	-	-	-	-	-	-	4
4164/2/1	**St Bees and Seascale**	**Beachcombing**	**-**	**-**	**-**	**-**	**-**	**733**	-	-
	Nethertown	Winkles	-	-	-	-	-	-	-	4
4037/2/1	**Sellafield, Seascale, Drigg and Tarn Bay**	**Bait digging**	**-**	**-**	**-**	**-**	**-**	**720**	-	-
4037/3/1	**Sellafield, Seascale, Drigg and Tarn Bay**	**Bait digging**	**-**	**-**	**-**	**-**	**-**	**720**	-	-
4037/4/1	**Sellafield, Seascale, Drigg and Tarn Bay**	**Bait digging**	**-**	**-**	**-**	**-**	**-**	**720**	-	-
4123/1/1	**Seascale and Drigg**	**Walking**	**-**	**-**	**-**	**-**	**-**	**698**	-	-
4239/1/1	**Sellafield, Seascale and Drigg**	**Dog walking**	**-**	**-**	**-**	**-**	**-**	**680**	-	-

Person ID number	Location	Activity	Mud	Mud and sand	Mud, sand and stones	Rock	Salt marsh	Sand	Sand and stones	Stones
3943/1/1	**Drigg**	**Walking**	**-**	**-**	**-**	**-**	**-**	**677**	-	-
	Sellafield, Seascale and Drigg	**Angling**	**-**	**-**	**-**	**-**	**-**		-	-
	Seascale and Drigg	**Bait digging**	**-**	**-**	**-**	**-**	**-**		-	-
4332/2/1	**Sellafield, Seascale and Drigg**	**Dog walking**	**-**	**-**	**-**	**-**	**-**	**469**	-	-
	Seascale	**Playing**	**-**	**-**	**-**	**-**	**-**		-	-
4047/1/1	**St Bees**	**Dog walking**	**-**	**-**	**-**	**-**	**-**	**456**	-	-
4047/2/1	**St Bees**	**Dog walking**	**-**	**-**	**-**	**-**	**-**	**456**	-	-
3965/1/1	**Seascale and Drigg**	**Dog walking**	**-**	**-**	**-**	**-**	**-**	**391**	-	-
3848/1/1	St Bees, Seascale and Drigg	Dog walking	-	-	-	-	-	365	-	-
4040/1/1	Whitehaven Outer Harbour and St Bees	Dog walking	-	-	-	-	-	365	-	-
4359/1/1	Drigg	Walking	-	-	-	-	-	352	-	-
4190/1/1	Seascale and Drigg	Walking	-	-	-	-	-	336	-	-
4190/2/1	Seascale and Drigg	Walking	-	-	-	-	-	336	-	-
4084/1/1	St Bees, Nethertown, Braystones and Drigg	Dog walking	-	-	-	-	-	334	-	-
4084/2/1	St Bees, Nethertown, Braystones and Drigg	Dog walking	-	-	-	-	-	334	-	-
4205/4/1	Seascale and Drigg	Litter collecting	-	-	-	-	-	313	-	-
3804/1/1	Tarn Bay	Dog walking and playing	-	-	-	-	-	303	-	-
3804/2/1	Tarn Bay	Dog walking and playing	-	-	-	-	-	303	-	-
4329/1/1	Seascale	Angling and bait digging	-	-	-	-	-	275	-	-
4046/1/1	St Bees	Dog walking	-	-	-	-	-	274	-	-
			-	-	-	-	-	-	91	-
3809/1/1	Tarn Bay	Dog walking	-	-	-	-	-	274	-	-

Person ID number	Location	Activity	Mud	Mud and sand	Mud, sand and stones	Rock	Salt marsh	Sand	Sand and stones	Stones
3835/1/1	St Bees	Dog walking	-	-	-	-	-	274	-	-
4215/1/1	Nethertown and Drigg	Bait digging	-	-	-	-	-	250	-	-
	St Bees and Drigg	Angling	-	-	-	-	-		-	-
4195/2/1	Seascale	Dog walking	-	-	-	-	-	209	-	-
4214/3/1	Coulderton	Playing	-	-	-	-	-	209	-	-
4214/4/1	Coulderton	Playing	-	-	-	-	-	209	-	-
4214/5/1	Coulderton	Playing	-	-	-	-	-	209	-	-
4214/6/1	Coulderton	Playing	-	-	-	-	-	209	-	-
4214/7/1	Coulderton	Playing	-	-	-	-	-	209	-	-
4363/2/1	St Bees and Drigg	Angling	-	-	-	-	-	209	-	-
4314/1/1	Sellafield and Seascale	Dog walking	-	-	-	-	-	182	-	-
4314/2/1	Sellafield and Seascale	Dog walking	-	-	-	-	-	182	-	-
3942/1/1	Drigg	Walking	-	-	-	-	-	156	-	-
3942/2/1	Drigg	Walking	-	-	-	-	-	156	-	-
4149/1/1	Seascale and Drigg	Dog walking	-	-	-	-	-	156	-	-
4193/1/1	St Bees and Seascale	Walking	-	-	-	-	-	156	-	-
4193/2/1	St Bees and Seascale	Walking	-	-	-	-	-	156	-	-
3940/1/1	Seascale and Drigg	Dog walking	-	-	-	-	-	152	-	-
4261/3/1	Seascale	Angling	-	-	-	-	-	130	-	-
4191/1/1	St Bees and Seascale	Playing	-	-	-	-	-	129	-	-
4191/2/1	St Bees and Seascale	Playing	-	-	-	-	-	129	-	-
4203/1/1	St Bees and Seascale	Walking	-	-	-	-	-	128	-	-
	Coulderton	**Angling**	**-**	**-**	**-**	**-**	**-**	**-**	**626**	-
4203/2/1	St Bees and Seascale	Walking	-	-	-	-	-	128	-	-
	Coulderton	**Angling**	**-**	**-**	**-**	**-**	**-**	**-**	**626**	-

Person ID number	Location	Activity	Mud	Mud and sand	Mud, sand and stones	Rock	Salt marsh	Sand	Sand and stones	Stones
3870/1/1	Tarn Bay	Angling and bait digging	-	-	-	-	-	124	-	-
4231/1/1	St Bees and Seascale	Dog walking	-	-	-	-	-	108	-	-
4231/2/1	St Bees and Seascale	Dog walking	-	-	-	-	-	108	-	-
3874/1/1	Tarn Bay	Bait digging	-	-	-	-	-	104	-	-
4180/1/1	Whitehaven Inner Harbour	Angling	-	-	-	-	-	104	-	-
4180/2/1	Whitehaven Inner Harbour	Angling	-	-	-	-	-	104	-	-
4195/1/1	Seascale	Dog walking	-	-	-	-	-	104	-	-
4197/1/1	Sellafield and Seascale	Dog walking	-	-	-	-	-	104	-	-
4291/1/1	Seascale and Drigg	Dog walking	-	-	-	-	-	104	-	-
4291/2/1	Seascale and Drigg	Dog walking	-	-	-	-	-	104	-	-
4291/3/1	Seascale and Drigg	Dog walking	-	-	-	-	-	104	-	-
4291/4/1	Seascale and Drigg	Dog walking	-	-	-	-	-	104	-	-
4292/1/1	Ravenglass	Walking	-	-	-	-	-	104	-	-
4292/2/1	Ravenglass	Walking	-	-	-	-	-	104	-	-
4354/1/1	Drigg	Dog walking	-	-	-	-	-	104	-	-
4232/1/1	St Bees, Seascale and Drigg	Walking	-	-	-	-	-	96	-	-
4234/1/1	St Bees, Seascale and Drigg	Dog walking	-	-	-	-	-	94	-	-
	Nethertown	Angling	-	-	-	-	-	-	32	-
4234/2/1	St Bees, Seascale and Drigg	Dog walking	-	-	-	-	-	94	-	-
	Nethertown	Angling	-	-	-	-	-	-	32	-
3875/1/1	Tarn Bay	Angling, bait digging and playing	-	-	-	-	-	91	-	-
3946/1/1	Drigg	Dog walking	-	-	-	-	-	84	-	-
3946/2/1	Drigg	Dog walking	-	-	-	-	-	84	-	-
4071/1/1	Sellafield and Seascale	Walking	-	-	-	-	-	78	-	-

Person ID number	Location	Activity	Mud	Mud and sand	Mud, sand and stones	Rock	Salt marsh	Sand	Sand and stones	Stones
4182/1/1	Seascale and Drigg	Dog walking	-	-	-	-	-	78	-	-
4182/2/1	Seascale and Drigg	Dog walking	-	-	-	-	-	78	-	-
4194/1/1	St Bees and Seascale	Playing	-	-	-	-	-	76	-	-
4194/2/1	St Bees and Seascale	Playing	-	-	-	-	-	76	-	-
3888/1/1	Seascale and Drigg	Dog walking	-	-	-	-	-	67	-	-
3888/2/1	Seascale and Drigg	Dog walking	-	-	-	-	-	67	-	-
3836/1/1	St Bees	Dog walking	-	-	-	-	-	60	-	-
3836/2/1	St Bees	Dog walking	-	-	-	-	-	60	-	-
3875/5/1	Tarn Bay	Playing	-	-	-	-	-	52	-	-
3875/6/1	Tarn Bay	Playing	-	-	-	-	-	52	-	-
3975/1/1	Seascale and Drigg	Playing	-	-	-	-	-	52	-	-
3975/2/1	Seascale and Drigg	Playing	-	-	-	-	-	52	-	-
4144/1/1	Sellafield, Seascale and Drigg	Dog walking	-	-	-	-	-	52	-	-
4355/1/1	Drigg	Angling, bait digging and setting nets	-	-	-	-	-	51	-	-
4349/1/1	Drigg	Dog walking	-	-	-	-	-	48	-	-
4054/1/1	St Bees, Seascale and Drigg	Angling	-	-	-	-	-	45	-	-
	Parton		-	-	-	-	-	-	15	-
4120/1/1	St Bees	Playing	-	-	-	-	-	42	-	-
4257/1/1	Coulderton	Setting nets and walking	-	-	-	-	-	40	-	-
		Dog walking	-	-	-	-	-	-	365	-
4200/1/1	St Bees, Seascale and Drigg	Dog walking	-	-	-	-	-	39	-	-
	Nethertown		-	-	-	-	-	-	261	-
4184/1/1	Seascale	Dog walking	-	-	-	-	-	39	-	-
4184/2/1	Seascale	Dog walking	-	-	-	-	-	39	-	-

Person ID number	Location	Activity	Mud	Mud and sand	Mud, sand and stones	Rock	Salt marsh	Sand	Sand and stones	Stones
4224/2/1	Fleswick, Seascale and Drigg	Dog walking	-	-	-	-	-	36	-	-
4197/2/1	Sellafield and Seascale	Dog walking	-	-	-	-	-	35	-	-
4331/3/1	Sellafield	Playing	-	-	-	-	-	31	-	-
	Braystones		-	-	-	-	-	-	31	-
4353/1/1	Seascale and Drigg	Playing	-	-	-	-	-	27	-	-
4353/2/1	Seascale and Drigg	Playing	-	-	-	-	-	27	-	-
4080/1/1	Seascale	Playing	-	-	-	-	-	26	-	-
4080/2/1	Seascale	Playing	-	-	-	-	-	26	-	-
4126/1/1	Drigg	Angling	-	-	-	-	-	26	-	-
4153/1/1	Drigg	Walking	-	-	-	-	-	26	-	-
4355/2/1	Drigg	Angling, bait digging and setting nets	-	-	-	-	-	26	-	-
3831/1/1	Drigg	Walking	-	-	-	-	-	24	-	-
3831/2/1	Drigg	Walking	-	-	-	-	-	24	-	-
3889/1/1	Parton, Coulderton, Sellafield, St Bees and Drigg	Angling	-	-	-	-	-	24	-	-
3889/1/2	Parton, Coulderton, Sellafield, St Bees and Drigg	Angling	-	-	-	-	-	24	-	-
3889/1/3	Parton, Coulderton, Sellafield, St Bees and Drigg	Angling	-	-	-	-	-	24	-	-
3889/1/4	Parton, Coulderton, Sellafield, St Bees and Drigg	Angling	-	-	-	-	-	24	-	-
3889/1/5	Parton, Coulderton, Sellafield, St Bees and Drigg	Angling	-	-	-	-	-	24	-	-
3889/1/6	Parton, Coulderton, Sellafield, St Bees and Drigg	Angling	-	-	-	-	-	24	-	-
3889/1/7	Parton, Coulderton, Sellafield, St Bees and Drigg	Angling	-	-	-	-	-	24	-	-

Person ID number	Location	Activity	Mud	Mud and sand	Mud, sand and stones	Rock	Salt marsh	Sand	Sand and stones	Stones
3889/1/8	Parton, Coulderton, Sellafield, St Bees and Drigg	Angling	-	-	-	-	-	24	-	-
3889/1/9	Parton, Coulderton, Sellafield, St Bees and Drigg	Angling	-	-	-	-	-	24	-	-
3889/1/10	Parton, Coulderton, Sellafield, St Bees and Drigg	Angling	-	-	-	-	-	24	-	-
4111/1/1	Drigg	Dog walking	-	-	-	-	-	24	-	-
4111/2/1	Drigg	Dog walking	-	-	-	-	-	24	-	-
3803/2/1	Seascale and Drigg	Playing	-	-	-	-	-	22	-	-
4350/1/1	Seascale	Walking	-	-	-	-	-	22	-	-
3871/1/1	Tarn Bay	Angling and bait digging	-	-	-	-	-	13	-	-
4204/1/1	St Bees	Walking	-	-	-	-	-	12	-	-
	Coulderton		-	-	-	-	-	-	365	-
4204/2/1	St Bees	Walking	-	-	-	-	-	12	-	-
	Coulderton		-	-	-	-	-	-	365	-
4204/3/1	St Bees	Walking	-	-	-	-	-	12	-	-
	Coulderton		-	-	-	-	-	-	365	-
4147/1/1	Coulderton and Drigg	Angling and bait digging	-	-	-	-	-	12	-	-
4147/2/1	Coulderton and Drigg	Angling and bait digging	-	-	-	-	-	12	-	-
4160/1/1	Seascale and Drigg	Walking	-	-	-	-	-	12	-	-
4160/2/1	Seascale and Drigg	Walking	-	-	-	-	-	12	-	-
4202/2/1	Seascale	Angling	-	-	-	-	-	12	-	-
4223/1/1	Seascale and Drigg	Dog walking	-	-	-	-	-	12	-	-
4223/2/1	Seascale and Drigg	Dog walking	-	-	-	-	-	12	-	-
3896/1/1	Seascale and Drigg	Dog walking	-	-	-	-	-	10	-	-
3896/2/1	Seascale and Drigg	Dog walking	-	-	-	-	-	10	-	-

Person ID number	Location	Activity	Mud	Mud and sand	Mud, sand and stones	Rock	Salt marsh	Sand	Sand and stones	Stones
3871/2/1	Tarn Bay	Angling	-	-	-	-	-	9	-	-
4096/1/1	Drigg	Quad biking	-	-	-	-	-	9	-	-
4358/6/1	St Bees	Sediment surveying	-	-	-	-	-	9	-	-
4358/6/2	St Bees	Sediment surveying	-	-	-	-	-	9	-	-
4358/6/3	St Bees	Sediment surveying	-	-	-	-	-	9	-	-
4358/6/4	St Bees	Sediment surveying	-	-	-	-	-	9	-	-
4358/6/5	St Bees	Sediment surveying	-	-	-	-	-	9	-	-
4358/6/6	St Bees	Sediment surveying	-	-	-	-	-	9	-	-
4358/6/7	St Bees	Sediment surveying	-	-	-	-	-	9	-	-
4358/6/8	St Bees	Sediment surveying	-	-	-	-	-	9	-	-
4358/6/9	St Bees	Sediment surveying	-	-	-	-	-	9	-	-
4358/6/10	St Bees	Sediment surveying	-	-	-	-	-	9	-	-
3879/1/1	Drigg	Walking	-	-	-	-	-	8	-	-
3879/2/1	Drigg	Walking	-	-	-	-	-	8	-	-
4259/1/1	Seascale	Dog walking	-	-	-	-	-	7	-	-
	Parton		-	-	-	-	-	-	26	-
4049/1/1	Whitehaven Outer Harbour	Beachcombing	-	-	-	-	-	6	-	-
	Parton		-	-	-	-	-	-	196	-
4049/2/1	Whitehaven Outer Harbour	Beachcombing	-	-	-	-	-	6	-	-
	Parton		-	-	-	-	-	-	196	-
4196/2/1	Sellafield	Walking	-	-	-	-	-	6	-	-
	Braystones		-	-	-	-	-	-	104	-
4220/1/1	Drigg	Playing	-	-	-	-	-	6	-	-
4220/2/1	Drigg	Playing	-	-	-	-	-	6	-	-
4220/3/1	Drigg	Playing	-	-	-	-	-	6	-	-

Person ID number	Location	Activity	Mud	Mud and sand	Mud, sand and stones	Rock	Salt marsh	Sand	Sand and stones	Stones
4356/1/1	Drigg	Dog walking	-	-	-	-	-	6	-	-
4356/2/1	Drigg	Dog walking	-	-	-	-	-	6	-	-
4264/1/1	Seascale	Walking	-	-	-	-	-	2	-	-
4214/1/1	**Coulderton**	**Dog walking**	**-**	**-**	**-**	**-**	**-**	**-**	**1221**	**-**
4214/2/1	**Coulderton**	**Dog walking**	**-**	**-**	**-**	**-**	**-**	**-**	**1221**	**-**
3843/1/1	**Parton**	**Dog walking**	**-**	**-**	**-**	**-**	**-**	**-**	**730**	**-**
3843/2/1	**Parton**	**Dog walking**	**-**	**-**	**-**	**-**	**-**	**-**	**730**	**-**
3847/1/1	**Parton**	**Litter collecting**	**-**	**-**	**-**	**-**	**-**	**-**	**730**	**-**
3847/2/1	**Parton**	**Litter collecting**	**-**	**-**	**-**	**-**	**-**	**-**	**730**	**-**
4063/1/1	**Parton**	**Dog walking**	**-**	**-**	**-**	**-**	**-**	**-**	**456**	**-**
3839/1/1	Parton	Dog walking	-	-	-	-	-	-	417	-
		Beachcombing	-	-	-	-	-	-		-
4242/1/1	Coulderton	Playing and walking	-	-	-	-	-	-	381	-
4242/2/1	Coulderton	Playing and walking	-	-	-	-	-	-	381	-
4161/1/1	Coulderton	Walking	-	-	-	-	-	-	365	-
4196/1/1	Braystones	Walking	-	-	-	-	-	-	365	-
4316/1/1	Braystones	Dog walking	-	-	-	-	-	-	365	-
4316/2/1	Braystones	Dog walking	-	-	-	-	-	-	365	-
3899/1/1	Tarn Bay	Dog walking	-	-	-	-	-	-	335	-
3899/3/1	Tarn Bay	Dog walking	-	-	-	-	-	-	274	-
4083/1/1	Braystones	Dog walking	-	-	-	-	-	-	182	-
4083/2/1	Braystones	Dog walking	-	-	-	-	-	-	182	-
4081/1/1	Coulderton and Braystones	Dog walking	-	-	-	-	-	-	156	-
4165/1/1	Nethertown and Seascale	Walking	-	-	-	-	-	-	152	-

Person ID number	Location	Activity	Mud	Mud and sand	Mud, sand and stones	Rock	Salt marsh	Sand	Sand and stones	Stones
3899/2/1	Tarn Bay	Beachcombing and dog walking	-	-	-	-	-	-	122	-
4301/1/1	Parton and Whitehaven North Beach	Dog walking	-	-	-	-	-	-	122	-
4036/1/1	Parton	Dog walking	-	-	-	-	-	-	104	-
4036/2/1	Parton	Dog walking	-	-	-	-	-	-	104	-
4162/1/1	Nethertown	Dog walking	-	-	-	-	-	-	104	-
4162/2/1	Nethertown	Dog walking	-	-	-	-	-	-	104	-
4183/1/1	Between Seascale and St Bees	Playing	-	-	-	-	-	-	81	-
4183/4/1	Between Seascale and St Bees	Playing	-	-	-	-	-	-	81	-
4161/2/1	Coulderton	Walking	-	-	-	-	-	-	78	-
4161/3/1	Coulderton	Walking	-	-	-	-	-	-	78	-
4050/1/1	Parton	Beachcombing	-	-	-	-	-	-	65	-
4082/1/1	Braystones	Sitting on the beach and walking	-	-	-	-	-	-	57	-
3818/1/1	Braystones	Playing	-	-	-	-	-	-	42	-
3818/2/1	Braystones	Playing	-	-	-	-	-	-	42	-
3818/3/1	Braystones	Playing	-	-	-	-	-	-	42	-
3818/4/1	Braystones	Playing	-	-	-	-	-	-	42	-
3818/5/1	Braystones	Playing	-	-	-	-	-	-	42	-
3818/6/1	Braystones	Playing	-	-	-	-	-	-	42	-
3844/1/1	Parton	Dog walking	-	-	-	-	-	-	26	-
		Beachcombing	-	-	-	-	-	-	-	96
3844/2/1	Parton	Dog walking	-	-	-	-	-	-	26	-
4139/1/1	Between Sellafield and Drigg	Walking on the beach	-	-	-	-	-	-	24	-

Person ID number	Location	Activity	Mud	Mud and sand	Mud, sand and stones	Rock	Salt marsh	Sand	Sand and stones	Stones
4243/1/1	Coulderton	Dog walking	-	-	-	-	-	-	24	-
4243/2/1	Coulderton	Dog walking	-	-	-	-	-	-	24	-
4243/3/1	Coulderton	Dog walking	-	-	-	-	-	-	24	-
4243/4/1	Coulderton	Dog walking	-	-	-	-	-	-	24	-
4257/2/1	Coulderton	Walking	-	-	-	-	-	-	22	-
4242/5/1	Coulderton	Playing	-	-	-	-	-	-	16	-
3847/3/1	Parton	Litter collecting	-	-	-	-	-	-	12	-
3847/3/2	Parton	Litter collecting	-	-	-	-	-	-	12	-
3847/3/3	Parton	Litter collecting	-	-	-	-	-	-	12	-
3847/3/4	Parton	Litter collecting	-	-	-	-	-	-	12	-
3847/3/5	Parton	Litter collecting	-	-	-	-	-	-	12	-
3847/3/6	Parton	Litter collecting	-	-	-	-	-	-	12	-
3847/3/7	Parton	Litter collecting	-	-	-	-	-	-	12	-
3822/1/1	Braystones	Walking	-	-	-	-	-	-	1	-
3822/2/1	Braystones	Walking	-	-	-	-	-	-	1	-
4031/1/1	**Parton**	**Angling**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**313**
4242/6/1	Coulderton	Angling	-	-	-	-	-	-	-	24

Notes for Table 39

Emboldened observations are the high-rate individuals
The mean intertidal occupancy rate over mud for adults based on 2 high-rate observations is 131 h y^{-1}
The observed 97.5th percentile rate based on 5 observations is 131 h y^{-1}
The mean intertidal occupancy rate over mud and sand for adults based on 3 high-rate observations is 652 h y^{-1}
The observed 97.5th percentile rate based on 12 observations is 674 h y^{-1}
The mean intertidal occupancy rate over mud, sand and stones for adults based on 9 high-rate observations is 373 h y^{-1}
The observed 97.5th percentile rate based on 29 observations is 483 h y^{-1}
The mean intertidal occupancy rate over rock for adults based on 1 high-rate observations is 1239 h y^{-1}
The observed 97.5th percentile rate based on 48 observations is 105 h y^{-1}
The mean intertidal occupancy rate over salt marsh for adults based on 5 high-rate observations is 437 h y^{-1}
The observed 97.5th percentile rate based on 9 observations is 546 h y^{-1}
The mean intertidal occupancy rate over sand for adults based on 29 high-rate observations is 654 h y^{-1}
The observed 97.5th percentile rate based on 198 observations is 875 h y^{-1}
The mean intertidal occupancy rate over sand and stones for adults based on 14 high-rate observations is 813 h y^{-1}
The observed 97.5th percentile rate based on 91 observations is 1125 h y^{-1}
The mean intertidal occupancy rate over stones for adults based on 1 high-rate observations is 313 h y^{-1}
The observed 97.5th percentile rate based on 5 observations is 291 h y^{-1}

Table 40. Children's intertidal occupancy rates in the aquatic survey area (h y^{-1})

Person ID number	Age	Location	Activity	Mud	Mud and sand	Rock	Sand	Sand and stones
4335/3/1	**11**	**River Irt**	**Playing**	**10**	-	-	-	-
		Seascale	Dog walking	-	-	-	15	-
4335/4/1	**6**	**River Irt**	**Playing**	**10**	-	-	-	-
		Seascale	Dog walking	-	-	-	15	-
4335/5/1	**9**	**River Irt**	**Playing**	**10**	-	-	-	-
		Seascale	Dog walking	-	-	-	15	-
4181/2/1	**6**	**Whitehaven Outer Harbour**	**Playing**	**-**	**118**	-	-	-
4256/3/1	**14**	**Coulderton**	**Rock pooling**	**-**	**-**	**20**	-	-
			Playing	-	-	-	-	15
4256/4/1	**12**	**Coulderton**	**Rock pooling**	**-**	**-**	**20**	-	-
			Playing	-	-	-	-	15
4205/3/1	**10**	**Seascale and Drigg**	**Litter collecting**	**-**	**-**	**-**	**313**	-
4191/4/1	**7**	**Seascale and St Bees**	**Playing**	**-**	**-**	**-**	**129**	-
4191/5/1	**11**	**Seascale and St Bees**	**Playing**	**-**	**-**	**-**	**129**	-
3874/2/1	**9**	**Tarn Bay**	**Bait digging**	**-**	**-**	**-**	**104**	-
3875/2/1	**11**	**Tarn Bay**	**Angling, bait digging and playing**	**-**	**-**	**-**	**91**	-
4194/3/1	8	Seascale and St Bees	Playing	-	-	-	63	-
3875/3/1	9	Drigg and Seascale	Playing	-	-	-	52	-
3975/3/1	9	Drigg and Seascale	Playing				52	
3975/4/1	8	Drigg and Seascale	Playing	-	-	-	52	-
3804/3/1	7	Tarn Bay	Playing	-	-	-	42	-

Person ID number	Age	Location	Activity	Mud	Mud and sand	Rock	Sand	Sand and stones
4120/2/1	9	St Bees	Playing	-	-	-	42	-
4120/3/1	6	St Bees	Playing	-	-	-	42	-
4331/7/1	8	Sellafield	Playing	-	-	-	31	-
		Braystones		-	-	-	-	31
4331/8/1	7	Sellafield	Playing	-	-	-	31	-
		Braystones		-	-	-	-	31
4080/3/1	13	Seascale	Playing	-	-	-	26	-
4080/4/1	11	Seascale	Playing	-	-	-	26	-
4049/3/1	**10**	Whitehaven Outer Harbour	**Beachcombing**	-	-	-	6	-
		Parton		**-**	**-**	**-**	**-**	**196**
4049/4/1	**10**	Whitehaven Outer Harbour	**Beachcombing**	-	-	-	6	-
		Parton		**-**	**-**	**-**	**-**	**196**
4183/2/1	**9**	**Between Seascale and St Bees**	**Playing**	**-**	**-**	**-**	**-**	**81**
4183/3/1	**6**	**Between Seascale and St Bees**	**Playing**	**-**	**-**	**-**	**-**	**81**
3818/7/1	15	Braystones	Playing	-	-	-	-	42
3818/10/1	6	Braystones	Playing	-	-	-	-	42
4203/3/1	10	Coulderton	Playing	-	-	-	-	38
4242/3/1	9	Coulderton	Playing	-	-	-	-	16
4242/4/1	14	Coulderton	Playing	-	-	-	-	16

Notes for Table 40

Emboldened observations are the high-rate individuals

The mean intertidal occupancy rate over mud for the child age group based on 3 high-rate observations is 10 h y^{-1}

The observed 97.5th percentile rate based on 3 observations is 10 h y^{-1}

The mean intertidal occupancy rate over mud and sand for the child age group based on 1 high-rate observation is 118 h y^{-1}

The observed 97.5th percentile is not applicable for 1 observation

The mean intertidal occupancy rate over rock for the child age group based on 2 high-rate observations is 20 h y^{-1}

The observed 97.5th percentile rate based on 2 observations is 20 h y^{-1}

The mean intertidal occupancy rate over sand for the child age group based on 3 high-rate observations is 190 h y^{-1}

The observed 97.5th percentile rate based on 21 observations is 221 h y^{-1}

The mean intertidal occupancy rate over sand and stones for the child age group based on 4 high-rate observations is 138 h y^{-1}

The observed 97.5th percentile rate based on 13 observations is 196 h y^{-1}

Table 41. Infants' intertidal occupancy rates in the aquatic survey area (h y^{-1})

Person ID number	Age	Location	Activity	Mud, sand and stones	Sand	Sand and stones	Stones
4347/6/1	**4**	**Ravenglass**	**Dog walking and playing**	**483**	-	-	-
4214/8/1	**1**	**Coulderton**	**Playing**	**-**	**209**	-	-
4191/3/1	**3**	**Seascale and St Bees**	**Playing**	**-**	**129**	-	-
4194/4/1	5	Seascale and St Bees	Playing	-	63	-	-
3875/4/1	5	Tarn Bay	Playing	-	52	-	-
3875/7/1	2	Tarn Bay	Playing	-	52	-	-
3804/4/1	5	Tarn Bay	Playing	-	42	-	-
4331/9/1	1	Sellafield	Playing	-	31	-	-
		Braystones		-	-	31	-
4353/3/1	2	Drigg and Seascale	Playing	-	27	-	-
3803/3/1	1	Seascale and Drigg	Playing	-	22	-	-
3803/4/1	2	Seascale and Drigg	Playing	-	22	-	-
4049/5/1	**5**	Whitehaven Outer Harbour	**Beachcombing and playing**	-	6	-	-
		Parton		**-**	**-**	**196**	-
4220/4/1	2	Drigg	Playing	-	6	-	-
3818/8/1	5	Braystones	Playing	-	-	42	-
3818/9/1	5	Braystones	Playing	-	-	42	-
4203/4/1	5	Coulderton	Playing	-	-	38	-
3844/3/1	**2**	**Parton**	**Beachcombing and playing**	**-**	**-**	**-**	**96**

Notes for Table 41

Emboldened observations are the high-rate individuals

The mean intertidal occupancy rate over mud, sand and stones for the infant age group based on 1 high-rate observation is 483 h y^{-1}

The observed 97.5th percentile is not applicable for 1 observation

The mean intertidal occupancy rate over sand for the infant age group based on 2 high-rate observations is 169 h y^{-1}

The observed 97.5th percentile rate based on 12 observations is 187 h y^{-1}

The mean intertidal occupancy rate over sand and stones for the infant age group based on 1 high-rate observations is 196 h y^{-1}

The observed 97.5th percentile rate based on 5 observations is 180 h y^{-1}

The mean intertidal occupancy rate over stones for the infant age group based on 1 high-rate observation is 96 h y^{-1}

The observed 97.5th percentile is not applicable for 1 observation

Table 42. Gamma dose rate measurements over intertidal substrates in the aquatic survey area (μGy h^{-1})

Location	National Grid Reference	Substrate	Gamma dose rate at 1 metre[a]
Parton	NX 978 209	Sand	0.079
Parton	NX 978 209	Sand and stones	0.086
Whitehaven North Beach	NX 972 187	Sand	0.089
Whitehaven Outer Harbour	NX 968 184	Mud and sand	0.088
St Bees	NX 959 115	Sand	0.059
Coulderton	NX 980 084	Sand	0.084
Coulderton	NX 980 084	Stones	0.117
Nethertown	NX 989 072	Stones	0.123
Braystones	NY 000 058	Sand	0.066
Seascale	NY 036 009	Sand	0.106
Drigg	SD 045 983	Sand	0.067
Saltcoats	SD 079 968	Salt marsh	0.099
Ravenglass	SD 083 961	Mud, sand and stones	0.099
Eskmeals Viaduct	SD 087 942	Salt marsh	0.112
Tarn Bay	SD 078 906	Sand	0.069

Notes

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

Table 43. Adults' handling rates of fishing gear and sediment in the aquatic survey area (h y^{-1})

Person ID number	Location	Activity	Fishing gear	Sediment
4332/1/1	**Between Sellafield and Ravenglass**	**Potting**	**1908**	-
	Ravenglass Estuary	Wildfowling	-	153
4332/3/1	**Between Sellafield and Ravenglass**	**Potting**	**1908**	-
	Ravenglass Estuary	Wildfowling	-	153
4332/4/1	**Between Sellafield and Ravenglass**	**Potting**	**1908**	**-**
4332/5/1	**Between Sellafield and Ravenglass**	**Potting**	**1908**	**-**
4332/5/2	**Between Sellafield and Ravenglass**	**Potting**	**1908**	**-**
4296/1/1	Throughout the survey area	Trawling	255	-
4301/1/1	Parton	Potting	130	-
4037/1/1	Coulderton	Setting nets	83	-
	Sellafield, Seascale, Drigg and Tarn Bay	**Bait digging**	-	**720**
4257/1/1	Coulderton	Setting nets	30	-
4363/1/1	Parton	Potting	26	-
4363/2/1	Parton	Potting	26	-
4355/1/1	Drigg	Setting nets	12	-
		Bait digging	-	30
4355/2/1	Drigg	Setting nets	6	-
		Bait digging		15
4037/2/1	**Sellafield, Seascale, Drigg and Tarn Bay**	**Bait digging**	**-**	**720**
4037/3/1	**Sellafield, Seascale, Drigg and Tarn Bay**	**Bait digging**	**-**	**720**
4037/4/1	**Sellafield, Seascale, Drigg and Tarn Bay**	**Bait digging**	**-**	**720**
4228/1/1	**Drigg and Ravenglass**	**Bait digging**	**-**	**469**
3824/1/1	**Drigg and Ravenglass**	**Bait digging**	**-**	**365**

Person ID number	Location	Activity	Fishing gear	Sediment
4319/1/1	St Bees, Seascale and Drigg	Bait digging and collecting small quantities of winkles	-	106
4095/1/1	Drigg	Collecting small quantities of winkles	-	104
4095/2/1	Drigg	Collecting small quantities of winkles	-	104
3874/1/1	Tarn Bay	Bait digging	-	104
4042/1/1	Whitehaven Outer Harbour	Bait digging	-	104
4319/2/1	Seascale and Drigg	Bait digging	-	104
3943/1/1	Seascale and Drigg	Bait digging	-	78
4215/1/1	Nethertown and Drigg	Bait digging	-	58
4033/1/1	Whitehaven Outer Harbour, St Bees and Drigg	Bait digging and collecting small quantities of winkles and razor shells	-	47
4329/1/1	Seascale	Bait digging	-	40
4358/1/1	Parton, Whitehaven North Beach and St Bees	Bait digging and collecting winkles	-	36
3925/1/1	Newbiggin	Wildfowling	-	26
3870/1/1	Tarn Bay	Bait digging	-	26
4224/1/1	Nethertown	Bait digging	-	22
3875/1/1	Tarn Bay	Bait digging	-	13
4358/2/1	Parton, Whitehaven North Beach, St Bees	Collecting small quantities of winkles	-	9
4358/6/1	St Bees	Undertaking a sediment survey	-	9
4358/6/2	St Bees	Undertaking a sediment survey	-	9

Person ID number	Location	Activity	Fishing gear	Sediment
4358/6/3	St Bees	Undertaking a sediment survey	-	9
4358/6/4	St Bees	Undertaking a sediment survey	-	9
4358/6/5	St Bees	Undertaking a sediment survey	-	9
4358/6/6	St Bees	Undertaking a sediment survey	-	9
4358/6/7	St Bees	Undertaking a sediment survey	-	9
4358/6/8	St Bees	Undertaking a sediment survey	-	9
4358/6/9	St Bees	Undertaking a sediment survey	-	9
4358/6/10	St Bees	Undertaking a sediment survey	-	9
3871/1/1	Tarn Bay	Bait digging	-	4
4164/1/1	Nethertown	Collecting small quantities of winkles	-	4
4164/2/1	Nethertown	Collecting small quantities of winkles	-	4
4147/1/1	Coulderton and Drigg	Bait digging	-	2
4147/2/1	Coulderton and Drigg	Bait digging	-	2
4041/1/1	Nethertown	Collecting small quantities of winkles	-	2

Notes

Emboldened observations are the high-rate individuals

The mean handling rate of fishing gear for adults based on 5 high-rate observations is 1908 h y^{-1}

The observed 97.5th percentile rate based on 13 observations is 1908 h y^{-1}

The mean handling rate of sediments for adults based on 6 high-rate observations is 619 h y^{-1}

The observed 97.5th percentile rate based on 42 observations is 720 h y^{-1}

Table 44. Children's handling rates of fishing gear and sediment in the aquatic survey area (h y^{-1})

Person ID number	Age	Location	Activity	Sediment
3874/2/1	**9**	**Tarn Bay**	**Bait digging**	**104**
3875/2/1	11	Tarn Bay	Bait digging	13

Notes

Emboldened observations are the high-rate individuals

The mean handling rate of sediments for the child age group based on 1 high-rate observations is 104 h y^{-1}

The observed 97.5th percentile rate based on 2 observations is 102 h y^{-1}

Table 45. Adults' occupancy rates in and on water in the aquatic survey area (h y^{-1})

Person ID number	Location	Activity	In water	On water
4204/3/1	Coulderton	Swimming	490	-
4260/2/1	Seascale	Swimming	245	-
4074/1/1	Drigg	Kayaking and swimming	201	-
4223/1/1	St Bees and Ravenglass Estuary	Kayaking and paddleboarding	72	-
4107/1/1	St Bees	Swimming	52	-
4256/1/1	Coulderton	Surfing	45	-
4256/2/1	Coulderton	Surfing	45	-
4350/1/1	Seascale	Swimming	44	-
3835/1/1	St Bees	Paddleboarding	39	-
3835/2/1	St Bees	Paddleboarding	39	-
3899/2/1	Tarn Bay	Snorkelling	26	-
3899/1/1	Tarn Bay	Swimming	26	-
4190/1/1	Drigg	Paddleboarding	26	-
4190/2/1	Drigg	Paddleboarding	26	-
4316/2/1	Braystones	Swimming and kayaking	25	-
4316/1/1	Braystones	Kayaking	22	-
4257/2/1	Coulderton	Swimming	22	-
4082/1/1	Braystones	Swimming	15	-
4111/1/1	River Irt and Ravenglass Estuary	Kayaking	12	-
4111/3/1	River Irt and Ravenglass Estuary	Kayaking	12	-
4335/1/1	Seascale, Drigg and River Irt	Swimming	12	-
4335/2/1	Seascale, Drigg and River Irt	Swimming	12	-
4257/1/1	Coulderton	Swimming	11	-
4183/1/1	Between Seascale and St Bees	Paddleboarding	10	-

Person ID number	Location	Activity	In water	On water
		Paddling	-	36
4193/1/1	Seascale	Swimming	5	-
4193/2/1	Seascale	Swimming	5	-
3847/1/1	Parton	Paddleboarding and swimming	3	-
3847/2/1	Parton	Paddleboarding and swimming	3	-
4358/1/1	Parton	Snorkelling	1	-
4358/5/1	Parton	Snorkelling	1	-
4358/5/2	Parton	Snorkelling	1	-
4358/5/3	Parton	Snorkelling	1	-
4358/5/4	Parton	Snorkelling	1	-
4358/5/5	Parton	Snorkelling	1	-
4358/5/6	Parton	Snorkelling	1	-
4358/5/7	Parton	Snorkelling	1	-
4358/5/8	Parton	Snorkelling	1	-
4358/5/9	Parton	Snorkelling	1	-
4358/5/10	Parton	Snorkelling	1	-
4332/1/1	Between Sellafield and Ravenglass, and Whitehaven Inner Harbour	Potting and boat maintenance	-	2646
4332/3/1	Between Sellafield and Ravenglass, and Whitehaven Inner Harbour	Potting and boat maintenance	-	2646
4332/4/1	Sellafield to Ravenglass	Potting	-	2386
4332/5/1	Sellafield to Ravenglass	Potting	-	2386
4332/5/2	Sellafield to Ravenglass	Potting	-	2386
4296/1/1	Throughout the survey area	Trawling	-	903
4341/1/1	Whitehaven Inner Harbour	Being on a boat	-	417

Person ID number	Location	Activity	In water	On water
4341/1/2	Whitehaven Inner Harbour	Being on a boat	-	417
4341/1/3	Whitehaven Inner Harbour	Being on a boat	-	417
4341/1/4	Whitehaven Inner Harbour	Being on a boat	-	417
4341/1/5	Whitehaven Inner Harbour	Being on a boat	-	417
4301/1/1	Parton	Potting	-	209
4341/2/1	Whitehaven Inner Harbour	Working	-	209
4341/2/2	Whitehaven Inner Harbour	Working	-	209
4341/2/3	Whitehaven Inner Harbour	Working	-	209
4341/2/4	Whitehaven Inner Harbour	Working	-	209
4341/2/5	Whitehaven Inner Harbour	Working	-	209
4319/1/1	Throughout the survey area	Boat angling	-	200
4319/2/1	Throughout the survey area	Boat angling	-	200
4319/4/1	Throughout the survey area	Boat angling	-	200
4319/5/1	Throughout the survey area	Boat angling	-	200
4258/1/1	Throughout the survey area	Boat angling	-	105
4258/1/2	Throughout the survey area	Boat angling	-	105
4258/1/3	Throughout the survey area	Boat angling	-	105
4258/1/4	Throughout the survey area	Boat angling	-	105
4258/1/5	Throughout the survey area	Boat angling	-	105
4258/1/6	Throughout the survey area	Boat angling	-	105
4258/1/7	Throughout the survey area	Boat angling	-	105
4258/1/8	Throughout the survey area	Boat angling	-	105
4258/1/9	Throughout the survey area	Boat angling	-	105
4258/1/10	Throughout the survey area	Boat angling	-	105
3912/1/1	Throughout the survey area	Power boating	-	104
3912/2/1	Throughout the survey area	Power boating	-	104

Person ID number	Location	Activity	In water	On water
3912/2/2	Throughout the survey area	Power boating	-	104
3912/2/3	Throughout the survey area	Power boating	-	104
4363/1/1	Parton	Potting	-	52
4363/2/1	Parton	Potting	-	52
4136/1/1	Throughout the survey area	Boat angling	-	40
4228/1/1	Throughout the survey area	Boat angling	-	36
4084/3/1	Parton and St Bees	Boat angling	-	30
4347/5/1	Ravenglass	Boat angling	-	20
4291/1/1	Seascale, Drigg and Ravenglass	Boat angling	-	14
4291/2/1	Seascale, Drigg and Ravenglass	Boat angling	-	14
4291/3/1	Seascale, Drigg and Ravenglass	Boat angling	-	14
4291/4/1	Seascale, Drigg and Ravenglass	Boat angling	-	14
4347/1/1	Ravenglass	Boat angling	-	8
4292/2/1	Ravenglass Estuary and River Irt	Canoeing	-	6
4191/1/1	Seascale	Paddling	-	1
4191/2/1	Seascale	Paddling	-	1

Table 46. Children's occupancy rates in and on water in the aquatic survey area (h y^{-1})

Person ID number	Age	Location	Activity	In water	On water
4256/3/1	14	Coulderton	Surfing	45	-
4256/4/1	12	Coulderton	Surfing	45	-
4111/4/1	9	River Irt and Ravenglass Estuary	Kayaking	12	-
4111/5/1	9	River Irt and Ravenglass Estuary	Kayaking	12	-
4111/6/1	8	River Irt and Ravenglass Estuary	Kayaking	12	-
4183/2/1	9	Between Seascale and St Bees	Paddleboarding	10	-
			Paddling	-	36
4183/3/1	6	Between Seascale and St Bees	Paddleboarding	10	-
			Paddling	-	36
4335/3/1	11	River Irt	Swimming	2	-
		Seascale and Drigg	Paddling	-	10
4335/4/1	6	River Irt	Swimming	2	-
		Seascale and Drigg	Paddling	-	10
4335/5/1	9	River Irt	Swimming	2	-
		Seascale and Drigg	Paddling	-	10
4194/3/1	8	Seascale	Paddling	-	13
4191/4/1	7	Seascale	Paddling	-	1
4191/5/1	11	Seascale	Paddling	-	1

Table 47. Infants' occupancy rates on water in the aquatic survey area (h y^{-1})

Person ID number	Age	Location	Activity	On water
4194/4/1	5	Seascale	Paddling	13
4191/3/1	3	Seascale	Paddling	1

Table 48. Adults' consumption rates of green vegetables from the terrestrial survey area (kg y^{-1})

Person ID number	Asparagus	Broccoli	Brussels sprout	Cabbage	Calabrese	Cauliflower	Chard	Courgette	Cucumber	Gherkin	Kale	Lettuce	Rocket	Spinach	Total
3879/1/1	**-**	**-**	**9.3**	**-**	**-**	**-**	**-**	**18.8**	**-**	**-**	**-**	**-**	**-**	**-**	**28.1**
3879/2/1	**-**	**-**	**9.3**	**-**	**-**	**-**	**-**	**18.8**	**-**	**-**	**-**	**-**	**-**	**-**	**28.1**
3823/1/1	**-**	**0.6**	**-**	**8.1**	**-**	**-**	**-**	**7.0**	**3.2**	**4.0**	**-**	**-**	**-**	**-**	**22.9**
4263/1/1	**0.2**	**1.4**	**1.8**	**-**	**0.7**	**0.8**	**0.3**	**1.5**	**2.0**	**-**	**4.6**	**1.3**	**0.3**	**0.3**	**15.2**
4263/2/1	**0.2**	**1.4**	**1.8**	**-**	**0.7**	**0.8**	**0.3**	**1.5**	**2.0**	**-**	**4.6**	**1.3**	**0.3**	**0.3**	**15.2**
4263/3/1	**0.2**	**1.4**	**1.8**	**-**	**0.7**	**0.8**	**0.3**	**1.5**	**2.0**	**-**	**4.6**	**1.3**	**0.3**	**0.3**	**15.2**
4263/4/1	**0.2**	**1.4**	**1.8**	**-**	**0.7**	**0.8**	**0.3**	**1.5**	**2.0**	**-**	**4.6**	**1.3**	**0.3**	**0.3**	**15.2**
4263/5/1	**0.2**	**1.4**	**1.8**	**-**	**0.7**	**0.8**	**0.3**	**1.5**	**2.0**	**-**	**4.6**	**1.3**	**0.3**	**0.3**	**15.2**
4263/6/1	**0.2**	**1.4**	**1.8**	**-**	**0.7**	**0.8**	**0.3**	**1.5**	**2.0**	**-**	**4.6**	**1.3**	**0.3**	**0.3**	**15.2**
3824/1/1	**-**	**-**	**-**	**10.9**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**10.9**
3824/2/1	**-**	**-**	**-**	**10.9**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**10.9**
4331/1/1	0.6	4.1	-	1.7	-	-	-	-	-	-	-	-	-	-	6.4
4331/2/1	0.6	4.1	-	1.7	-	-	-	-	-	-	-	-	-	-	6.4
4331/3/1	0.6	4.1	-	1.7	-	-	-	-	-	-	-	-	-	-	6.4
4331/4/1	0.6	4.1	-	1.7	-	-	-	-	-	-	-	-	-	-	6.4
4331/5/1	0.6	4.1	-	1.7	-	-	-	-	-	-	-	-	-	-	6.4
4331/6/1	0.6	4.1	-	1.7	-	-	-	-	-	-	-	-	-	-	6.4
4264/1/1	-	-	-	-	-	-	-	-	5.7	-	-	-	-	-	5.7
4264/2/1	-	-	-	-	-	-	-	-	5.7	-	-	-	-	-	5.7
4264/3/1	-	-	-	-	-	-	-	-	5.7	-	-	-	-	-	5.7

Person ID number	Asparagus	Broccoli	Brussels sprout	Cabbage	Calabrese	Cauliflower	Chard	Courgette	Cucumber	Gherkin	Kale	Lettuce	Rocket	Spinach	Total
4305/1/1	-	-	-	-	-	-	-	2.5	-	-	2.5	-	-	-	5.0
4305/2/1	-	-	-	-	-	-	-	2.5	-	-	2.5	-	-	-	5.0
3879/3/1	-	-	1.6	-	-	-	-	3.3	-	-	-	-	-	-	5.0
3879/4/1	-	-	1.6	-	-	-	-	3.3	-	-	-	-	-	-	5.0
4065/1/1	-	-	-	-	-	-	-	3.5	-	-	-	-	-	-	3.5
3824/3/1	-	-	-	2.7	-	-	-	-	-	-	-	-	-	-	2.7
3824/4/1	-	-	-	2.7	-	-	-	-	-	-	-	-	-	-	2.7
4240/1/1	-	-	-	-	-	-	-	2.2	-	-	-	-	-	-	2.2
4240/2/1	-	-	-	-	-	-	-	2.2	-	-	-	-	-	-	2.2
4240/3/1	-	-	-	-	-	-	-	2.2	-	-	-	-	-	-	2.2
4240/4/1	-	-	-	-	-	-	-	2.2	-	-	-	-	-	-	2.2
4240/5/1	-	-	-	-	-	-	-	2.2	-	-	-	-	-	-	2.2
4350/1/1	-	-	-	-	-	-	-	-	-	-	-	-	2.0	-	2.0
3817/1/1	-	-	-	1.7	-	-	-	-	-	-	-	-	-	-	1.7
3817/2/1	-	-	-	1.7	-	-	-	-	-	-	-	-	-	-	1.7
3817/3/1	-	-	-	1.7	-	-	-	-	-	-	-	-	-	-	1.7
3817/4/1	-	-	-	1.7	-	-	-	-	-	-	-	-	-	-	1.7
3831/1/1	-	-	-	-	-	-	-	-	-	-	-	1.1	-	-	1.1
3831/2/1	-	-	-	-	-	-	-	-	-	-	-	1.1	-	-	1.1

Notes for Table 48
Emboldened observations are the high-rate consumers
The mean consumption rate of green vegetables for adults based on the 11 high-rate consumers is 17.4 kg y^{-1}
The observed 97.5th percentile rate based on 39 observations is 28.1 kg y^{-1}

Table 49. Adults' consumption rates of other vegetables from the terrestrial survey area (kg y^{-1})

Person ID number	Aubergine	Broad bean	Cannellini	Chilli pepper	French bean	Pea	Runner bean	Squash	Sweetcorn	Tomato	Total
3824/1/1	**-**	**7.8**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**16.3**	**24.2**
3824/2/1	**-**	**7.8**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**16.3**	**24.2**
3826/1/1	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**20.0**	**1.3**	**-**	**21.3**
3826/2/1	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**20.0**	**1.3**	**-**	**21.3**
3823/1/1	**-**	**4.8**	**-**	**-**	**2.1**	**0.1**	**2.9**	**-**	**-**	**3.8**	**13.6**
3831/1/1	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**12.9**	**12.9**
3831/2/1	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**12.9**	**12.9**
3879/1/1	**-**	**-**	**-**	**-**	**1.8**	**1.0**	**6.5**	**-**	**3.4**	**-**	**12.7**
3879/2/1	**-**	**-**	**-**	**-**	**1.8**	**1.0**	**6.5**	**-**	**3.4**	**-**	**12.7**
4065/1/1	**-**	**-**	**-**	**-**	**-**	**-**	**3.5**	**-**	**-**	**7.2**	**10.7**
4264/1/1	**-**	**-**	**-**	**-**	**-**	**0.4**	**-**	**-**	**-**	**9.6**	**10.0**
4264/2/1	**-**	**-**	**-**	**-**	**-**	**0.4**	**-**	**-**	**-**	**9.6**	**10.0**
4264/3/1	**-**	**-**	**-**	**-**	**-**	**0.4**	**-**	**-**	**-**	**9.6**	**10.0**
4314/1/1	-	1.4	-	0.09	0.9	-	-	-	-	5.4	7.8
4314/2/1	-	1.4	-	0.09	0.9	-	-	-	-	5.4	7.8
4263/1/1	-	-	2.4	-	-	0.03	-	2.3	0.5	2.3	7.4

Person ID number	Aubergine	Broad bean	Cannellini	Chilli pepper	French bean	Pea	Runner bean	Squash	Sweetcorn	Tomato	Total
4263/2/1	-	-	2.4	-	-	0.03	-	2.3	0.5	2.3	7.4
3824/3/1	-	2.0	-	-	-	-	-	-	-	4.1	6.0
3824/4/1	-	2.0	-	-	-	-	-	-	-	4.1	6.0
4263/3/1	-	-	-	-	-	0.03	-	2.3	0.5	2.3	5.0
4263/4/1	-	-	-	-	-	0.03	-	2.3	0.5	2.3	5.0
4263/5/1	-	-	-	-	-	0.03	-	2.3	0.5	2.3	5.0
4263/6/1	-	-	-	-	-	0.03	-	2.3	0.5	2.3	5.0
4305/1/1	-	-	-	-	-	-	-	-	-	5.0	5.0
4305/2/1	-	-	-	-	-	-	-	-	-	5.0	5.0
4331/1/1	-	-	1.2	-	-	-	1.2	-	-	2.4	4.8
4331/2/1	-	-	1.2	-	-	-	1.2	-	-	2.4	4.8
4331/3/1	-	-	1.2	-	-	-	1.2	-	-	2.4	4.8
4331/4/1	-	-	1.2	-	-	-	1.2	-	-	2.4	4.8
4331/5/1	-	-	1.2	-	-	-	1.2	-	-	2.4	4.8
4331/6/1	-	-	1.2	-	-	-	1.2	-	-	2.4	4.8
3827/1/1	1.0	-	-	-	-	-	-	-	-	2.3	3.3
3827/2/1	1.0	-	-	-	-	-	-	-	-	2.3	3.3
3827/3/1	1.0	-	-	-	-	-	-	-	-	2.3	3.3
3827/4/1	1.0	-	-	-	-	-	-	-	-	2.3	3.3
4240/1/1	-	-	-	-	-	-	1.0	-	-	2.2	3.2
4240/2/1	-	-	-	-	-	-	1.0	-	-	2.2	3.2
4240/3/1	-	-	-	-	-	-	1.0	-	-	2.2	3.2

Person ID number	Aubergine	Broad bean	Cannellini	Chilli pepper	French bean	Pea	Runner bean	Squash	Sweetcorn	Tomato	Total
4240/4/1	-	-	-	-	-	-	1.0	-	-	2.2	3.2
4240/5/1	-	-	-	-	-	-	1.0	-	-	2.2	3.2
3796/1/1	-	-	-	-	-	-	-	-	2.8	-	2.8
3879/3/1	-	-	-	-	0.3	0.2	1.1	-	0.6	-	2.2
3879/4/1	-	-	-	-	0.3	0.2	1.1	-	0.6	-	2.2

Notes

Emboldened observations are the high-rate consumers

The mean consumption rate of other vegetables for adults based on the 13 high-rate consumers is 15.1 kg y^{-1}

The observed 97.5th percentile rate based on 43 observations is 24.0 kg y^{-1}

Table 50. Adults' consumption rates of root vegetables from the terrestrial survey area (kg y^{-1})

Person ID number	Artichoke	Beetroot	Carrot	Leek	Onion	Parsnip	Spring onion	Sweet potato	Turnip	Total
3823/1/1	**-**	**4.3**	**15.4**	**4.3**	**9.4**	**8.5**	**-**	**-**	**-**	**41.9**
3824/1/1	**-**	**11.9**	**-**	**8.6**	**8.8**	**2.6**	**-**	**-**	**-**	**31.9**
3824/2/1	**-**	**11.9**	**-**	**8.6**	**8.8**	**2.6**	**-**	**-**	**-**	**31.9**
3826/1/1	**10.9**	**-**	**-**	**3.3**	**10.0**	**-**	**-**	**-**	**-**	**24.2**
3826/2/1	**10.9**	**-**	**-**	**3.3**	**10.0**	**-**	**-**	**-**	**-**	**24.2**
3879/1/1	**-**	**2.6**	**-**	**6.6**	**9.3**	**-**	**-**	**-**	**-**	**18.5**
3879/2/1	**-**	**2.6**	**-**	**6.6**	**9.3**	**-**	**-**	**-**	**-**	**18.5**
3822/1/1	**-**	**-**	**10.3**	**-**	**5.5**	**-**	**-**	**-**	**-**	**15.8**
3822/2/1	**-**	**-**	**10.3**	**-**	**5.5**	**-**	**-**	**-**	**-**	**15.8**
4264/1/1	**-**	**1.5**	**0.7**	**-**	**12.1**	**-**	**-**	**-**	**-**	**14.3**
4264/2/1	**-**	**1.5**	**0.7**	**-**	**12.1**	**-**	**-**	**-**	**-**	**14.3**
4264/3/1	**-**	**1.5**	**0.7**	**-**	**12.1**	**-**	**-**	**-**	**-**	**14.3**
3827/1/1	-	-	-	6.8	-	-	-	2.5	-	9.3
3827/2/1	-	-	-	6.8	-	-	-	2.5	-	9.3
3827/3/1	-	-	-	6.8	-	-	-	2.5	-	9.3
3827/4/1	-	-	-	6.8	-	-	-	2.5	-	9.3
4314/1/1	-	-	1.8	-	5.8	-	0.8	-	-	8.4
4314/2/1	-	-	1.8	-	5.8	-	0.8	-	-	8.4
3824/3/1	-	3.0	-	2.2	2.2	0.6	-	-	-	8.0
3824/4/1	-	3.0	-	2.2	2.2	0.6	-	-	-	8.0
4263/1/1	-	0.6	0.9	1.0	3.7	-	-	-	1.4	7.5
4263/2/1	-	0.6	0.9	1.0	3.7	-	-	-	1.4	7.5
4263/3/1	-	0.6	0.9	1.0	3.7	-	-	-	1.4	7.5
4263/4/1	-	0.6	0.9	1.0	3.7	-	-	-	1.4	7.5
4263/5/1	-	0.6	0.9	1.0	3.7	-	-	-	1.4	7.5
4263/6/1	-	0.6	0.9	1.0	3.7	-	-	-	1.4	7.5
3879/3/1	-	0.5	-	1.2	1.6	-	-	-	-	3.3
3879/4/1	-	0.5	-	1.2	1.6	-	-	-	-	3.3
4331/1/1	-	1.2	0.6	-	-	-	-	-	-	1.8
4331/2/1	-	1.2	0.6	-	-	-	-	-	-	1.8
4331/3/1	-	1.2	0.6	-	-	-	-	-	-	1.8
4331/4/1	-	1.2	0.6	-	-	-	-	-	-	1.8
4331/5/1	-	1.2	0.6	-	-	-	-	-	-	1.8
4331/6/1	-	1.2	0.6	-	-	-	-	-	-	1.8
3817/1/1	-	-	0.8	-	-	-	-	-	-	0.8
3817/2/1	-	-	0.8	-	-	-	-	-	-	0.8

Person ID number	Artichoke	Beetroot	Carrot	Leek	Onion	Parsnip	Spring onion	Sweet potato	Turnip	Total
3817/3/1	-	-	0.8	-	-	-	-	-	-	0.8
3817/4/1	-	-	0.8	-	-	-	-	-	-	0.8
4240/1/1	-	0.3	-	-	-	-	-	-	-	0.3
4240/2/1	-	0.3	-	-	-	-	-	-	-	0.3
4240/3/1	-	0.3	-	-	-	-	-	-	-	0.3
4240/4/1	-	0.3	-	-	-	-	-	-	-	0.3
4240/5/1	-	0.3	-	-	-	-	-	-	-	0.3
4350/1/1	-	-	-	-	-	-	0.2	-	-	0.2

Notes

Emboldened observations are the high-rate consumers

The mean consumption rate of root vegetables for adults based on the 12 high-rate consumers is 22.1 kg y^{-1}

The observed 97.5th percentile rate based on 44 observations is 31.9 kg y^{-1}

Table 51. Adults' consumption rates of potato from the terrestrial survey area (kg y^{-1})

Person ID number	Potato
3822/1/1	**83.6**
3822/2/1	**83.6**
3815/1/1	**50.0**
3815/1/2	**50.0**
3815/1/3	**50.0**
3815/1/4	**50.0**
3815/1/5	**50.0**
3815/1/6	**50.0**
3815/1/7	**50.0**
3815/1/8	**50.0**
3815/1/9	**50.0**
3815/1/10	**50.0**
3815/1/11	**50.0**
3815/1/12	**50.0**
3815/1/13	**50.0**
3815/1/14	**50.0**
3815/1/15	**50.0**
3824/1/1	**46.0**
3824/2/1	**46.0**
4350/1/1	**40.0**
3831/1/1	**38.8**
3831/2/1	**38.8**
3879/1/1	17.2
3879/2/1	17.2
4264/2/1	15.0
4264/3/1	15.0
3824/3/1	11.5
3824/4/1	11.5
3796/1/1	10.0
3826/1/1	10.0
3826/2/1	10.0
3823/1/1	9.5
3817/1/1	8.3
3817/2/1	8.3
3817/3/1	8.3
3817/4/1	8.3
4067/1/1	3.8
4067/2/1	3.8
4065/1/1	3.5

Person ID number	Potato
3879/3/1	3.0
3879/4/1	3.0
4305/1/1	2.5
4305/2/1	2.5
4263/1/1	1.8
4263/2/1	1.8
4263/3/1	1.8
4263/4/1	1.8
4263/5/1	1.8
4263/6/1	1.8
4331/1/1	1.6
4331/2/1	1.6
4331/3/1	1.6
4331/4/1	1.6
4331/5/1	1.6
4331/6/1	1.6
4080/1/1	1.1
4080/2/1	1.1

Notes

Emboldened observations are the high-rate consumers

The mean consumption rate of potato for adults based on the 22 high-rate consumers is 51.2 kg y^{-1}

The observed 97.5th percentile rate based on 57 observations is 70.2 kg y^{-1}

Table 52. Adults' consumption rates of domestic fruit from the terrestrial survey area (kg y^{-1})

Person ID number	Apple	Blackberry	Blackcurrant	Blueberry	Cherry	Damson	Gooseberry	Melon	Nectarine	Peach	Pear	Plum	Raspberry	Redcurrant	Rhubarb	Strawberry	Tayberry	Total
4264/1/1	**7.6**	**-**	**4.5**	**-**	**-**	**-**	**0.8**	**-**	**-**	**-**	**3.0**	**1.8**	**5.4**	**4.5**	**-**	**1.8**	**-**	**29.5**
4264/2/1	**7.6**	**-**	**4.5**	**-**	**-**	**-**	**0.8**	**-**	**-**	**-**	**3.0**	**1.8**	**5.4**	**4.5**	**-**	**1.8**	**-**	**29.5**
4264/3/1	**7.6**	**-**	**4.5**	**-**	**-**	**-**	**0.8**	**-**	**-**	**-**	**3.0**	**1.8**	**5.4**	**4.5**	**-**	**1.8**	**-**	**29.5**
4331/1/1	**5.9**	**-**	**-**	**0.2**	**-**	**0.06**	**-**	**-**	**0.6**	**0.4**	**2.3**	**2.3**	**3.2**	**0.2**	**-**	**0.9**	**-**	**16.1**
4331/2/1	**5.9**	**-**	**-**	**0.2**	**-**	**0.06**	**-**	**-**	**0.6**	**0.4**	**2.3**	**2.3**	**3.2**	**0.2**	**-**	**0.9**	**-**	**16.1**
4331/3/1	**5.9**	**-**	**-**	**0.2**	**-**	**0.06**	**-**	**-**	**0.6**	**0.4**	**2.3**	**2.3**	**3.2**	**0.2**	**-**	**0.9**	**-**	**16.1**
4331/4/1	**5.9**	**-**	**-**	**0.2**	**-**	**0.06**	**-**	**-**	**0.6**	**0.4**	**2.3**	**2.3**	**3.2**	**0.2**	**-**	**0.9**	**-**	**16.1**
4331/5/1	**5.9**	**-**	**-**	**0.2**	**-**	**0.06**	**-**	**-**	**0.6**	**0.4**	**2.3**	**2.3**	**3.2**	**0.2**	**-**	**0.9**	**-**	**16.1**
4331/6/1	**5.9**	**-**	**-**	**0.2**	**-**	**0.06**	**-**	**-**	**0.6**	**0.4**	**2.3**	**2.3**	**3.2**	**0.2**	**-**	**0.9**	**-**	**16.1**
4262/1/1	**7.5**	**-**	**3.3**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**2.5**	**2.5**	**-**	**-**	**-**	**-**	**-**	**15.8**
4262/2/1	**7.5**	**-**	**3.3**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**2.5**	**2.5**	**-**	**-**	**-**	**-**	**-**	**15.8**
4262/3/1	**7.5**	**-**	**3.3**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**2.5**	**2.5**	**-**	**-**	**-**	**-**	**-**	**15.8**
3823/1/1	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**4.8**	**8.6**	**1.1**	**-**	**-**	**14.4**
3796/1/1	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**5.0**	**-**	**-**	**6.0**	**-**	**11.0**
4065/1/1	-	-	-	2.0	-	-	-	-	-	-	-	-	2.0	-	-	2.0	2.0	8.0
3813/1/1	6.7	-	-	-	-	-	-	-	-	-	0.7	-	-	-	-	-	-	7.3
3813/2/1	6.7	-	-	-	-	-	-	-	-	-	0.7	-	-	-	-	-	-	7.3
3813/3/1	6.7	-	-	-	-	-	-	-	-	-	0.7	-	-	-	-	-	-	7.3
4219/1/1	6.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.7

Person ID number	Apple	Blackberry	Blackcurrant	Blueberry	Cherry	Damson	Gooseberry	Melon	Nectarine	Peach	Pear	Plum	Raspberry	Redcurrant	Rhubarb	Strawberry	Tayberry	Total
4219/2/1	6.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.7
4219/3/1	6.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.7
3879/1/1	-	-	4.8	-	-	-	-	-	-	-	-	-	-	1.5	-	-	-	6.4
3879/2/1	-	-	4.8	-	-	-	-	-	-	-	-	-	-	1.5	-	-	-	6.4
4071/1/1	-	-	-	-	-	-	-	-	-	-	-	6.0	-	-	-	-	-	6.0
4263/1/1	-	-	-	-	-	-	-	3.3	-	-	-	-	-	-	0.7	1.5	-	5.5
4263/2/1	-	-	-	-	-	-	-	3.3	-	-	-	-	-	-	0.7	1.5	-	5.5
4263/3/1	-	-	-	-	-	-	-	3.3	-	-	-	-	-	-	0.7	1.5	-	5.5
4263/4/1	-	-	-	-	-	-	-	3.3	-	-	-	-	-	-	0.7	1.5	-	5.5
4263/5/1	-	-	-	-	-	-	-	3.3	-	-	-	-	-	-	0.7	1.5	-	5.5
4263/6/1	-	-	-	-	-	-	-	3.3	-	-	-	-	-	-	0.7	1.5	-	5.5
4314/1/1	-	-	-	1.0	-	-	-	-	-	-	-	-	-	-	-	3.4	-	4.4
4314/2/1	-	-	-	1.0	-	-	-	-	-	-	-	-	-	-	-	3.4	-	4.4
4307/1/1	-	-	-	-	-	-	1.5	-	-	-	-	-	1.5	-	-	-	-	3.0
4307/2/1	-	-	-	-	-	-	1.5	-	-	-	-	-	1.5	-	-	-	-	3.0
4305/1/1	-	1.0	1.0	-	-	-	-	-	-	-	-	-	-	-	-	0.5	-	2.5
4305/2/1	-	1.0	1.0	-	-	-	-	-	-	-	-	-	-	-	-	0.5	-	2.5
4080/1/1	1.4	-	0.3	-	-	-	0.3	-	-	-	-	-	-	0.3	-	-	-	2.4
4080/2/1	1.4	-	0.3	-	-	-	0.3	-	-	-	-	-	-	0.3	-	-	-	2.4
3822/1/1	-	-	2.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.3
3822/2/1	-	-	2.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.3

Person ID number	Apple	Blackberry	Blackcurrant	Blueberry	Cherry	Damson	Gooseberry	Melon	Nectarine	Peach	Pear	Plum	Raspberry	Redcurrant	Rhubarb	Strawberry	Tayberry	Total
4070/1/1	1.0	-	-	-	1.0	-	-	-	-	-	-	-	-	-	-	-	-	2.0
4070/2/1	1.0	-	-	-	1.0	-	-	-	-	-	-	-	-	-	-	-	-	2.0
4205/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.0	-	-	2.0
4205/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.0	-	-	2.0
3811/1/1	1.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.5
3811/2/1	1.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.5
3811/3/1	1.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.5
3879/3/1	-	-	0.9	-	-	-	-	-	-	-	-	-	-	0.3	-	-	-	1.1
3879/4/1	-	-	0.9	-	-	-	-	-	-	-	-	-	-	0.3	-	-	-	1.1
3827/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.0	-	1.0
3827/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.0	-	1.0
3827/3/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.0	-	1.0
3827/4/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.0	-	1.0
3824/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.9	-	-	0.9
3824/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.9	-	-	0.9
3817/1/1	0.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.8
3817/2/1	0.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.8
3817/3/1	0.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.8
3817/4/1	0.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.8
3824/3/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	0.2
3824/4/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	0.2

Person ID number	Apple	Blackberry	Blackcurrant	Blueberry	Cherry	Damson	Gooseberry	Melon	Nectarine	Peach	Pear	Plum	Raspberry	Redcurrant	Rhubarb	Strawberry	Tayberry	Total
3831/1/1	-	-	-	-	-	-	-	-	-	-	-	-	0.07	-	-	-	-	0.07
3831/2/1	-	-	-	-	-	-	-	-	-	-	-	-	0.07	-	-	-	-	0.07

Notes

Emboldened observations are the high-rate consumers

The mean consumption rate of domestic fruit for adults based on the 14 high-rate consumers is 18.4 kg y^{-1}

The observed 97.5th percentile rate based on 63 observations is 29.5 kg y^{-1}

Table 53. Adults' consumption rates of milk from the terrestrial survey area (l y^{-1})

Person ID number	Cows' milk
4264/1/1	**273.8**
4264/2/1	**273.8**
3799/1/1	**207.3**
3799/2/1	**207.3**
4090/1/1	**207.3**
4090/2/1	**207.3**
4090/3/1	**207.3**
4202/1/1	**207.3**
4202/2/1	**207.3**
4264/3/1	**130.4**
3811/1/1	**121.7**
3811/2/1	**121.7**
3811/3/1	**121.7**
4240/2/1	**104.3**
4240/3/1	**104.3**
4240/4/1	**104.3**
4240/5/1	**104.3**
4240/1/1	52.1

Notes

Emboldened observations are the high-rate consumers

The mean consumption rate of milk for adults based on the 17 high-rate consumers is 171.2 l y^{-1}

The observed 97.5th percentile rate based on 18 observations is 273.8 l y^{-1}

Table 54. Adults' consumption rates of cattle meat from the terrestrial survey area (kg y^{-1})

Person ID number	Beef
3813/1/1	**37.5**
3813/2/1	**37.5**
3814/1/1	**30.0**
3814/2/1	**30.0**
3811/1/1	**14.7**
3811/2/1	**14.7**
3811/3/1	**14.7**

Notes

Emboldened observations are the high-rate consumers

The mean consumption rate of cattle meat for adults based on the 7 high-rate consumers is 25.6 kg y^{-1}

The observed 97.5th percentile rate based on 7 observations is 37.5 kg y^{-1}

Table 55. Adults' consumption rates of sheep meat from the terrestrial survey area (kg y^{-1})

Person ID number	Lamb	Mutton	Total
4219/1/1	**3.8**	**39.8**	**43.6**
4219/2/1	**3.8**	**39.8**	**43.6**
4219/3/1	**3.8**	**39.8**	**43.6**
4264/1/1	**20.0**	-	**20.0**
4264/2/1	**20.0**	-	**20.0**
4264/3/1	10.0	-	10.0
3803/1/1	8.1	-	8.1
3803/2/1	8.1	-	8.1
3803/6/1	8.1	-	8.1
3803/7/1	8.1	-	8.1
4067/1/1	8.0	-	8.0
4067/2/1	8.0	-	8.0
3818/1/1	6.7	-	6.7
3818/2/1	6.7	-	6.7
3818/3/1	6.7	-	6.7
3818/4/1	6.7	-	6.7
3818/5/1	6.7	-	6.7
3818/6/1	6.7	-	6.7
3814/1/1	4.0	-	4.0
3814/2/1	4.0	-	4.0
4080/1/1	4.0	-	4.0
4080/2/1	4.0	-	4.0

Person ID number	Lamb	Mutton	Total
3813/1/1	3.8	-	3.8
3813/2/1	3.8	-	3.8
3813/3/1	3.8	-	3.8
3817/1/1	3.3	-	3.3
3817/2/1	3.3	-	3.3
3817/3/1	3.3	-	3.3
3817/4/1	3.3	-	3.3
4305/1/1	2.5	-	2.5
4305/2/1	2.5	-	2.5

Notes

Emboldened observations are the high-rate consumers

The mean consumption rate of sheep meat for adults based on the 5 high-rate consumers is 34.2 kg y^{-1}

The observed 97.5th percentile rate based on 31 observations is 43.6 kg y^{-1}

Table 56. Adults' consumption rates of poultry from the terrestrial survey area (kg y^{-1})

Person ID number	Duck	Goose	Partridge	Pheasant	Pigeon	Turkey	Woodcock	Total
3796/1/1	**-**	**-**	**1.8**	**11.2**	**-**	**-**	**-**	**13.0**
4136/1/1	**2.0**	**3.0**	**-**	**4.0**	**2.0**	**-**	**1.0**	**12.0**
3798/1/1	**-**	**-**	**1.2**	**6.3**	**0.9**	**-**	**-**	**8.4**
4305/1/1	**-**	**-**	**-**	**-**	**-**	**5.0**	**-**	**5.0**
4305/2/1	**-**	**-**	**-**	**-**	**-**	**5.0**	**-**	**5.0**
4307/1/1	-	-	-	2.2	-	-	-	2.2
4307/2/1	-	-	-	2.2	-	-	-	2.2
3810/2/1	-	-	-	1.8	-	-	-	1.8
3810/3/1	-	-	-	1.8	-	-	-	1.8
3919/1/1	-	-	-	1.8	-	-	-	1.8
3919/2/1	-	-	-	1.8	-	-	-	1.8
4201/1/1	-	-	-	1.4	-	-	-	1.4
4201/2/1	-	-	-	1.4	-	-	-	1.4
4201/3/1	-	-	-	1.4	-	-	-	1.4
3813/1/1	-	-	-	0.7	-	-	-	0.7
3813/2/1	-	-	-	0.7	-	-	-	0.7
4219/1/1	-	-	-	0.3	-	-	-	0.3
4219/2/1	-	-	-	0.3	-	-	-	0.3
4219/3/1	-	-	-	0.3	-	-	-	0.3

Notes for Table 56

Emboldened observations are the high-rate consumers

The mean consumption rate of poultry for adults based on the 5 high-rate consumers is 8.7 kg y^{-1}

The observed 97.5th percentile rate based on 19 observations is 12.6 kg y^{-1}

Table 57. Adults' consumption rates of eggs from the terrestrial survey area (kg y^{-1})

Person ID number	Chicken egg	Duck egg	Goose egg	Total
4264/1/1	**38.9**	**-**	**-**	**38.9**
4264/2/1	**38.9**	**-**	**-**	**38.9**
4067/1/1	**35.7**	**-**	**-**	**35.7**
4067/2/1	**35.7**	**-**	**-**	**35.7**
4240/1/1	**31.2**	**-**	**-**	**31.2**
4240/2/1	**31.2**	**-**	**-**	**31.2**
4264/3/1	**31.1**	**-**	**-**	**31.1**
3813/1/1	**26.7**	**-**	**-**	**26.7**
3813/2/1	**26.7**	**-**	**-**	**26.7**
4080/1/1	**26.0**	**-**	**-**	**26.0**
4080/2/1	**26.0**	**-**	**-**	**26.0**
4332/1/1	**-**	**17.7**	**-**	**17.7**
4332/2/1	**-**	**17.7**	**-**	**17.7**
4332/3/1	**-**	**17.7**	**-**	**17.7**
4332/4/1	**-**	**17.7**	**-**	**17.7**
4262/1/1	11.9	-	-	11.9
4262/2/1	11.9	-	-	11.9
4262/3/1	11.9	-	-	11.9
4260/1/1	5.9	5.9	-	11.8
4260/2/1	5.9	5.9	-	11.8
4307/1/1	8.9	-	-	8.9
4307/2/1	8.9	-	-	8.9
3814/1/1	4.1	-	-	4.1
3814/2/1	4.1	-	-	4.1
4306/1/1	4.1	-	-	4.1
4305/1/1	3.4	-	-	3.4
4305/2/1	3.4	-	-	3.4

Notes

Emboldened observations are the high-rate consumers

The mean consumption rate of eggs for adults based on the 15 high-rate consumers is 27.9 kg y^{-1}

The observed 97.5th percentile rate based on 33 observations is 38.9 kg y^{-1}

Table 58. Adults' consumption rates of wild/free foods from the terrestrial survey area (kg y^{-1})

Person ID number	Blackberry	Sloe	Total
4331/1/1	**3.5**	**-**	**3.5**
4331/2/1	**3.5**	**-**	**3.5**
4331/3/1	**3.5**	**-**	**3.5**
4331/4/1	**3.5**	**-**	**3.5**
4331/5/1	**3.5**	**-**	**3.5**
4331/6/1	**3.5**	**-**	**3.5**
4264/1/1	**2.7**	**0.5**	**3.2**
4264/2/1	**2.7**	**0.5**	**3.2**
4264/3/1	**2.7**	**0.5**	**3.2**
3813/1/1	**1.0**	**1.5**	**2.5**
3813/2/1	**1.0**	**1.5**	**2.5**
3813/3/1	**1.0**	**1.5**	**2.5**
3796/1/1	**2.3**	**-**	**2.3**
4219/1/1	**2.0**	**-**	**2.0**
4219/2/1	**2.0**	**-**	**2.0**
4219/3/1	**2.0**	**-**	**2.0**
3917/1/1	**1.6**	**-**	**1.6**
3811/1/1	**1.5**	**-**	**1.5**
3811/2/1	**1.5**	**-**	**1.5**
3811/3/1	**1.5**	**-**	**1.5**
4080/1/1	**0.1**	**1.3**	**1.4**
4080/2/1	**0.1**	**1.3**	**1.4**
4070/1/1	1.0	-	1.0
4070/2/1	1.0	-	1.0
3817/1/1	0.8	-	0.8
3817/2/1	0.8	-	0.8
3817/3/1	0.8	-	0.8
3817/4/1	0.8	-	0.8
4262/1/1	0.7	-	0.7
4262/2/1	0.7	-	0.7
4262/3/1	0.7	-	0.7
3803/1/1	0.5	-	0.5
3803/2/1	0.5	-	0.5
3803/6/1	0.5	-	0.5
3803/7/1	0.5	-	0.5
3826/1/1	0.5	-	0.5
3826/2/1	0.5	-	0.5

Notes for Table 58

Emboldened observations are the high-rate consumers
The mean consumption rate of wild/free foods for adults based on the 22 high-rate consumers is 2.5 kg y^{-1}
The observed 97.5th percentile rate based on 37 observations is 3.5 kg y^{-1}

Table 59. Adults' consumption rates of rabbits/hares from the terrestrial survey area (kg y^{-1})

Person ID number	Hare	Rabbit	Total
3798/1/1	**6.4**	**1.8**	**8.2**
4136/1/1	-	1.0	1.0

Notes

The emboldened observation is the high-rate consumer
The mean consumption rate of rabbits/hares for adults based on the high-rate consumer is 8.2 kg y^{-1}
The observed 97.5th percentile rate based on 2 observations is 8.0 kg y^{-1}

Table 60. Adults' consumption rates of honey from the terrestrial survey area (kg y^{-1})

Person ID number	Honey
3831/1/1	**3.4**
3831/2/1	**3.4**
4263/1/1	**2.7**
4263/2/1	**2.7**
4263/3/1	**2.7**
4263/4/1	**2.7**
4263/5/1	**2.7**
4263/6/1	**2.7**
4262/1/1	0.3
4262/2/1	0.3
4262/3/1	0.3

Notes

Emboldened observations are the high-rate consumers
The mean consumption rate of honey for adults based on the 8 high-rate consumers is 2.9 kg y^{-1}
The observed 97.5th percentile rate based on 11 observations is 3.4 kg y^{-1}

Table 61. Adults' consumption rates of wild fungi from the terrestrial survey area (kg y^{-1})

Person ID number	Mushrooms
4314/1/1	**1.5**
4314/2/1	**1.5**
3813/1/1	0.3
3813/2/1	0.3
3813/3/1	0.3
4331/1/1	0.3
4331/2/1	0.3
4331/3/1	0.3
4331/4/1	0.3
4331/5/1	0.3
4331/6/1	0.3
4219/1/1	0.2
4219/2/1	0.2
4219/3/1	0.2

Notes

Emboldened observations are the high-rate consumers

The mean consumption rate of wild fungi for adults based on the 2 high-rate consumers is 1.5 kg y^{-1}

The observed 97.5th percentile rate based on 14 observations is 1.5 kg y^{-1}

Table 62. Adults' consumption rates of venison from the terrestrial survey area (kg y^{-1})

Person ID number	Venison
4136/1/1	**26.1**
3803/1/1	5.0
3803/2/1	5.0
4219/1/1	5.0
4219/2/1	5.0
4219/3/1	5.0

Notes

The emboldened observation is the high-rate consumer

The mean consumption rate of venison for adults based on the high-rate consumer is 26.1 kg y^{-1}

The observed 97.5th percentile rate based on 6 observations is 23.4 kg y^{-1}

Table 63. Adults' consumption rates of freshwater fish from the terrestrial survey area (kg y^{-1})

Person ID number	Brown trout
3824/1/1	**1.4**

Notes
The emboldened observation is the high-rate consumer
The mean consumption rate of freshwater fish for adults based on the high-rate consumer is 1.4 kg y^{-1}
The observed 97.5th percentile rate is not applicable for one observation

Table 64. Children's consumption rates of green vegetables from the terrestrial survey area (kg y^{-1})

Person ID number	Age	Asparagus	Broccoli	Cabbage	Total
4331/8/1	**7**	**0.6**	**4.1**	**1.7**	**6.4**
4331/7/1	**8**	**0.3**	**2.0**	**0.9**	**3.2**
3817/5/1	10	-	-	1.7	1.7
3817/6/1	10	-	-	1.7	1.7

Notes
Emboldened observations are the high-rate consumers
The mean consumption rate of green vegetables for the child age group based on the 2 high-rate consumers is 4.8 kg y^{-1}
The observed 97.5th percentile rate based on 4 observations is 6.1 kg y^{-1}

Table 65. Children's consumption rates of other vegetables from the terrestrial survey area (kg y^{-1})

Person ID number	Age	Cannellini	Runner bean	Tomato	Total
4331/8/1	**7**	**1.2**	**1.2**	**2.4**	**4.8**
4331/7/1	**8**	**0.6**	**0.6**	**1.2**	**2.4**

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 3.6 kg y^{-1}
The observed 97.5th percentile rate based on 2 observations is 4.8 kg y^{-1}

Table 66. Children's consumption rates of root vegetables from the terrestrial survey area (kg y^{-1})

Person ID number	Age	Beetroot	Carrot	Total
4331/8/1	**7**	**1.2**	**0.6**	**1.8**
4331/7/1	**8**	**0.6**	**0.3**	**0.9**
3817/5/1	**10**	**-**	**0.8**	**0.8**
3817/6/1	**10**	**-**	**0.8**	**0.8**

Notes

Emboldened observations are the high-rate consumers

The mean consumption rate of root vegetables for the infant age group based on the 4 high-rate consumers is 1.1 kg y^{-1}

The observed 97.5th percentile rate based on 4 observations is 1.7 kg y^{-1}

Table 67. Children's consumption rates of potato from the terrestrial survey area (kg y^{-1})

Person ID number	Age	Potato
3817/5/1	**10**	**8.3**
3817/6/1	**10**	**8.3**
4331/8/1	9	1.6
4080/3/1	13	1.1
4080/4/1	11	1.1
4331/7/1	8	0.8

Notes

Emboldened observations are the high-rate consumers

The mean consumption rate of potato for the child age group based on the 2 high-rate consumers is 8.3 kg y^{-1}

The observed 97.5th percentile rate based on 6 observations is 8.3 kg y^{-1}

Table 68. Children's consumption rates of domestic fruit from the terrestrial survey area (kg y^{-1})

Person ID number	Age	Apple	Blackcurrant	Blueberry	Damson	Gooseberry	Nectarine	Peach	Pear	Plum	Raspberry	Redcurrant	Rhubarb	Strawberry	Total
4331/8/1	**7**	**5.9**	**-**	**0.2**	**0.06**	**-**	**0.6**	**0.4**	**2.3**	**2.3**	**3.2**	**0.2**	**-**	**0.9**	**16.1**
4331/7/1	**8**	**2.9**	**-**	**0.09**	**0.03**	**-**	**0.3**	**0.2**	**1.2**	**1.2**	**1.6**	**0.09**	**-**	**0.4**	**8.0**
4080/3/1	13	1.4	0.3	-	-	0.3	-	-	-	-	-	0.3	-	-	2.4
4080/4/1	11	1.4	0.3	-	-	0.3	-	-	-	-	-	0.3	-	-	2.4
4205/3/1	10	-	-	-	-	-	-	-	-	-	-	-	2.0	-	2.0
3811/4/1	9	1.1	-	-	-	-	-	-	-	-	-	-	-	-	1.1
3817/5/1	10	0.8	-	-	-	-	-	-	-	-	-	-	-	-	0.8
3817/6/1	10	0.8	-	-	-	-	-	-	-	-	-	-	-	-	0.8

Notes

Emboldened observations are the high-rate consumers

The mean consumption rate of domestic fruit for the child age group based on the 2 high-rate consumers is 12.1 kg y^{-1}

The observed 97.5th percentile rate based on 8 observations is 14.7 kg y^{-1}

Table 69. Infants' consumption rates of domestic fruit from the terrestrial survey area (kg y^{-1})

Person ID number	Age	Apple	Blueberry	Damson	Nectarine	Peach	Pear	Plum	Raspberry	Redcurrant	Strawberry	Total
4331/9/1	**1**	**1.5**	**0.04**	**0.01**	**0.2**	**0.1**	**0.6**	**0.6**	**0.8**	**0.04**	**0.2**	**4.0**
3811/5/1	2	0.5	-	-	-	-	-	-	-	-	-	0.5

Notes

The emboldened observation is the high-rate consumer

The mean consumption rate of domestic fruit for the infant age group based on the high-rate consumer is 4.0 kg y^{-1}

The observed 97.5th percentile rate based on 2 observations is 3.9 kg y^{-1}

Table 70. Infants' consumption rates of milk from the terrestrial survey area (l y^{-1})

Person ID number	Age	Cows' milk
3799/7/1	5	44.5

Notes

The emboldened observation is the high-rate consumer
The mean consumption rate of milk for the infant age group based on the high-rate consumer is 44.5 l y^{-1}
The observed 97.5th percentile is not applicable for 1 observation

Table 71. Children's consumption rates of cattle meat from the terrestrial survey area (kg y^{-1})

Person ID number	Age	Beef
3814/3/1	14	30.0
3814/4/1	13	30.0
3814/5/1	13	30.0
3811/4/1	9	11.0

Notes

Emboldened observations are the high-rate consumers
The mean consumption rate of cattle meat for the child age group based on the 4 high-rate consumers is 25.3 kg y^{-1}
The observed 97.5th percentile rate based on 4 observations is 30.0 kg y^{-1}

Table 72. Infant's consumption rates of cattle meat from the terrestrial survey area (kg y^{-1})

Person ID number	Age	Beef
3811/5/1	2	4.9

Notes

The emboldened observation is the high-rate consumer
The mean consumption rate of cattle meat for the infant age group based on the high-rate consumer is 44.5 kg y^{-1}
The observed 97.5th percentile is not applicable for 1 observation

Table 73. Children's consumption rates of sheep meat from the terrestrial survey area (kg y^{-1})

Person ID number	Age	Lamb
3803/5/1	12	8.1
3814/3/1	14	4.0
3814/4/1	13	4.0
3814/5/1	13	4.0
4080/3/1	13	4.0
4080/4/1	11	4.0
3817/5/1	10	3.3
3817/6/1	10	3.3

Notes

Emboldened observations are the high-rate consumers

The mean consumption rate of sheep meat for the child age group based on the 8 high-rate consumers is 4.3 kg y^{-1}

The observed 97.5th percentile rate based on 8 observations is 7.4 kg y^{-1}

Table 74. Infants' consumption rates of sheep meat from the terrestrial survey area (kg y^{-1})

Person ID number	Age	Lamb
3803/4/1	2	2.7
3803/3/1	1	2.0

Notes

Emboldened observations are the high-rate consumers

The mean consumption rate of sheep meat for the infant age group based on the 2 high-rate consumers is 2.3 kg y^{-1}

The observed 97.5th percentile rate based on 2 observations is 2.7 kg y^{-1}

Table 75. Children's consumption rates of eggs from the terrestrial survey area (kg y^{-1})

Person ID number	Age	Chicken egg
4080/3/1	**13**	**26.0**
4080/4/1	**11**	**26.0**
3814/3/1	14	4.1
3814/4/1	13	4.1
3814/5/1	13	4.1

Notes

Emboldened observations are the high-rate consumers

The mean consumption rate of eggs for the child age group based on the 2 high-rate consumers is 26.0 kg y^{-1}

The observed 97.5th percentile rate based on 5 observations is 26.0 kg y^{-1}

Table 76. Infant's consumption rates of poultry from the terrestrial survey area (kg y^{-1})

Person ID number	Age	Pheasant
4201/5/1	**4**	**0.7**
4201/4/1	**2**	**0.5**

Notes

Emboldened observations are the high-rate consumers

The mean consumption rate of poultry for the infant age group based on the 2 high-rate consumers is 0.6 kg y^{-1}

The observed 97.5th percentile rate based on 2 observations is 0.7 kg y^{-1}

Table 77. Children's consumption rates of wild/free foods from the terrestrial survey area (kg y^{-1})

Person ID number	Age	Blackberry	Sloe	Total
4331/8/1	**7**	**3.5**	**-**	**3.5**
4331/7/1	**8**	**1.8**	**-**	**1.8**
4080/3/1	**13**	**0.1**	**1.3**	**1.4**
4080/4/1	**11**	**0.1**	**1.3**	**1.4**
3811/4/1	9	1.1	-	1.1
3817/5/1	10	0.8	-	0.8
3817/6/1	10	0.8	-	0.8
3803/5/1	12	0.5	-	0.5

Notes

Emboldened observations are the high-rate consumers

The mean consumption rate of wild/free foods for the child age group based on the 4 high-rate consumers is 2.0 kg y^{-1}

The observed 97.5th percentile rate based on 8 observations is 3.2 kg y^{-1}

Table 78. Infants' consumption rates of wild/free foods from the terrestrial survey area (kg y^{-1})

Person ID number	Age	Blackberry
4331/9/1	**1**	**0.9**
3811/5/1	**2**	**0.5**
3803/4/1	2	0.2
3803/3/1	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 2 high-rate consumers is 0.7 kg y^{-1}

The observed 97.5th percentile rate based on 4 observations is 0.8 kg y^{-1}

Table 79. Children's consumption rates of wild fungi from the terrestrial survey area (kg y^{-1})

Person ID number	Age	Mushrooms
4331/8/1	7	0.3
4331/7/1	8	0.1

Notes

Emboldened observations are the high-rate consumers

The mean consumption rate of wild fungi 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 0.3 kg y^{-1}

Table 80. Infants' consumption rates of wild fungi from the terrestrial survey area (kg y^{-1})

Person ID number	Age	Mushrooms
4331/9/1	1	0.07

Notes

The emboldened observation is the high-rate consumer

The mean consumption rate of wild fungi for the infant age group based on the high-rate consumer is 0.07 kg y^{-1}

The observed 97.5th percentile is not applicable for 1 observation

Table 81. Percentage contribution each food type makes to its food group for adults in the terrestrial area

Food group	Food	Percentage
Green vegetables	Courgette	26.7%
	Cabbage	17.5%
	Broccoli	11.2%
	Brussels sprout	11.0%
	Kale	10.8%
	Cucumber	10.8%
	Lettuce	3.4%
	Cauliflower	1.6%
	Asparagus	1.6%
	Calabrese	1.4%
	Rocket	1.3%
	Gherkin	1.3%
	Spinach	0.7%
	Chard	0.6%
Other vegetables	Tomato	52.4%
	Squash	16.0%
	Runner bean	10.2%
	Broad bean	8.1%
	Sweetcorn	4.8%
	Cannellini	3.6%
	French bean	2.4%
	Aubergine	1.2%
	Pea	1.1%
	Chilli pepper	0.1%
Root vegetables	Onion	38.3%
	Leek	20.2%
	Beetroot	14.1%
	Carrot	13.3%
	Jerusalem artichoke	5.4%
	Parsnip	3.7%
	Sweet potato	2.5%
	Turnip	2.1%
	Spring onion	0.4%
Potato	Potato	100.0%
Domestic fruit	Apple	32.1%
	Raspberry	12.2%
	Blackcurrant	10.2%

Food group	Food	Percentage
Domestic fruit	Strawberry	9.6%
	Plum	8.0%
	Pear	7.9%
	Redcurrant	6.7%
	Melon	4.8%
	Rhubarb	2.7%
	Gooseberry	1.4%
	Blueberry	1.2%
	Nectarine	0.9%
	Peach	0.6%
	Blackberry	0.5%
	Cherry	0.5%
	Tayberry	0.5%
	Damson	0.1%
Milk	Cows' milk	100.0%
Cattle meat	Beef	100.0%
Sheep meat	Lamb	62.0%
	Mutton	38.0%
Poultry	Pheasant	64.4%
	Turkey	16.2%
	Partridge	4.9%
	Goose	4.9%
	Pigeon	4.7%
	Duck	3.2%
	Woodcock	1.6%
Eggs	Chicken egg	84.0%
	Duck egg	16.0%
Wild/free foods	Blackberry	87.2%
	Sloe	12.8%
Rabbits/hares	Hare	69.6%
	Rabbit	30.4%
Honey	Honey	100.0%
Wild fungi	Mushrooms	100.0%
Venison	Venison	100.0%
Freshwater fish	Brown trout	100.0%

Notes

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

Table 82. Direct radiation occupancy rates for adults, children and infants (h y^{-1})

Person ID number	Main activity	Indoor occupancy	Outdoor occupancy	Total occupancy
0 - 0.25 km zone				
3813/1/1	Residing	6441	1775	8216
3813/2/1	Residing	4514	3550	8064
3904/1/1	Working	1980	24	2004
3904/1/2	Working	1980	24	2004
3904/1/3	Working	1980	24	2004
3814/1/1	Working	-	1096	1096
3814/2/1	Working	-	1096	1096
3814/3/1	Working	-	1096	1096
3814/4/1	Working	-	1096	1096
3814/5/1	Working	-	1096	1096
4260/1/1	Dog walking	-	548	548
4260/2/1	Dog walking	-	548	548
4037/1/1	Bait digging and angling on the beach	-	238	238
3807/1/1	Collecting litter on the beach	-	188	188
4037/2/1	Bait digging	-	180	180
4037/3/1	Bait digging	-	180	180
4037/4/1	Bait digging	-	180	180
4331/3/1	Playing on the beach and cycling	-	157	157
4331/7/1	Playing on the beach and cycling	-	157	157
4331/8/1	Playing on the beach and cycling	-	157	157

Person ID number	Main activity	Indoor occupancy	Outdoor occupancy	Total occupancy
0 - 0.25 km zone				
4331/9/1	Playing on the beach and cycling	-	157	157
4239/1/1	Dog walking	-	137	137
4073/1/1	Cycling	-	100	100
4073/2/1	Cycling	-	100	100
4073/2/2	Cycling	-	100	100
4073/2/3	Cycling	-	100	100
4073/2/4	Cycling	-	100	100
4073/2/5	Cycling	-	100	100
4073/2/6	Cycling	-	100	100
4073/2/7	Cycling	-	100	100
4073/2/8	Cycling	-	100	100
4073/2/9	Cycling	-	100	100
4073/2/10	Cycling	-	100	100
3943/1/1	Angling and bait digging on the beach	-	88	88
4197/1/1	Dog walking on the beach	-	78	78
4319/1/1	Angling on the beach	-	32	32
4193/1/1	Walking on the beach	-	26	26
4193/2/1	Walking on the beach	-	26	26
4197/2/1	Dog walking on the beach	-	26	26
4332/2/1	Dog walking on the beach	-	26	26
4342/1/1	Volunteering	-	20	20
4342/2/1	Volunteering	-	15	15
4342/3/1	Volunteering	-	15	15

Person ID number	Main activity	Indoor occupancy	Outdoor occupancy	Total occupancy
0 - 0.25 km zone				
3929/1/1	Angling	-	12	12
4139/1/1	Walking on the beach	-	12	12
3929/1/2	Angling	-	12	12
4319/2/1	Angling on the beach	-	8	8
3888/1/1	Dog walking on the beach	-	6	6
3888/2/1	Dog walking on the beach	-	6	6
3896/1/1	Dog walking on the beach	-	6	6
3896/2/1	Dog walking on the beach	-	6	6
4196/2/1	Walking on the beach	-	6	6
3889/1/1	Angling on the beach	-	4	4
3889/1/2	Angling on the beach	-	4	4
3889/1/3	Angling on the beach	-	4	4
3889/1/4	Angling on the beach	-	4	4
3889/1/5	Angling on the beach	-	4	4
3889/1/6	Angling on the beach	-	4	4
3889/1/7	Angling on the beach	-	4	4
3889/1/8	Angling on the beach	-	4	4
3889/1/9	Angling on the beach	-	4	4
3889/1/10	Angling on the beach	-	4	4
>0.25 - 0.5 km zone				
4305/1/1	Residing	8278	314	8592
4067/1/1	Residing	5700	2466	8166
4090/2/1	Residing	7310	850	8160

Person ID number	Main activity	Indoor occupancy	Outdoor occupancy	Total occupancy
>0.25 - 0.5 km zone				
4305/2/1	Residing	6086	1790	7876
4080/2/1	Residing	6724	731	7455
4080/3/1	Residing	5891	731	6622
4080/4/1	Residing	5891	731	6622
4080/1/1	Residing	5061	1421	6482
4067/2/1	Working	626	2190	2816
4090/1/1	Working	2190	417	2607
4090/3/1	Working	191	1718	1908
4264/2/1	Working	-	131	131
>0.5 - 1.0 km zone				
4306/1/1	Residing	7424	987	8411
4307/1/1	Residing	6569	1826	8395
4307/2/1	Residing	6569	1826	8395
3879/1/1	Residing	5575	2373	7948
3879/2/1	Residing	6615	1333	7948
3810/1/1	Residing	6941	887	7828
4065/1/1	Residing	7443	274	7717
4070/1/1	Residing	6442	1148	7590
4070/2/1	Residing	6638	796	7434
4071/1/1	Residing	6252	914	7166
4350/1/1	Residing	6153	822	6975
3810/4/1	Residing	6096	350	6446
3810/2/1	Residing	5532	364	5896

Person ID number	Main activity	Indoor occupancy	Outdoor occupancy	Total occupancy
>0.5 km - 1.0 km zone				
4314/1/1	Residing	4697	1103	5799
4314/2/1	Residing	4028	1103	5131
3810/3/1	Residing	2829	84	2913
3928/1/1	Working	1893	16	1908
3928/2/1	Working	1893	16	1908
3928/1/2	Working	1893	16	1908
3928/1/3	Working	1893	16	1908
3928/5/1	Working	24	1885	1908
3928/5/2	Working	24	1885	1908
3928/5/3	Working	24	1885	1908
3928/5/4	Working	24	1885	1908
3928/5/5	Working	24	1885	1908
3928/3/1	Working	989	8	997
3928/4/1	Working	989	8	997
3928/3/2	Working	989	8	997
3928/4/2	Working	989	8	997
3928/3/3	Working	989	8	997
3928/3/4	Working	989	8	997
3928/3/5	Working	989	8	997
3928/3/6	Working	989	8	997
3928/3/7	Working	989	8	997
3928/3/8	Working	989	8	997
3928/3/9	Working	989	8	997

Person ID number	Main activity	Indoor occupancy	Outdoor occupancy	Total occupancy
>0.5 - 1.0 km zone				
3928/3/10	Working	989	8	997
3827/1/1	Tending an allotment	-	639	639
3796/1/1	Working	-	417	417
3823/1/1	Working	-	350	350
3826/1/1	Tending an allotment	-	130	130
3826/2/1	Tending an allotment	-	130	130
3824/1/1	Angling on the beach	-	87	87
4240/2/1	Walking on the beach	-	52	52
4240/3/1	Walking on the beach	-	52	52
4240/4/1	Walking on the beach	-	52	52
4240/5/1	Walking on the beach	-	52	52
4335/1/1	Dog walking on the beach	-	30	30
4335/2/1	Dog walking on the beach	-	30	30
4335/3/1	Dog walking on the beach	-	15	15
4335/4/1	Dog walking on the beach	-	15	15
4335/5/1	Dog walking on the beach	-	15	15

Notes

U = Unknown

Table 83. Analysis of direct radiation occupancy rates for adults, children and infants (h y^{-1})

0 - 0.25 km zone	
Number of hours	**Number of observations**
>8000 to 8760	2
>7000 to 8000	0
>6000 to 7000	0
>5000 to 6000	0
>4000 to 5000	0
>3000 to 4000	0
>2000 to 3000	3
>1000 to 2000	5
0 to 1000	52
0 to 8760	62
>0.25 - 0.5 km zone	
Number of hours	**Number of observations**
>8000 to 8760	3
>7000 to 8000	2
>6000 to 7000	3
>5000 to 6000	0
>4000 to 5000	0
>3000 to 4000	0
>2000 to 3000	2
>1000 to 2000	1
0 to 1000	1
0 to 8760	12
>0.5 - 1.0 km zone	
Number of hours	**Number of observations**
>8000 to 8760	3
>7000 to 8000	7
>6000 to 7000	2
>5000 to 6000	3
>4000 to 5000	0
>3000 to 4000	0
>2000 to 3000	1
>1000 to 2000	9
0 to 1000	27
0 to 8760	52

Table 84. Gamma dose rate measurements (µGy h^{-1}) for the direct radiation survey area

Location	Indoor substrate	Indoor gamma dose rate at 1 metre[a]	Outdoor substrate	Outdoor gamma dose rate at 1 metre[a]
Residences				
Residence 1	Stone	0.092	Grass	0.081
Residence 2	Concrete	0.142	Grass	0.089
Residence 3	Concrete	0.095	Grass	0.084
Residence 4	Concrete	0.126	Grass	0.091
Residence 5	Not recorded	Not recorded	Grass	0.092
Residence 6	Not recorded	Not recorded	Stones	0.096
Residence 7	Concrete	0.103	Grass	0.092
Residence 8	Not recorded	Not recorded	Grass	0.077
Residence 9	Concrete	0.107	Grass	0.082
Residence 10	Concrete	0.116	Grass	0.087
Residence 11	Stone	0.099	Grass	0.074
Residence 12	Wood	0.072	Grass	0.077
Residence 13	Stone	0.126	Grass	0.079
Businesses				
Business 1	Wood	0.090	Grass	0.080

Notes

[a] These measurements have not been adjusted for background dose rates. Background gamma dose rate measurements are presented in Table 85.

Table 85. Background gamma dose rate measurements (µGy h^{-1})

	Location	National Grid Reference	Substrate	Gamma dose rate at 1 metre
Background 1	Egremont	NY 012 107	Grass	0.087
Background 2	East of Gosforth	NY 089 041	Grass	0.087
Background 3	Tarn Bay	SD 085 903	Grass	0.095

Table 86. Combinations of adult pathways for consideration in dose assessments in the Sellafield area

Combination number	Sea fish	Crustaceans	Molluscs	Wildfowl	Marine plants/algae	Salt marsh grazed cattle meat	Salt marsh grazed sheep meat	Milk from cattle grazed on salt marsh	Green vegetables	Other vegetables	Root vegetables	Potato	Domestic fruit	Milk	Cattle meat	Sheep meat	Poultry	Eggs	Wild/free foods	Rabbits/hares	Honey	Wild fungi	Venison	Freshwater fish	Intertidal occupancy over mud	Intertidal occupancy over mud and sand	Intertidal occupancy over mud, sand and stones	Intertidal occupancy over rock	Intertidal occupancy over salt marsh	Intertidal occupancy over sand	Intertidal occupancy over sand and stones	Intertidal occupancy over stones	Handling fishing gear	Handling sediment	Occupancy in water	Occupancy on water	Indoor occupancy within 1 km of the nuclear licensed site boundary	Outdoor occupancy within 1 km of the nuclear licensed site boundary
1	X	X																										X								X		
2									X	X	X	X	X								X																	
3														X															X									
4	X				X																						X		X							X		
5																											X			X					X		
6	X	X																												X			X			X		
7		X																X												X						X	X
8																		X												X					X	X	X
9																									X					X					X	X	X
10									X	X		X	X								X									X						X	X
11	X	X																										X		X					X			
12									X	X	X			X													X			X						X	X
13									X		X	X																		X					X		X	X
14						X	X																						X	X								
15	X	X																													X		X			X		
16																															X				X	X		
17																												X			X				X			
18	X																													X	X		X		X			
19	X																													X			X	X				
20					X																							X		X				X	X			
21		X																X							X					X			X	X		X		
22		X																									X			X	X		X	X			X	X
23	X	X	X																							X		X		X	X			X				
24	X		X																								X	X		X	X			X		X	X	X
25	X								X	X	X	X	X											X			X			X	X			X			X	X
26									X	X		X	X			X	X	X									X			X							X	X
27																X															X							
28	X																															X						
29																															X	X						
30																														X		X		X				
31	X	X															X			X			X		X										X			
32													X					X	X		X																	
33													X	X	X				X																			
34										X		X	X				X		X																	X	X

Combination number	Sea fish	Crustaceans	Molluscs	Wildfowl	Marine plants/algae	Salt marsh grazed cattle meat	Salt marsh grazed sheep meat	Milk from cattle grazed on salt marsh	Green vegetables	Other vegetables	Root vegetables	Potato	Domestic fruit	Milk	Cattle meat	Sheep meat	Poultry	Eggs	Wild/free foods	Rabbits/hares	Honey	Wild fungi	Venison	Freshwater fish	Intertidal occupancy over mud	Intertidal occupancy over mud and sand	Intertidal occupancy over mud, sand and stones	Intertidal occupancy over rock	Intertidal occupancy over salt marsh	Intertidal occupancy over sand	Intertidal occupancy over sand and stones	Intertidal occupancy over stones	Handling fishing gear	Handling sediment	Occupancy in water	Occupancy on water	Indoor occupancy within 1 km of the nuclear licensed site boundary	Outdoor occupancy within 1 km of the nuclear licensed site boundary
35	X								X	X	X	X	X	X		X		X	X																	X	X
36												X	X			X		X	X											X						X	X
37	X		X						X	X	X		X	X		X		X	X											X							
38																X			X				X							X						X	X
39									X	X	X	X	X					X	X			X								X	X					X	X
40													X		X	X	X	X	X			X														X	X
41	X	X											X			X	X		X			X	X														
42				X																									X				X			
43								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: sea fish, crustaceans, occupancy over rock, and occupancy on water.

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

Person ID number	Sea fish	Crustaceans	Molluscs	Wildfowl	Marine plants/algae	Salt marsh grazed cattle meat	Salt marsh grazed sheep meat	Milk from cattle grazed on salt marsh	Green vegetables	Other vegetables	Root vegetables	Potato	Domestic fruit	Milk	Cattle meat	Sheep meat	Poultry	Eggs	Wild/free foods	Rabbits/hares	Honey	Wild fungi	Venison	Freshwater fish	Intertidal occupancy over mud	Intertidal occupancy over mud and sand	Intertidal occupancy over mud, sand and stones	Intertidal occupancy over rock	Intertidal occupancy over salt marsh	Intertidal occupancy over sand	Intertidal occupancy over sand and stones	Intertidal occupancy over stones	Handling fishing gear	Handling sediment	Occupancy in water	Occupancy on water	Indoor occupancy within 1 km of the nuclear licensed site boundary	Outdoor occupancy within 1 km of the nuclear licensed site boundary
3796/1/1	-	-	-	-	-	-	-	-	-	2.8	-	10.0	**11.0**	-	-	-	**13.0**	-	**2.3**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	417
3798/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**8.4**	-	-	**8.2**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3799/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	**207.3**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3799/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	**207.3**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3803/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.1	-	-	0.5	-	-	-	5.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3803/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.1	-	-	0.5	-	-	-	5.0	-	-	-	-	-	-	22	-	-	-	-	-	-	-
3803/6/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.1	-	-	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3803/7/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.1	-	-	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3804/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	303	-	-	-	-	-	-	-
3804/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	303	-	-	-	-	-	-	-
3805/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	50	-	-	150	200	-	-	-	-	-	-
3807/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**344**	-	-	**1060**	-	-	-	-	-	0	188
3809/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	274	-	-	-	-	-	-	-
3810/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6941	887
3810/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5532	364
3810/3/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2829	84
3811/1/1	-	-	-	-	-	-	-	-	-	-	-	-	1.5	**121.7**	**14.7**	-	-	-	**1.5**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3811/2/1	-	-	-	-	-	-	-	-	-	-	-	-	1.5	**121.7**	**14.7**	-	-	-	**1.5**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3811/3/1	-	-	-	-	-	-	-	-	-	-	-	-	1.5	**121.7**	**14.7**	-	-	-	**1.5**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3813/1/1	-	-	-	-	-	-	-	-	-	-	-	-	7.3	-	**37.5**	3.8	0.7	**26.7**	**2.5**	-	-	0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	6441	1775
3813/2/1	-	-	-	-	-	-	-	-	-	-	-	-	7.3	-	**37.5**	3.8	0.7	**26.7**	**2.5**	-	-	0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	4514	3550
3813/3/1	-	-	-	-	-	-	-	-	-	-	-	-	7.3	-	-	3.8	-	-	**2.5**	-	-	0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3814/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**30.0**	4.0	-	4.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	1096
3814/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**30.0**	4.0	-	4.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	1096
3815/1/1	-	-	-	-	-	-	-	-	-	-	-	**50.0**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3815/1/2	-	-	-	-	-	-	-	-	-	-	-	**50.0**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3815/1/3	-	-	-	-	-	-	-	-	-	-	-	**50.0**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3815/1/4	-	-	-	-	-	-	-	-	-	-	-	**50.0**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3815/1/5	-	-	-	-	-	-	-	-	-	-	-	**50.0**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3815/1/6	-	-	-	-	-	-	-	-	-	-	-	**50.0**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3815/1/7	-	-	-	-	-	-	-	-	-	-	-	**50.0**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3815/1/8	-	-	-	-	-	-	-	-	-	-	-	**50.0**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Person ID number	Sea fish	Crustaceans	Molluscs	Wildfowl	Marine plants/algae	Salt marsh grazed cattle meat	Salt marsh grazed sheep meat	Milk from cattle grazed on salt marsh	Green vegetables	Other vegetables	Root vegetables	Potato	Domestic fruit	Milk	Cattle meat	Sheep meat	Poultry	Eggs	Wild/free foods	Rabbits/hares	Honey	Wild fungi	Venison	Freshwater fish	Intertidal occupancy over mud	Intertidal occupancy over mud and sand	Intertidal occupancy over mud, sand and stones	Intertidal occupancy over rock	Intertidal occupancy over salt marsh	Intertidal occupancy over sand	Intertidal occupancy over sand and stones	Intertidal occupancy over stones	Handling fishing gear	Handling sediment	Occupancy in water	Occupancy on water	Indoor occupancy within 1 km of the nuclear licensed site boundary	Outdoor occupancy within 1 km of the nuclear licensed site boundary
3815/1/9	-	-	-	-	-	-	-	-	-	-	-	**50.0**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3815/1/10	-	-	-	-	-	-	-	-	-	-	-	**50.0**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3815/1/11	-	-	-	-	-	-	-	-	-	-	-	**50.0**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3815/1/12	-	-	-	-	-	-	-	-	-	-	-	**50.0**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3815/1/13	-	-	-	-	-	-	-	-	-	-	-	**50.0**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3815/1/14	-	-	-	-	-	-	-	-	-	-	-	**50.0**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3815/1/15	-	-	-	-	-	-	-	-	-	-	-	**50.0**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3817/1/1	-	-	-	-	-	-	-	-	1.7	-	0.8	8.3	0.8	-	-	3.3	-	-	0.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3817/2/1	-	-	-	-	-	-	-	-	1.7	-	0.8	8.3	0.8	-	-	3.3	-	-	0.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3817/3/1	-	-	-	-	-	-	-	-	1.7	-	0.8	8.3	0.8	-	-	3.3	-	-	0.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3817/4/1	-	-	-	-	-	-	-	-	1.7	-	0.8	8.3	0.8	-	-	3.3	-	-	0.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3818/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	42	-	-	-	-	-	-
3818/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	42	-	-	-	-	-	-
3818/3/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	42	-	-	-	-	-	-
3818/4/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	42	-	-	-	-	-	-
3818/5/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	42	-	-	-	-	-	-
3818/6/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	42	-	-	-	-	-	-
3822/1/1	-	-	-	-	-	-	-	-	-	-	**15.8**	**83.6**	2.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
3822/2/1	-	-	-	-	-	-	-	-	-	-	**15.8**	**83.6**	2.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
3823/1/1	-	-	-	-	-	-	-	-	**22.9**	**13.6**	**41.9**	9.5	**14.4**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	350
3824/1/1	**50.9**	-	-	-	-	-	-	-	**10.9**	**24.2**	**31.9**	**46.0**	0.9	-	-	-	-	-	-	-	-	-	**1.4**	-	-	**269**	-	-	**443**	174	-	-	**365**	-	-	0	87
3824/2/1	-	-	-	-	-	-	-	-	**10.9**	**24.2**	**31.9**	**46.0**	0.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3824/3/1	-	-	-	-	-	-	-	-	2.7	6.0	8.0	11.5	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3824/4/1	-	-	-	-	-	-	-	-	2.7	6.0	8.0	11.5	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3826/1/1	-	-	-	-	-	-	-	-	-	**21.3**	**24.2**	10.0	-	-	-	-	-	-	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	130
3826/2/1	-	-	-	-	-	-	-	-	-	**21.3**	**24.2**	10.0	-	-	-	-	-	-	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	130
3827/1/1	-	-	-	-	-	-	-	-	-	3.3	9.3	-	1.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	639
3827/2/1	-	-	-	-	-	-	-	-	-	3.3	9.3	-	1.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3827/3/1	-	-	-	-	-	-	-	-	-	3.3	9.3	-	1.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3827/4/1	-	-	-	-	-	-	-	-	-	3.3	9.3	-	1.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3831/1/1	-	-	-	-	-	-	-	-	1.1	**12.9**	-	**38.8**	0.1	-	-	-	-	-	-	**3.4**	-	-	-	-	-	-	-	-	-	-	24	-	-	-	-	-	-
3831/2/1	-	-	-	-	-	-	-	-	1.1	**12.9**	-	**38.8**	0.1	-	-	-	-	-	-	**3.4**	-	-	-	-	-	-	-	-	-	-	24	-	-	-	-	-	-
3832/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**912**	-	-	-	-	-	-	-

Person ID number	Sea fish	Crustaceans	Molluscs	Wildfowl	Marine plants/algae	Salt marsh grazed cattle meat	Salt marsh grazed sheep meat	Milk from cattle grazed on salt marsh	Green vegetables	Other vegetables	Root vegetables	Potato	Domestic fruit	Milk	Cattle meat	Sheep meat	Poultry	Eggs	Wild/free foods	Rabbits/hares	Honey	Wild fungi	Venison	Freshwater fish	Intertidal occupancy over mud	Intertidal occupancy over mud and sand	Intertidal occupancy over mud, sand and stones	Intertidal occupancy over rock	Intertidal occupancy over salt marsh	Intertidal occupancy over sand	Intertidal occupancy over sand and stones	Intertidal occupancy over stones	Handling fishing gear	Handling sediment	Occupancy in water	Occupancy on water	Indoor occupancy within 1 km of the nuclear licensed site boundary	Outdoor occupancy within 1 km of the nuclear licensed site boundary
3832/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**912**	-	-	-	-	-	-	-
3835/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	274	-	-	-	-	39	-	-
3835/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	39	-	-
3836/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	60	-	-	-	-	-	-	-
3836/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	60	-	-	-	-	-	-	-
3839/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	417	-	-	-	-	-	-
3843/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**730**	-	-	-	-	-	-
3843/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**730**	-	-	-	-	-	-
3844/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	26	96	-	-	-	-	-
3844/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	26	-	-	-	-	-	-
3847/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**730**	-	-	3	-	-	-
3847/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**730**	-	-	3	-	-	-
3847/3/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	-	-	-	-	-	-
3847/3/2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	-	-	-	-	-	-
3847/3/3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	-	-	-	-	-	-
3847/3/4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	-	-	-	-	-	-
3847/3/5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	-	-	-	-	-	-
3847/3/6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	-	-	-	-	-	-
3847/3/7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	-	-	-	-	-	-
3848/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	365	-	-	-	-	-	-	-
3850/1/1	10.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	35	-	-	-	70	-	-	-	-	-	-	-
3850/2/1	10.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	35	-	-	-	70	-	-	-	-	-	-	-
3853/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	32	-	-	-	-	-	-	-	-	-	-	-
3854/1/1	**20.8**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**608**	-	-	-	-	**1294**	-	-	-	-	-	-
3857/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	78	-	-	-	-	-	-	-	-	-	-	-
3857/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	78	-	-	-	-	-	-	-	-	-	-	-
3862/1/1	10.8	0.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	-	-	-	-	-	-	-	-	-
3866/1/1	1.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3870/1/1	0.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	124	-	-	-	26	-	-	-
3871/1/1	0.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13	-	-	-	4	-	-	-
3871/2/1	2.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	-	-	-	-	-	-	-
3874/1/1	4.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	104	-	-	-	104	-	-	-
3874/3/1	4.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Person ID number	Sea fish	Crustaceans	Molluscs	Wildfowl	Marine plants/algae	Salt marsh grazed cattle meat	Salt marsh grazed sheep meat	Milk from cattle grazed on salt marsh	Green vegetables	Other vegetables	Root vegetables	Potato	Domestic fruit	Milk	Cattle meat	Sheep meat	Poultry	Eggs	Wild/free foods	Rabbits/hares	Honey	Wild fungi	Venison	Freshwater fish	Intertidal occupancy over mud	Intertidal occupancy over mud and sand	Intertidal occupancy over mud, sand and stones	Intertidal occupancy over rock	Intertidal occupancy over salt marsh	Intertidal occupancy over sand	Intertidal occupancy over sand and stones	Intertidal occupancy over stones	Handling fishing gear	Handling sediment	Occupancy in water	Occupancy on water	Indoor occupancy within 1 km of the nuclear licensed site boundary	Outdoor occupancy within 1 km of the nuclear licensed site boundary
3875/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	91	-	-	-	13	-	-	-	-
3875/5/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52	-	-	-	-	-	-	-	-
3875/6/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52	-	-	-	-	-	-	-	-
3879/1/1	-	-	-	-	-	-	-	-	**28.1**	**12.7**	**18.5**	17.2	6.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	-	-	-	-	-	-	5575	2373
3879/2/1	-	-	-	-	-	-	-	-	**28.1**	**12.7**	**18.5**	17.2	6.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	-	-	-	-	-	-	6615	1333
3879/3/1	-	-	-	-	-	-	-	-	5.0	2.2	3.3	3.0	1.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3879/4/1	-	-	-	-	-	-	-	-	5.0	2.2	3.3	3.0	1.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3882/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	69	-	-	-	69	69	-	-	-	-	-	-	-
3888/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	67	-	-	-	-	-	-	0	6
3888/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	67	-	-	-	-	-	-	0	6
3889/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	-	-	-	-	-	-	0	4
3889/1/2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	-	-	-	-	-	-	0	4
3889/1/3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	-	-	-	-	-	-	0	4
3889/1/4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	-	-	-	-	-	-	0	4
3889/1/5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	-	-	-	-	-	-	0	4
3889/1/6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	-	-	-	-	-	-	0	4
3889/1/7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	-	-	-	-	-	-	0	4
3889/1/8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	-	-	-	-	-	-	0	4
3889/1/9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	-	-	-	-	-	-	0	4
3889/1/10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	-	-	-	-	-	-	0	4
3896/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	-	-	-	-	-	-	0	6
3896/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	-	-	-	-	-	-	0	6
3899/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	335	-	-	26	-	-	-	-
3899/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	122	-	-	26	-	-	-	-
3899/3/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	274	-	-	-	-	-	-	-
3904/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1980	24
3904/1/2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1980	24
3904/1/3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1980	24
3909/1/1	**23.8**	**24.6**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3909/2/1	0.4	**24.6**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3912/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	3	-	-	-	-	104	-	-
3912/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	3	-	-	-	-	104	-	-
3912/2/2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	3	-	-	-	-	104	-	-

Person ID number	Sea fish	Crustaceans	Molluscs	Wildfowl	Marine plants/algae	Salt marsh grazed cattle meat	Salt marsh grazed sheep meat	Milk from cattle grazed on salt marsh	Green vegetables	Other vegetables	Root vegetables	Potato	Domestic fruit	Milk	Cattle meat	Sheep meat	Poultry	Eggs	Wild/free foods	Rabbits/hares	Honey	Wild fungi	Venison	Freshwater fish	Intertidal occupancy over mud	Intertidal occupancy over mud and sand	Intertidal occupancy over mud, sand and stones	Intertidal occupancy over rock	Intertidal occupancy over salt marsh	Intertidal occupancy over sand	Intertidal occupancy over sand and stones	Intertidal occupancy over stones	Handling fishing gear	Handling sediment	Occupancy in water	Occupancy on water	Indoor occupancy within 1 km of the nuclear licensed site boundary	Outdoor occupancy within 1 km of the nuclear licensed site boundary
3912/2/3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	3	-	-	-	-	104	-	-
3917/1/1	-	4.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**1.6**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3919/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3919/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3920/1/1	8.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3920/2/1	8.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3920/3/1	8.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3925/1/1	-	-	-	**4.6**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	26	-	-	-	26	-	-	-	-
3925/2/1	-	-	-	**4.6**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3928/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1893	16		
3928/1/2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1893	16		
3928/1/3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1893	16		
3928/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1893	16		
3928/3/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	989	8		
3928/3/2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	989	8		
3928/3/3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	989	8		
3928/3/4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	989	8		
3928/3/5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	989	8		
3928/3/6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	989	8		
3928/3/7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	989	8		
3928/3/8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	989	8		
3928/3/9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	989	8		
3928/3/10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	989	8		
3928/4/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	989	8		
3928/4/2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	989	8		
3928/5/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	1885		
3928/5/2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	1885		
3928/5/3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	1885		
3928/5/4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	1885		
3928/5/5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	1885		
3929/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	12		
3929/1/2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	12		
3934/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	-	-	12	-	-	-	-	-	-	-	-

Person ID number	Sea fish	Crustaceans	Molluscs	Wildfowl	Marine plants/algae	Salt marsh grazed cattle meat	Salt marsh grazed sheep meat	Milk from cattle grazed on salt marsh	Green vegetables	Other vegetables	Root vegetables	Potato	Domestic fruit	Milk	Cattle meat	Sheep meat	Poultry	Eggs	Wild/free foods	Rabbits/hares	Honey	Wild fungi	Venison	Freshwater fish	Intertidal occupancy over mud	Intertidal occupancy over mud and sand	Intertidal occupancy over mud, sand and stones	Intertidal occupancy over rock	Intertidal occupancy over salt marsh	Intertidal occupancy over sand	Intertidal occupancy over sand and stones	Intertidal occupancy over stones	Handling fishing gear	Handling sediment	Occupancy in water	Occupancy on water	Indoor occupancy within 1 km of the nuclear licensed site boundary	Outdoor occupancy within 1 km of the nuclear licensed site boundary
3934/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	-	-	12	-	-	-	-	-	-	-
3940/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	152	-	-	-	-	-	-	-
3942/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	156	-	-	-	-	-	-	-
3942/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	156	-	-	-	-	-	-	-
3943/1/1	15.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**677**	-	-	-	78	-	-	0	88
3946/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	84	-	-	-	-	-	-	-	-
3946/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	84	-	-	-	-	-	-	-	-
3965/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**391**	-	-	-	-	-	-	-	-
3975/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52	-	-	-	-	-	-	-	-
3975/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52	-	-	-	-	-	-	-	-
3993/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	18	-	-	-	-	-	-	-	-
3993/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	18	-	-	-	-	-	-	-	-
4031/1/1	3.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**313**	-	-	-	-	-	-
4033/1/1	1.6	2.9	**1.5**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	39	-	4	-	136	68	-	-	47	-	-	-	-
4033/2/1	1.6	2.9	**1.5**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4036/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	104	-	-	-	-	-	-	-
4036/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	104	-	-	-	-	-	-	-
4037/1/1	-	3.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	58	-	-	**1095**	176	-	83	**720**	-	-	0	238
4037/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**720**	-	-	-	**720**	-	-	0	180
4037/3/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**720**	-	-	-	**720**	-	-	0	180
4037/4/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**720**	-	-	-	**720**	-	-	0	180
4040/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	365	-	-	-	-	-	-	-	-
4041/1/1	-	-	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	2	-	-	-	-
4041/2/1	-	-	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4042/1/1	13.0	6.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	104	-	10	-	119	172	-	-	104	-	-	-	-
4046/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	274	91	-	-	-	-	-	-	-
4047/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**456**	-	-	-	-	-	-	-	-
4047/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**456**	-	-	-	-	-	-	-	-
4049/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	196	-	-	-	-	-	-	-
4049/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	196	-	-	-	-	-	-	-
4050/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	65	-	-	-	-	-	-	-
4052/1/1	2.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4053/1/1	1.2	1.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Person ID number	Sea fish	Crustaceans	Molluscs	Wildfowl	Marine plants/algae	Salt marsh grazed cattle meat	Salt marsh grazed sheep meat	Milk from cattle grazed on salt marsh	Green vegetables	Other vegetables	Root vegetables	Potato	Domestic fruit	Milk	Cattle meat	Sheep meat	Poultry	Eggs	Wild/free foods	Rabbits/hares	Honey	Wild fungi	Venison	Freshwater fish	Intertidal occupancy over mud	Intertidal occupancy over mud and sand	Intertidal occupancy over mud, sand and stones	Intertidal occupancy over rock	Intertidal occupancy over salt marsh	Intertidal occupancy over sand	Intertidal occupancy over sand and stones	Intertidal occupancy over stones	Handling fishing gear	Handling sediment	Occupancy in water	Occupancy on water	Indoor occupancy within 1 km of the nuclear licensed site boundary	Outdoor occupancy within 1 km of the nuclear licensed site boundary
4054/1/1	3.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	45	15	-	-	-	-	-	-
4063/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**456**	-	-	-	-	-	-
4065/1/1	-	-	-	-	-	-	-	-	3.5	**10.7**	-	3.5	8.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7443	274
4067/1/1	-	-	-	-	-	-	-	-	-	-	-	3.8	-	-	-	8.0	-	**35.7**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5700	2466
4067/2/1	-	-	-	-	-	-	-	-	-	-	-	3.8	-	-	-	8.0	-	**35.7**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	626	2190
4070/1/1	-	-	-	-	-	-	-	-	-	-	-	-	2.0	-	-	-	-	-	1.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6442	1148
4070/2/1	-	-	-	-	-	-	-	-	-	-	-	-	2.0	-	-	-	-	-	1.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6638	796
4071/1/1	-	-	-	-	-	-	-	-	-	-	-	-	6.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	78	-	-	-	-	-	6252	914
4073/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	100
4073/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	100
4073/2/2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	100
4073/2/3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	100
4073/2/4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	100
4073/2/5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	100
4073/2/6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	100
4073/2/7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	100
4073/2/8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	100
4073/2/9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	100
4073/2/10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	100
4074/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	-	-	**391**	-	-	-	-	201	-	-	-
4074/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	-	-	**391**	-	-	-	-	-	-	-	-
4080/1/1	-	-	-	-	-	-	-	-	-	-	-	1.1	2.4	-	-	4.0	-	**26.0**	**1.4**	-	-	-	-	-	-	-	-	-	-	26	-	-	-	-	-	5061	1421
4080/2/1	-	-	-	-	-	-	-	-	-	-	-	1.1	2.4	-	-	4.0	-	**26.0**	**1.4**	-	-	-	-	-	-	-	-	-	-	26	-	-	-	-	-	6724	731
4081/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	156	-	-	-	-	-	-
4082/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	57	-	-	15	-	-	-
4083/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	182	-	-	-	-	-	-
4083/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	182	-	-	-	-	-	-
4084/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	334	-	-	-	-	-	-	-
4084/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	334	-	-	-	-	-	-	-
4084/3/1	12.7	**11.3**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27	-	-	-	-	-	-	-	30	-	-
4090/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	**207.3**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2190	417
4090/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	**207.3**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7310	850
4090/3/1	-	-	-	-	-	-	-	-	-	-	-	-	-	**207.3**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	191	1718

Person ID number	Sea fish	Crustaceans	Molluscs	Wildfowl	Marine plants/algae	Salt marsh grazed cattle meat	Salt marsh grazed sheep meat	Milk from cattle grazed on salt marsh	Green vegetables	Other vegetables	Root vegetables	Potato	Domestic fruit	Milk	Cattle meat	Sheep meat	Poultry	Eggs	Wild/free foods	Rabbits/hares	Honey	Wild fungi	Venison	Freshwater fish	Intertidal occupancy over mud	Intertidal occupancy over mud and sand	Intertidal occupancy over mud, sand and stones	Intertidal occupancy over rock	Intertidal occupancy over salt marsh	Intertidal occupancy over sand	Intertidal occupancy over sand and stones	Intertidal occupancy over stones	Handling fishing gear	Handling sediment	Occupancy in water	Occupancy on water	Indoor occupancy within 1 km of the nuclear licensed site boundary	Outdoor occupancy within 1 km of the nuclear licensed site boundary
4095/1/1	-	-	**3.3**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	104	-	-	**834**	-	-	104	-	-	-	-
4095/2/1	15.6	-	**3.3**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	104	-	-	**834**	-	-	104	-	-	-	-
4096/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	-	-	-	-	-	-	-	-
4097/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13	-	-	39	-	-	-	-	-	-	-	-
4097/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13	-	-	39	-	-	-	-	-	-	-	-
4107/1/1	**27.4**	0.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**1239**	-	78	-	-	-	52	-	-	-	-
4111/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	-	-	-	12	-	-	-	-
4111/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	-	-	-	-	-	-	-	-
4111/3/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	-	-	-	-
4116/1/1	-	-	-	-	-	-	-	**414.6**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**365**	-	-	-	-	-	-	-	-	-
4116/2/1	-	-	-	-	-	-	-	103.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4116/3/1	-	-	-	-	-	-	-	**207.3**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	-	-	-	-	-	-	-	-	-
4120/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	42	-	-	-	-	-	-	-	-
4123/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**698**	-	-	-	-	-	-	-	-
4126/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	26	-	-	-	-	-	-	-	-
4136/1/1	12.0	2.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**12.0**	-	-	1.0	-	-	**26.1**	-	20	-	-	-	-	-	-	-	-	-	40	-	-
4139/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	-	-	24	-	-	0	12
4144/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52	-	-	-	-	-	-	-	-
4147/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	-	-	-	2	-	-	-	-
4147/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	-	-	-	2	-	-	-	-
4147/3/1	8.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4149/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	156	-	-	-	-	-	-	-	-
4153/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	26	-	-	-	-	-	-	-	-
4160/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	-	-	-	-	-	-	-	-
4160/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	-	-	-	-	-	-	-	-
4161/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	365	-	-	-	-	-	-	-
4161/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	78	-	-	-	-	-	-	-
4161/3/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	78	-	-	-	-	-	-	-
4162/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	104	-	-	-	-	-	-	-
4162/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	104	-	-	-	-	-	-	-
4164/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**733**	-	4	-	4	-	-	-	-
4164/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**733**	-	4	-	4	-	-	-	-
4165/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	152	-	-	-	-	-	-	-

Person ID number	Sea fish	Crustaceans	Molluscs	Wildfowl	Marine plants/algae	Salt marsh grazed cattle meat	Salt marsh grazed sheep meat	Milk from cattle grazed on salt marsh	Green vegetables	Other vegetables	Root vegetables	Potato	Domestic fruit	Milk	Cattle meat	Sheep meat	Poultry	Eggs	Wild/free foods	Rabbits/hares	Honey	Wild fungi	Venison	Freshwater fish	Intertidal occupancy over mud	Intertidal occupancy over mud and sand	Intertidal occupancy over mud, sand and stones	Intertidal occupancy over rock	Intertidal occupancy over salt marsh	Intertidal occupancy over sand	Intertidal occupancy over sand and stones	Intertidal occupancy over stones	Handling fishing gear	Handling sediment	Occupancy in water	Occupancy on water	Indoor occupancy within 1 km of the nuclear licensed site boundary	Outdoor occupancy within 1 km of the nuclear licensed site boundary
4180/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	104	-	-	-	-	-	-	-
4180/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	104	-	-	-	-	-	-	-
4181/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	118	-	-	-	-	-	-	-	-	-	-	-
4182/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	78	-	-	-	-	-	-	-
4182/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	78	-	-	-	-	-	-	-
4183/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	81	-	-	10	36	-	-
4183/4/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	81	-	-	-	-	-	-
4184/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	39	-	-	-	-	-	-	-
4184/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	39	-	-	-	-	-	-	-
4190/1/1	1.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	336	-	-	-	26	-	-	-
4190/2/1	1.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	336	-	-	-	26	-	-	-
4191/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	129	-	-	-	-	1	-	-
4191/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	129	-	-	-	-	1	-	-
4193/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	156	-	-	-	5	-	0	26
4193/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	156	-	-	-	5	-	0	26
4194/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	76	-	-	-	-	-	-	-
4194/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	76	-	-	-	-	-	-	-
4195/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	104	-	-	-	-	-	-	-
4195/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	209	-	-	-	-	-	-	-
4196/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	365	-	-	-	-	-	-
4196/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	104	-	-	-	-	0	6
4197/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	104	-	-	-	-	-	0	78
4197/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	35	-	-	-	-	-	0	26
4200/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	39	261	-	-	-	-	-	-
4201/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4201/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4201/3/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4202/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	**207.3**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4202/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	**207.3**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	-	-	-	-	-	-	-
4203/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	128	**626**	-	-	-	-	-	-
4203/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	128	**626**	-	-	-	-	-	-
4204/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	365	-	-	-	-	-	-
4204/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	365	-	-	-	-	-	-

Person ID number	Sea fish	Crustaceans	Molluscs	Wildfowl	Marine plants/algae	Salt marsh grazed cattle meat	Salt marsh grazed sheep meat	Milk from cattle grazed on salt marsh	Green vegetables	Other vegetables	Root vegetables	Potato	Domestic fruit	Milk	Cattle meat	Sheep meat	Poultry	Eggs	Wild/free foods	Rabbits/hares	Honey	Wild fungi	Venison	Freshwater fish	Intertidal occupancy over mud	Intertidal occupancy over mud and sand	Intertidal occupancy over mud, sand and stones	Intertidal occupancy over rock	Intertidal occupancy over salt marsh	Intertidal occupancy over sand	Intertidal occupancy over sand and stones	Intertidal occupancy over stones	Handling fishing gear	Handling sediment	Occupancy in water	Occupancy on water	Indoor occupancy within 1 km of the nuclear licensed site boundary	Outdoor occupancy within 1 km of the nuclear licensed site boundary
4204/3/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	365	-	-	-	490	-	-	-
4205/1/1	-	-	-	-	-	-	-	-	-	-	-	-	2.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4205/2/1	-	-	-	-	-	-	-	-	-	-	-	-	2.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4205/4/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	313	-	-	-	-	-	-	-	-
4214/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**1221**	-	-	-	-	-	-	-
4214/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**1221**	-	-	-	-	-	-	-
4214/3/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	209	-	-	-	-	-	-	-	-
4214/4/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	209	-	-	-	-	-	-	-	-
4214/5/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	209	-	-	-	-	-	-	-	-
4214/6/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	209	-	-	-	-	-	-	-	-
4214/7/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	209	-	-	-	-	-	-	-	-
4215/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	250	-	-	-	58	-	-	-	-
4215/2/1	12.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4219/1/1	0.4	0.2	-	-	-	-	-	-	-	-	-	-	6.7	-	-	**43.6**	0.3	-	**2.0**	-	-	0.2	5.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4219/2/1	0.4	0.2	-	-	-	-	-	-	-	-	-	-	6.7	-	-	**43.6**	0.3	-	**2.0**	-	-	0.2	5.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4219/3/1	0.4	0.2	-	-	-	-	-	-	-	-	-	-	6.7	-	-	**43.6**	0.3	-	**2.0**	-	-	0.2	5.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4220/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	-	-	-	-	-	-	-	-
4220/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	-	-	-	-	-	-	-	-
4220/3/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	-	-	-	-	-	-	-	-
4223/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	-	-	-	-	72	-	-	-
4223/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	-	-	-	-	-	-	-	-
4224/1/1	7.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	105	-	266	-	-	-	22	-	-	-	-
4224/2/1	7.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	36	-	-	-	-	-	-	-	-
4224/3/1	2.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4224/4/1	2.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4228/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**469**	-	-	**493**	-	-	-	**469**	-	36	-	-
4231/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	108	-	-	-	-	-	-	-	-
4231/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	108	-	-	-	-	-	-	-	-
4232/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	96	-	-	-	-	-	-	-	-
4233/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**1047**	-	-	-	-	-	-	-	-
4234/1/1	0.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	94	32	-	-	-	-	-	-	-
4234/2/1	0.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	94	32	-	-	-	-	-	-	-
4239/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**680**	-	-	-	-	-	-	0	137

Person ID number	Sea fish	Crustaceans	Molluscs	Wildfowl	Marine plants/algae	Salt marsh grazed cattle meat	Salt marsh grazed sheep meat	Milk from cattle grazed on salt marsh	Green vegetables	Other vegetables	Root vegetables	Potato	Domestic fruit	Milk	Cattle meat	Sheep meat	Poultry	Eggs	Wild/free foods	Rabbits/hares	Honey	Wild fungi	Venison	Freshwater fish	Intertidal occupancy over mud	Intertidal occupancy over mud and sand	Intertidal occupancy over mud, sand and stones	Intertidal occupancy over rock	Intertidal occupancy over salt marsh	Intertidal occupancy over sand	Intertidal occupancy over sand and stones	Intertidal occupancy over stones	Handling fishing gear	Handling sediment	Occupancy in water	Occupancy on water	Indoor occupancy within 1 km of the nuclear licensed site boundary	Outdoor occupancy within 1 km of the nuclear licensed site boundary
4240/1/1	-	-	-	-	-	-	-	-	2.2	3.2	0.3	-	-	52.1	-	-	-	**31.2**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4240/2/1	-	-	-	-	-	-	-	-	2.2	3.2	0.3	-	-	**104.3**	-	-	-	**31.2**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	52
4240/3/1	-	-	-	-	-	-	-	-	2.2	3.2	0.3	-	-	**104.3**	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	8	-	-	-	-	-	-	0	52
4240/4/1	-	-	-	-	-	-	-	-	2.2	3.2	0.3	-	-	**104.3**	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	8	-	-	-	-	-	-	0	52
4240/5/1	-	-	-	-	-	-	-	-	2.2	3.2	0.3	-	-	**104.3**	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	8	-	-	-	-	-	-	0	52
4242/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	381	-	-	-	-	-	-	-
4242/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	381	-	-	-	-	-	-	-
4242/5/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16	-	-	-	-	-	-	-
4242/6/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	-	-	-	-	-	-
4243/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	-	-	-	-	-	-	-
4243/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	-	-	-	-	-	-	-
4243/3/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	-	-	-	-	-	-	-
4243/4/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	-	-	-	-	-	-	-
4256/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	-	-	15	-	-	-	45	-	-	-
4256/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	-	-	15	-	-	-	45	-	-	-
4257/1/1	4.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40	365	-	30	-	11	-	-	-
4257/2/1	4.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22	-	-	-	22	-	-	-
4258/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	105	-	-
4258/1/2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	105	-	-
4258/1/3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	105	-	-
4258/1/4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	105	-	-
4258/1/5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	105	-	-
4258/1/6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	105	-	-
4258/1/7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	105	-	-
4258/1/8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	105	-	-
4258/1/9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	105	-	-
4258/1/10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	105	-	-
4259/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	26	-	-	-	-	-	-	-
4260/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11.8	-	-	-	-	-	-	-	-	-	-	-	**872**	-	-	-	-	-	-	0	548
4260/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11.8	-	-	-	-	-	-	-	-	-	-	-	**872**	-	-	-	-	245	-	0	548
4261/1/1	0.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	26	-	-	**461**	-	-	-	-	-	-	-	-
4261/2/1	0.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	26	-	-	**377**	-	-	-	-	-	-	-	-
4261/3/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	130	-	-	-	-	-	-	-	-

Person ID number	Sea fish	Crustaceans	Molluscs	Wildfowl	Marine plants/algae	Salt marsh grazed cattle meat	Salt marsh grazed sheep meat	Milk from cattle grazed on salt marsh	Green vegetables	Other vegetables	Root vegetables	Potato	Domestic fruit	Milk	Cattle meat	Sheep meat	Poultry	Eggs	Wild/free foods	Rabbits/hares	Honey	Wild fungi	Venison	Freshwater fish	Intertidal occupancy over mud	Intertidal occupancy over mud and sand	Intertidal occupancy over mud, sand and stones	Intertidal occupancy over rock	Intertidal occupancy over salt marsh	Intertidal occupancy over sand	Intertidal occupancy over sand and stones	Intertidal occupancy over stones	Handling fishing gear	Handling sediment	Occupancy in water	Occupancy on water	Indoor occupancy within 1 km of the nuclear licensed site boundary	Outdoor occupancy within 1 km of the nuclear licensed site boundary
4262/1/1	-	-	-	-	-	-	-	-	-	-	-	-	**15.8**	-	-	-	-	11.9	0.7	-	0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4262/2/1	-	-	-	-	-	-	-	-	-	-	-	-	**15.8**	-	-	-	-	11.9	0.7	-	0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4262/3/1	-	-	-	-	-	-	-	-	-	-	-	-	**15.8**	-	-	-	-	11.9	0.7	-	0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4263/1/1	-	-	-	-	-	-	-	-	**15.2**	7.4	7.5	1.8	5.5	-	-	-	-	-	-	-	**2.7**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4263/2/1	-	-	-	-	-	-	-	-	**15.2**	7.4	7.5	1.8	5.5	-	-	-	-	-	-	-	**2.7**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4263/3/1	-	-	-	-	-	-	-	-	**15.2**	5.0	7.5	1.8	5.5	-	-	-	-	-	-	-	**2.7**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4263/4/1	-	-	-	-	-	-	-	-	**15.2**	5.0	7.5	1.8	5.5	-	-	-	-	-	-	-	**2.7**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4263/5/1	-	-	-	-	-	-	-	-	**15.2**	5.0	7.5	1.8	5.5	-	-	-	-	-	-	-	**2.7**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4263/6/1	-	-	-	-	-	-	-	-	**15.2**	5.0	7.5	1.8	5.5	-	-	-	-	-	-	-	**2.7**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4264/1/1	1.6	-	0.4	-	-	-	-	-	5.7	**10.0**	**14.3**	-	**29.5**	**273.8**	-	**20.0**	-	**38.9**	**3.2**	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-
4264/2/1	1.6	-	-	-	-	-	-	-	5.7	**10.0**	**14.3**	15.0	**29.5**	**273.8**	-	**20.0**	-	**38.9**	**3.2**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	131
4264/3/1	-	-	-	-	-	-	-	-	5.7	**10.0**	**14.3**	15.0	**29.5**	**130.4**	-	10.0	-	**31.1**	**3.2**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4291/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	104	-	-	-	-	14	-	-
4291/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	104	-	-	-	-	14	-	-
4291/3/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	104	-	-	-	-	14	-	-
4291/4/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	104	-	-	-	-	14	-	-
4292/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	104	-	-	-	-	-	-	-
4292/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	104	-	-	-	-	6	-	-
4296/1/1	**36.9**	7.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	255	-	-	903	-	-
4296/2/1	**36.9**	7.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4296/3/1	-	**15.5**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4301/1/1	**17.7**	**14.8**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	122	-	130	-	-	209	-	-
4301/2/1	**17.7**	**14.8**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4305/1/1	-	-	-	-	-	-	-	-	5.0	5.0	-	2.5	2.5	-	-	2.5	**5.0**	3.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8278	314
4305/2/1	-	-	-	-	-	-	-	-	5.0	5.0	-	2.5	2.5	-	-	2.5	**5.0**	3.4	-	-	-	-	-	-	-	-	53	-	-	104	-	-	-	-	-	-	6086	1790
4306/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.1	-	-	-	-	-	-	-	-	4	-	-	10	-	-	-	-	-	-	7424	987
4307/1/1	-	-	-	-	-	-	-	-	-	-	-	-	3.0	-	-	-	2.2	8.9	-	-	-	-	-	-	-	-	**215**	-	-	110	-	-	-	-	-	-	6569	1826
4307/2/1	-	-	-	-	-	-	-	-	-	-	-	-	3.0	-	-	-	2.2	8.9	-	-	-	-	-	-	-	-	6	-	-	110	-	-	-	-	-	-	6569	1826
4314/1/1	-	-	-	-	-	-	-	-	-	7.8	8.4	-	4.4	-	-	-	-	-	-	-	**1.5**	-	-	-	-	-	-	-	-	182	-	-	-	-	-	-	4697	1103
4314/2/1	-	-	-	-	-	-	-	-	-	7.8	8.4	-	4.4	-	-	-	-	-	-	-	**1.5**	-	-	-	-	-	-	-	-	182	-	-	-	-	-	-	4028	1103
4316/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	365	-	-	-	22	-	-	-
4316/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	365	-	-	-	25	-	-	-
4319/1/1	15.7	-	0.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	31	2	-	259	124	-	-	106	-	200	0	32

Person ID number	Sea fish	Crustaceans	Molluscs	Wildfowl	Marine plants/algae	Salt marsh grazed cattle meat	Salt marsh grazed sheep meat	Milk from cattle grazed on salt marsh	Green vegetables	Other vegetables	Root vegetables	Potato	Domestic fruit	Milk	Cattle meat	Sheep meat	Poultry	Eggs	Wild/free foods	Rabbits/hares	Honey	Wild fungi	Venison	Freshwater fish	Intertidal occupancy over mud	Intertidal occupancy over mud and sand	Intertidal occupancy over mud, sand and stones	Intertidal occupancy over rock	Intertidal occupancy over salt marsh	Intertidal occupancy over sand	Intertidal occupancy over sand and stones	Intertidal occupancy over stones	Handling fishing gear	Handling sediment	Occupancy in water	Occupancy on water	Indoor occupancy within 1 km of the nuclear licensed site boundary	Outdoor occupancy within 1 km of the nuclear licensed site boundary
4319/2/1	15.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	-	-	144	32	-	-	104	-	200	0	8
4319/3/1	15.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4319/4/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	200	-	-
4319/5/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	200	-	-
4320/1/1	2.4	5.9	1.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4320/2/1	2.4	5.9	1.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4329/1/1	**33.4**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	275	-	-	-	40	-	-	-	-
4331/1/1	-	-	-	-	-	-	-	-	6.4	4.8	1.8	1.6	**16.1**	-	-	-	-	-	**3.5**	-	-	0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4331/2/1	-	-	-	-	-	-	-	-	6.4	4.8	1.8	1.6	**16.1**	-	-	-	-	-	**3.5**	-	-	0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4331/3/1	-	-	-	-	-	-	-	-	6.4	4.8	1.8	1.6	**16.1**	-	-	-	-	-	**3.5**	-	-	0.3	-	-	-	-	-	-	-	-	31	31	-	-	-	-	-	0	157
4331/4/1	-	-	-	-	-	-	-	-	6.4	4.8	1.8	1.6	**16.1**	-	-	-	-	-	**3.5**	-	-	0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4331/5/1	-	-	-	-	-	-	-	-	6.4	4.8	1.8	1.6	**16.1**	-	-	-	-	-	**3.5**	-	-	0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4331/6/1	-	-	-	-	-	-	-	-	6.4	4.8	1.8	1.6	**16.1**	-	-	-	-	-	**3.5**	-	-	0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4332/1/1	-	6.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**17.7**	-	-	-	-	-	-	**131**	-	-	-	22	52	-	-	**1908**	153	-	2646	-	-
4332/2/1	-	6.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**17.7**	-	-	-	-	-	-	-	-	-	-	-	**469**	-	-	-	-	-	-	0	26
4332/3/1	-	6.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**17.7**	-	-	-	-	-	-	**131**	-	-	-	22	52	-	-	**1908**	153	-	2646	-	-
4332/4/1	-	6.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**17.7**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**1908**	-	-	2386	-	-
4332/5/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**1908**	-	-	2386	-	-
4332/5/2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**1908**	-	-	2386	-	-
4335/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	-	-	-	-	30	-	-	-	-	12	-	0	30
4335/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	-	-	-	-	30	-	-	-	-	12	-	0	30
4336/1/1	-	-	-	-	-	**18.7**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**365**	**410**	-	-	-	-	-	-	-	-
4336/2/1	-	-	-	-	-	**18.7**	**25.0**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**365**	**410**	-	-	-	-	-	-	-	-
4336/3/1	-	-	-	-	-	**18.7**	**25.0**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4341/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	417	-	-
4341/1/2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	417	-	-
4341/1/3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	417	-	-
4341/1/4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	417	-	-
4341/1/5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	417	-	-
4341/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	209	-	-
4341/2/2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	209	-	-
4341/2/3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	209	-	-
4341/2/4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	209	-	-

Person ID number	Sea fish	Crustaceans	Molluscs	Wildfowl	Marine plants/algae	Salt marsh grazed cattle meat	Salt marsh grazed sheep meat	Milk from cattle grazed on salt marsh	Green vegetables	Other vegetables	Root vegetables	Potato	Domestic fruit	Milk	Cattle meat	Sheep meat	Poultry	Eggs	Wild/free foods	Rabbits/hares	Honey	Wild fungi	Venison	Freshwater fish	Intertidal occupancy over mud	Intertidal occupancy over mud and sand	Intertidal occupancy over mud, sand and stones	Intertidal occupancy over rock	Intertidal occupancy over salt marsh	Intertidal occupancy over sand	Intertidal occupancy over sand and stones	Intertidal occupancy over stones	Handling fishing gear	Handling sediment	Occupancy in water	Occupancy on water	Indoor occupancy within 1 km of the nuclear licensed site boundary	Outdoor occupancy within 1 km of the nuclear licensed site boundary
4341/2/5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	209	-	-
4342/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	20
4342/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	15
4342/3/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	15
4344/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**674**	-	-	-	**674**	**674**	-	-	-	-	-	-
4344/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**674**	-	-	-	**674**	**674**	-	-	-	-	-	-
4347/1/1	3.6	-	-	-	**0.1**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**483**	-	-	-	-	-	-	-	8	-	-
4347/2/1	3.6	-	-	-	**0.1**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**365**	-	**546**	-	-	-	-	-	-	-	-
4347/3/1	3.6	-	-	-	**0.1**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**483**	-	-	-	-	-	-	-	-	-	-
4347/4/1	3.6	-	-	-	**0.1**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**365**	-	-	-	-	-	-	-	-	-	-
4347/5/1	3.6	-	-	-	**0.1**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**365**	-	**546**	-	-	-	-	-	20	-	-
4349/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	48	-	-	-	-	-	-	-
4350/1/1	-	-	-	-	-	-	-	-	2.0	-	0.2	**40.0**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22	-	-	-	-	44	-	6153	822
4353/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27	-	-	-	-	-	-	-	-
4353/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27	-	-	-	-	-	-	-	-
4354/1/1	**44.1**	**8.4**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	104	-	-	-	-	-	-	-	-
4355/1/1	10.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	51	-	-	12	30	-	-	-	-
4355/2/1	10.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	26	-	-	6	15	-	-	-	-
4356/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	-	-	-	-	-	-	-	-
4356/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	-	-	-	-	-	-	-	-
4358/1/1	-	-	-	-	**0.2**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	50	-	9	-	-	-	36	1	-	-
4358/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	-	-	-	-	-	9	-	-	-
4358/3/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-
4358/3/2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-
4358/3/3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-
4358/3/4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-
4358/3/5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-
4358/3/6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-
4358/3/7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-
4358/3/8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-
4358/3/9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-
4358/3/10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-
4358/4/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-

Person ID number	Sea fish	Crustaceans	Molluscs	Wildfowl	Marine plants/algae	Salt marsh grazed cattle meat	Salt marsh grazed sheep meat	Milk from cattle grazed on salt marsh	Green vegetables	Other vegetables	Root vegetables	Potato	Domestic fruit	Milk	Cattle meat	Sheep meat	Poultry	Eggs	Wild/free foods	Rabbits/hares	Honey	Wild fungi	Venison	Freshwater fish	Intertidal occupancy over mud	Intertidal occupancy over mud and sand	Intertidal occupancy over mud, sand and stones	Intertidal occupancy over rock	Intertidal occupancy over salt marsh	Intertidal occupancy over sand	Intertidal occupancy over sand and stones	Intertidal occupancy over stones	Handling fishing gear	Handling sediment	Occupancy in water	Occupancy on water	Indoor occupancy within 1 km of the nuclear licensed site boundary	Outdoor occupancy within 1 km of the nuclear licensed site boundary
4358/4/2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-
4358/4/3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-
4358/4/4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-
4358/4/5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-
4358/4/6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-
4358/4/7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-
4358/4/8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-
4358/4/9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-
4358/4/10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-
4358/5/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	1	-	-	-
4358/5/2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	1	-	-	-
4358/5/3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	1	-	-	-
4358/5/4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	1	-	-	-
4358/5/5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	1	-	-	-
4358/5/6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	1	-	-	-
4358/5/7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	1	-	-	-
4358/5/8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	1	-	-	-
4358/5/9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	1	-	-	-
4358/5/10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	1	-	-	-
4358/6/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	-	-	-	9	-	-	-
4358/6/2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	-	-	-	9	-	-	-
4358/6/3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	-	-	-	9	-	-	-
4358/6/4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	-	-	-	9	-	-	-
4358/6/5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	-	-	-	9	-	-	-
4358/6/6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	-	-	-	9	-	-	-
4358/6/7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	-	-	-	9	-	-	-
4358/6/8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	-	-	-	9	-	-	-
4358/6/9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	-	-	-	9	-	-	-
4358/6/10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	-	-	-	9	-	-	-
4359/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	352	-	-	-	-	-	-	-
4359/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4363/1/1	-	1.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	26	-	-	52	-	-
4363/2/1	1.4	**12.3**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	209	-	-	26	-	-	52	-	-

Person ID number	Sea fish	Crustaceans	Molluscs	Wildfowl	Marine plants/algae	Salt marsh grazed cattle meat	Salt marsh grazed sheep meat	Milk from cattle grazed on salt marsh	Green vegetables	Other vegetables	Root vegetables	Potato	Domestic fruit	Milk	Cattle meat	Sheep meat	Poultry	Eggs	Wild/free foods	Rabbits/hares	Honey	Wild fungi	Venison	Freshwater fish	Intertidal occupancy over mud	Intertidal occupancy over mud and sand	Intertidal occupancy over mud, sand and stones	Intertidal occupancy over rock	Intertidal occupancy over salt marsh	Intertidal occupancy over sand	Intertidal occupancy over sand and stones	Intertidal occupancy over stones	Handling fishing gear	Handling sediment	Occupancy in water	Occupancy on water	Indoor occupancy within 1 km of the nuclear licensed site boundary	Outdoor occupancy within 1 km of the nuclear licensed site boundary
4363/3/1	-	2.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4363/4/1	-	2.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4363/5/1	1.4	**12.3**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Notes

Emboldened observations are the high-rate individuals

U = Unknown

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

Person ID number	Sea fish	Crustaceans	Green vegetables	Other vegetables	Root vegetables	Potato	Domestic fruit	Cattle meat	Sheep meat	Eggs	Wild/free foods	Wild fungi	Intertidal occupancy over mud	Intertidal occupancy over mud and sand	Intertidal occupancy over rock	Intertidal occupancy over sand	Intertidal occupancy over sand and stones	Handling sediment	Occupancy in water	Occupancy on water	Indoor occupancy within 1 km of the nuclear licensed site boundary	Outdoor occupancy within 1 km of the nuclear licensed site boundary
3803/5/1	-	-	-	-	-	-	-	-	**8.1**	-	0.5	-	-	-	-	-	-	-	-	-	-	-
3804/3/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	42	-	-	-	-	-	-
3810/4/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6096	350
3811/4/1	-	-	-	-	-	-	1.1	**11.0**	-	-	1.1	-	-	-	-	-	-	-	-	-	-	-
3814/3/1	-	-	-	-	-	-	-	**30.0**	**4.0**	4.1	-	-	-	-	-	-	-	-	-	-	0	1096
3814/4/1	-	-	-	-	-	-	-	**30.0**	**4.0**	4.1	-	-	-	-	-	-	-	-	-	-	0	1096
3814/5/1	-	-	-	-	-	-	-	**30.0**	**4.0**	4.1	-	-	-	-	-	-	-	-	-	-	0	1096
3817/5/1	-	-	1.7	-	**0.8**	**8.3**	0.8	-	**3.3**	-	0.8	-	-	-	-	-	-	-	-	-	-	-
3817/6/1	-	-	1.7	-	**0.8**	**8.3**	0.8	-	**3.3**	-	0.8	-	-	-	-	-	-	-	-	-	-	-
3818/7/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	42	-	-	-	-	-
3818/10/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	42	-	-	-	-	-
3874/2/1	3.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	104	-	**104**	-	-	-	-
3875/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	91	-	13	-	-	-	-
3875/3/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52	-	-	-	-	-	-
3975/3/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52	-	-	-	-	-	-
3975/4/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52	-	-	-	-	-	-
4049/3/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	**196**	-	-	-	-	-
4049/4/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	**196**	-	-	-	-	-
4080/3/1	-	-	-	-	-	1.1	2.4	-	**4.0**	**26.0**	**1.4**	-	-	-	-	26	-	-	-	-	5891	731
4080/4/1	-	-	-	-	-	1.1	2.4	-	**4.0**	**26.0**	**1.4**	-	-	-	-	26	-	-	-	-	5891	731
4107/2/1	**27.4**	**0.7**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4111/4/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	-	-	-
4111/5/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	-	-	-
4111/6/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	-	-	-
4120/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	42	-	-	-	-	-	-
4120/3/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	42	-	-	-	-	-	-
4181/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	**118**	-	-	-	-	-	-	-	-
4183/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**81**	-	10	36	-	-
4183/3/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**81**	-	10	36	-	-
4191/4/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**129**	-	-	-	1	-	-
4191/5/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**129**	-	-	-	1	-	-

Person ID number	Sea fish	Crustaceans	Green vegetables	Other vegetables	Root vegetables	Potato	Domestic fruit	Cattle meat	Sheep meat	Eggs	Wild/free foods	Wild fungi	Intertidal occupancy over mud	Intertidal occupancy over mud and sand	Intertidal occupancy over rock	Intertidal occupancy over sand	Intertidal occupancy over sand and stones	Handling sediment	Occupancy in water	Occupancy on water	Indoor occupancy within 1 km of the nuclear licensed site boundary	Outdoor occupancy within 1 km of the nuclear licensed site boundary
4194/3/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	63	-	-	-	13	-	-
4203/3/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	38	-	-	-	-	-
4205/3/1	-	-	-	-	-	-	2.0	-	-	-	-	-	-	-	-	**313**	-	-	-	-	-	-
4242/3/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16	-	-	-	-	-
4242/4/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16	-	-	-	-	-
4256/3/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**20**	-	15	-	45	-	-	-
4256/4/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**20**	-	15	-	45	-	-	-
4331/7/1	-	-	**3.2**	**2.4**	**0.9**	0.8	**8.0**	-	-	-	**1.8**	**0.1**	-	-	-	31	31	-	-	-	0	157
4331/8/1	-	-	**6.4**	**4.8**	**1.8**	1.6	**16.1**	-	-	-	**3.5**	**0.3**	-	-	-	31	31	-	-	-	0	157
4335/3/1	-	-	-	-	-	-	-	-	-	-	-	-	**10**	-	-	15	-	-	2	10	0	15
4335/4/1	-	-	-	-	-	-	-	-	-	-	-	-	**10**	-	-	15	-	-	2	10	0	15
4335/5/1	-	-	-	-	-	-	-	-	-	-	-	-	**10**	-	-	15	-	-	2	10	0	15

Notes

Emboldened observations are the high-rate individuals

U = Unknown

Annex 3. Infants' consumption rates (kg y^{-1} and l y^{-1}) and occupancy rates (h y^{-1}) in the Sellafield area

Person ID number	Sea fish	Marine plants/algae	Domestic fruit	Milk	Cattle meat	Sheep meat	Poultry	Wild/free foods	Wild fungi	Intertidal occupancy over mud, sand and stones	Intertidal occupancy over sand	Intertidal occupancy over sand and stones	Intertidal occupancy over stones	Occupancy on water	Indoor occupancy within 1 km of the nuclear licensed site boundary	Outdoor occupancy within 1 km of the nuclear licensed site boundary
3799/7/1	-	-	-	**44.5**	-	-	-	-	-	-	-	-	-	-	-	-
3803/3/1	-	-	-	-	-	**2.0**	-	0.1	-	-	22	-	-	-	-	-
3803/4/1	-	-	-	-	-	**2.7**	-	0.2	-	-	22	-	-	-	-	-
3804/4/1	-	-	-	-	-	-	-	-	-	-	42	-	-	-	-	-
3811/5/1	-	-	0.5	-	**4.9**	-	-	**0.5**	-	-	-	-	-	-	-	-
3818/8/1	-	-	-	-	-	-	-	-	-	-	-	42	-	-	-	-
3818/9/1	-	-	-	-	-	-	-	-	-	-	-	42	-	-	-	-
3844/3/1	-	-	-	-	-	-	-	-	-	-	-	-	**96**	-	-	-
3874/4/1	**2.0**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3875/4/1	-	-	-	-	-	-	-	-	-	-	52	-	-	-	-	-
3875/7/1	-	-	-	-	-	-	-	-	-	-	52	-	-	-	-	-
4049/5/1	-	-	-	-	-	-	-	-	-	-	6	**196**	-	-	-	-
4191/3/1	-	-	-	-	-	-	-	-	-	-	**129**	-	-	1	-	-
4194/4/1	-	-	-	-	-	-	-	-	-	-	63	-	-	13	-	-
4201/4/1	-	-	-	-	-	-	**0.5**	-	-	-	-	-	-	-	-	-
4201/5/1	-	-	-	-	-	-	**0.7**	-	-	-	-	-	-	-	-	-
4203/4/1	-	-	-	-	-	-	-	-	-	-	-	38	-	-	-	-
4214/8/1	-	-	-	-	-	-	-	-	-	-	**209**	-	-	-	-	-
4220/4/1	-	-	-	-	-	-	-	-	-	-	6	-	-	-	-	-
4331/9/1	-	-	**4.0**	-	-	-	-	**0.9**	**0.1**	-	31	31	-	-	0	157
4347/6/1	**1.8**	**0.04**	-	-	-	-	-	-	-	**483**	-	-	-	-	-	-
4353/3/1	-	-	-	-	-	-	-	-	-	-	27	-	-	-	-	-

Notes

Emboldened observations are the high-rate individuals

U = Unknown

Annex 4. Qualitative and estimated data for use in dose assessments

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

Annex 5. Ratios for determining consumption and occupancy rates for children and infants

Group	Ratio[a]	
	Child[e]/adult	Infant[e]/adult
Sea 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
Potato	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 aquatic substrates[b]	0.500	0.030

Notes

[a] Excepting notes b and c, consumption ratios were derived from Byrom and others (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 6. Consumption rates (kg y^{-1}) and occupancy rates (h y^{-1}) for women of childbearing age[a] in the Sellafield area

Person ID number	Sea fish	Crustaceans	Marine plants/algae	Green vegetables	Other vegetables	Root vegetables	Potato	Domestic fruit	Cattle meat	Sheep meat	Poultry	Eggs	Wild/free foods	Honey	Wild fungi	Venison	Intertidal occupancy over mud	Intertidal occupancy over mud and sand	Intertidal occupancy over mud, sand and stones	Intertidal occupancy over rock	Intertidal occupancy over sand	Intertidal occupancy over sand and stones	Handling sediment	Occupancy in water	Occupancy on water	Indoor occupancy within 1 km of the nuclear licensed site boundary	Outdoor occupancy within 1 km of the nuclear licensed site boundary
3803/2/1	-	-	-	-	-	-	-	-	-	8.1	-	-	0.5	-	-	5.0	-	-	-	-	22	-	-	-	-	-	-
3814/2/1	-	-	-	-	-	-	-	-	30.0	4.0	-	4.1	-	-	-	-	-	-	-	-	-	-	-	-	-	0	1096
3817/4/1	-	-	-	1.7	-	0.8	8.3	0.8	-	3.3	-	-	0.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3818/3/1	-	-	-	-	-	-	-	-	-	6.7	-	-	-	-	-	-	-	-	-	-	-	42	-	-	-	-	-
3818/4/1	-	-	-	-	-	-	-	-	-	6.7	-	-	-	-	-	-	-	-	-	-	-	42	-	-	-	-	-
3818/5/1	-	-	-	-	-	-	-	-	-	6.7	-	-	-	-	-	-	-	-	-	-	-	42	-	-	-	-	-
3818/7/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	42	-	-	-	-	-
3824/4/1	-	-	-	2.7	6.0	8.0	11.5	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3835/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	39	-	-	-
3836/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	60	-	-	-	-	-	-
3874/3/1	4.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3875/5/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52	-	-	-	-	-	-
3879/4/1	-	-	-	5.0	2.2	3.3	3.0	1.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3899/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	335	-	26	-	-	-
3912/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	3	-	-	104	-	-
3928/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1893	16
3928/1/2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1893	16
3928/1/3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1893	16
3928/3/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	989	8
3928/3/2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	989	8
3928/3/3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	989	8
3928/3/4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	989	8
3928/3/5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	989	8
3928/3/6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	989	8
3928/3/7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	989	8
3928/3/8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	989	8
3928/3/9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	989	8
3928/3/10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	989	8
3975/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52	-	-	-	-	-	-
4049/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	196	-	-	-	-	-
4050/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	65	-	-	-	-	-
4074/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	-	391	-	-	-	-	-	-
4080/2/1	-	-	-	-	-	-	1.1	2.4	-	4.0	-	26.0	1.4	-	-	-	-	-	-	-	26	-	-	-	-	6724	731

Person ID number	Sea fish	Crustaceans	Marine plants/algae	Green vegetables	Other vegetables	Root vegetables	Potato	Domestic fruit	Cattle meat	Sheep meat	Poultry	Eggs	Wild/free foods	Honey	Wild fungi	Venison	Intertidal occupancy over mud	Intertidal occupancy over mud and sand	Intertidal occupancy over mud, sand and stones	Intertidal occupancy over rock	Intertidal occupancy over sand	Intertidal occupancy over sand and stones	Handling sediment	Occupancy in water	Occupancy on water	Indoor occupancy within 1 km of the nuclear licensed site boundary	Outdoor occupancy within 1 km of the nuclear licensed site boundary
4120/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	42	-	-	-	-	-	-
4183/4/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	81	-	-	-	-	-
4184/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	39	-	-	-	-	-	-
4191/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	129	-	-	-	1	-	-
4194/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	76	-	-	-	-	-	-
4201/2/1	-	-	-	-	-	-	-	-	-	-	1.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4204/3/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	365	-	490	-	-	-
4219/3/1	0.4	0.2	-	-	-	-	-	6.7	-	43.6	0.3	-	2.0	-	0.2	5.0	-	-	-	-	-	-	-	-	-	-	-
4220/3/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	-	-	-	-	-	-
4242/5/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16	-	-	-	-	-
4243/3/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	-	-	-	-	-
4243/4/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	-	-	-	-	-
4256/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	-	15	-	45	-	-	-
4256/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	-	15	-	45	-	-	-
4259/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	26	-	-	-	-	-
4262/2/1	-	-	-	-	-	-	-	15.8	-	-	-	11.9	0.7	0.3	-	-	-	-	-	-	-	-	-	-	-	-	-
4262/3/1	-	-	-	-	-	-	-	15.8	-	-	-	11.9	0.7	0.3	-	-	-	-	-	-	-	-	-	-	-	-	-
4263/4/1	-	-	-	15.2	5.0	7.5	1.8	5.5	-	-	-	-	-	2.7	-	-	-	-	-	-	-	-	-	-	-	-	-
4296/2/1	36.9	7.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4319/3/1	15.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4331/5/1	-	-	-	6.4	4.8	1.8	1.6	16.1	-	-	-	0.0	3.5	-	0.3	-	-	-	-	-	-	-	-	-	-	-	-
4331/6/1	-	-	-	6.4	4.8	1.8	1.6	16.1	-	-	-	0.0	3.5	-	0.3	-	-	-	-	-	-	-	-	-	-	-	-
4335/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	-	-	-	30	-	-	12	-	0	30
4344/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	674	-	-	674	674	-	-	-	-	-
4347/3/1	3.6	-	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	483	-	-	-	-	-	-	-	-
4347/4/1	3.6	-	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	365	-	-	-	-	-	-	-	-
4349/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	48	-	-	-	-	-	-
4353/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27	-	-	-	-	-	-
4358/1/1	-	-	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	50	9	-	36	1	-	-	-
4363/4/1	-	2.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4363/5/1	1.4	12.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

Annex 7. Summary of profiles for adults in the Sellafield area for use in the assessment of total dose

Profile Name	Pathway Name	Number of Individuals	Crustacea	Direct	Eggs	Fish - Fresh	Fish - Sea	Fruit - Domestic	Fruit and nuts - Wild	Gamma ext – Salt marsh	Gamma ext - Sediments	Honey	Marine plants/algae	Meat - Cow	Meat - Game	Meat - Poultry	Meat - Salt marsh grazed cattle	Meat - Salt marsh grazed sheep	Meat - Sheep	Meat - Wildfowl	Milk	Milk - salt marsh grazed cattle	Mollusca	Mushrooms	Occupancy IN water	Occupancy ON water	Plume (IN; 0-0.25 km)	Plume (MID; 0.25-0.5 km)	Plume (OUT; 0.5-1 km)	Vegetables - Green	Vegetables - Other Domestic	Vegetables - Potatoes	Vegetables - Root
		Note		1							2		3														4	4	4				
		Unit	kg	-	kg	kg	kg	kg	kg	h	h	kg	kg	kg	kg	kg	kg	kg	kg	kg	l	l	kg	kg	h	h	h	h	h	kg	kg	kg	kg
Crustacean Consumers		9	**15.4**	-	-	-	13.2	-	-	-	48	-	-	-	-	-	-	-	-	-	-	-	-	-	-	32	-	-	-	-	-	-	-
Occupants for Direct Radiation		11	0.09	**1**	3	0.01	0.84	1.5	0.25	-	100	-	-	1.1	-	0.28	-	-	0.58	-	11.6	-	0.01	0.04	3	3	240	460	1160	1.2	1.6	1.7	1.8
Egg Consumers		15	1.8	0.67	**27.9**	-	0.21	7.2	1.2	3	59	-	-	5	-	0.09	-	-	5.4	-	55.6	-	0.03	0.04	-	510	1090	1670	3	1.4	2.4	2.7	2.9
Freshwater Fish Consumers		1	-	1	-	**1.4**	50.9	0.91	-	-	890	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	87	10.9	24.2	46	31.9
Sea Fish Consumers		10	7.9	0.1	-	0.14	**31**	0.09	-	-	340	-	-	-	-	-	-	-	-	-	-	-	-	-	5	110	-	-	9	1.1	2.4	4.6	3.2
Domestic Fruit Consumers		14	-	0.43	10.3	-	0.23	**18.4**	2.5	-	5	0.06	-	-	-	0.93	-	-	3.6	-	48.4	-	0.03	0.13	-	-	11	9	55	5.6	5.4	4.2	6.8
Wild Fruit and Nut Consumers		22	0.21	0.45	9.7	-	0.2	11.2	**2.5**	-	5	-	-	5.4	0.68	0.7	-	-	9.1	-	47.4	-	0.02	0.14	-	-	750	640	19	2.5	2.8	2.4	2.4
Occupants over Salt marsh		5	-	-	-	-	1.5	-	-	**440**	310	-	0.03	-	-	-	7.5	5	-	-	-	82.9	-	-	-	4	-	-	-	-	-	-	-
Occupants over Sediment		30	0.12	0.33	0.79	0.05	3.4	0.03	-	-	**980**	-	-	-	-	-	-	-	-	-	-	-	0.22	-	8	1	76	-	3	0.36	0.81	1.5	1.1
Honey Consumers		8	-	-	-	-	-	4.2	-	-	6	**2.9**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11.7	7.6	11.1	5.7
Consumers of Marine Plants and Algae		6	-	-	-	-	3	-	-	180	350	-	**0.1**	-	-	-	-	-	-	-	-	-	-	-	1	5	-	-	-	-	-	-	-
Cattle Meat Consumers		7	-	0.57	8.8	-	-	2.7	1.3	-	-	-	-	**25.6**	-	0.19	-	-	2.2	-	52.1	-	-	0.09	-	-	2640	-	-	-	-	-	-
Game Meat Consumers		1	2.2	-	-	-	12	-	-	-	20	-	-	-	**27.1**	12	-	-	-	-	-	-	-	-	-	40	-	-	-	-	-	-	-
Poultry Meat Consumers		5	0.43	0.6	1.4	-	2.4	3.2	0.45	-	35	-	-	-	7.1	**8.7**	-	-	1	-	-	-	-	-	-	8	-	3290	83	2	2.6	3	-
Salt Marsh Grazed Cow Meat Consumers		3	-	-	-	-	-	-	-	240	270	-	-	-	-	-	**18.7**	16.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Salt Marsh Grazed Sheep Meat Consumers		2	-	-	-	-	-	-	-	180	210	-	-	-	-	-	18.7	**25**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sheep Meat Consumers		5	0.1	0.2	15.6	-	0.86	15.8	2.5	-	1	-	-	-	3	0.18	-	-	**34.2**	-	109.5	-	0.08	0.09	-	-	-	26	-	2.3	4	3	5.7
Wildfowl Consumers		2	-	-	-	-	-	-	-	13	-	-	-	-	-	-	-	-	-	**4.6**	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Milk Consumers		17	-	0.47	8.2	-	0.19	5.5	0.82	-	3	-	-	2.6	-	-	-	-	2.9	-	**171**.2	-	0.02	-	-	-	-	750	12	1.5	2.5	1.8	2.6
Salt Marsh Grazed Cows' Milk Consumers		2	-	-	-	-	-	-	-	190	-	-	-	-	-	-	-	-	-	-	-	**311**	-	-	-	-	-	-	-	-	-	-	-	-
Mollusc Consumers		4	1.5	-	-	-	4.7	-	-	-	480	-	-	-	-	-	-	-	-	-	-	-	**2.4**	-	-	-	-	-	-	-	-	-	-
Mushroom Consumers		2	-	1	-	-	-	4.4	-	-	180	-	-	-	-	-	-	-	-	-	-	-	-	**1.5**	-	-	-	-	5470	-	7.8	-	8.4
Occupants In Water		3	-	0.33	3.9	-	-	-	-	-	550	-	-	-	-	-	-	-	-	-	-	-	-	-	**310**	-	180	-	-	-	-	-	-
Occupants On Water		6	4.7	-	8.8	-	6.1	-	-	7	61	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**223**	-	-	-	-	-	-	-
Local Inhabitants (0 - 0.25 km)		2	-	1	26.7	-	-	7.3	2.5	-	-	-	-	37.5	-	0.67	-	-	3.8	-	-	-	-	0.3	-	-	**8140**	-	-	-	-	-	-	-
Local Inhabitants (0.25 - 0.5 km)		6	-	1	15.8	-	-	1.6	0.45	-	35	-	-	-	-	1.7	-	-	3.5	-	34.6	-	-	-	-	-	-	**7790**	-	1.7	1.7	1.8	-
Local Inhabitants (0.5 - 1 km)		15	-	1	1.5	-	-	3	0.13	-	62	-	-	-	-	0.54	-	-	-	-	-	-	-	0.2	3	-	-	-	**7040**	4.1	3.4	5.2	3.6
Green Vegetable Consumers		11	-	0.36	-	0.13	4.6	5.6	-	-	82	1.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1480	**17.4**	11.1	13.3	17.1
Other Domestic Vegetable Consumers		13	-	0.62	8.4	0.11	4.2	9.7	0.81	-	73	0.52	-	-	-	-	-	-	3.8	-	52.1	-	0.03	-	-	-	-	10	1870	9.5	**15.1**	20.5	18
Potato Consumers		22	-	0.09	-	0.06	2.3	0.29	-	-	44	0.31	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	320	1.2	3.4	**51.2**	4.3
Root Vegetable Consumers		12	-	0.58	9.1	0.12	4.5	10.2	0.88	-	76	-	-	-	-	-	-	-	4.2	-	56.5	-	0.03	-	-	-	-	11	1380	9.8	13.3	29.4	**22.1**

Notes

1) Direct radiation is expressed as proportion of group who are present within 1 km of site perimeter.
2) Gamma ext (external gamma) - Sediments represents occupancy over intertidal substrates including mud; mud and sand; mud, sand and stones; sand; sand and stones; stones.
3) Marine plants/algae represents the consumption of samphire, dulse and sea lettuce.
4) Plume times are the sum of individuals' indoor and outdoor times.

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

Annex 8. Summary of profiles for the child age group (6 - 15 years old) in the Sellafield area for use in the assessment of total dose

Profile Name	Pathway Name	Number of Individuals		Crustacea	Direct	Eggs	Fish - Sea	Fruit - Domestic	Fruit and nuts - Wild	Gamma ext - Sediments	Meat - Cow	Meat - Sheep	Mushrooms	Occupancy IN water	Occupancy ON water	Plume (IN; 0-0.25 km)	Plume (MID; 0.25-0.5 km)	Plume (OUT; 0.5-1 km)	Vegetables - Green	Vegetables - Other Domestic	Vegetables - Potatoes	Vegetables - Root
			Notes		1					2						3	3	3				
			Units	kg	-	kg	kg	kg	kg	h	kg	kg	kg	h	h	h	h	h	kg	kg	kg	kg
Crustacean Consumers		1		**0.69**	-	-	27.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Occupants for Direct Radiation		11		-	**1.00**	5.8	-	2.6	0.73	23	8.2	1.8	0.04	<1	3	330	1200	590	0.87	0.66	0.42	0.25
Egg Consumers		2		-	1.00	**26.0**	-	2.4	1.4	26	-	4.0	-	-	-	-	6620	-	-	-	1.1	-
Sea Fish Consumers		1		0.69	-	-	**27.4**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Domestic Fruit Consumers		2		-	1.00	-	-	**12.1**	2.6	62	-	-	0.22	-	-	160	-	-	4.8	3.6	1.2	1.4
Wild Fruit and Nut Consumers		4		-	1.00	13.0	-	7.2	**2.0**	44	-	2.0	0.11	-	-	79	3310	-	2.4	1.8	1.2	0.68
Occupants over Sediment		6		-	-	-	-	0.33	-	**180**	-	-	-	-	<1	-	-	-	-	-	-	-
Cattle Meat Consumers		4		-	0.75	3.1	-	0.28	0.28	-	**25.3**	3.0	-	-	-	820	-	-	-	-	-	-
Sheep Meat Consumers		8		-	0.63	8.0	-	0.80	0.62	7	11.3	**4.3**	-	-	-	410	1660	-	0.43	-	2.4	0.21
Mushroom Consumers		2		-	1.00	-	-	12.1	2.6	62	-	-	**0.22**	-	-	160	-	-	4.8	3.6	1.2	1.4
Occupants In Water		2		-	-	-	-	-	-	15	-	-	-	**45**	-	-	-	-	-	-	-	-
Occupants On Water		3		-	-	-	-	-	-	75	-	-	-	7	**28**	-	-	-	-	-	-	-
Local Inhabitants (0 - 0.25 km)		3		-	1.00	4.1	-	-	-	-	30.0	4.0	-	-	-	**1100**	-	-	-	-	-	-
Local Inhabitants (0.25 - 0.5 km)		2		-	1.00	26.0	-	2.4	1.4	26	-	4.0	-	-	-	-	**6620**	-	-	-	1.1	-
Local Inhabitants (0.5 - 1 km)		1		-	1.00	-	-	-	-	-	-	-	-	-	-	-	-	**6450**	-	-	-	-
Green Vegetable Consumers		2		-	1.00	-	-	12.1	2.6	62	-	-	0.22	-	-	160	-	-	**4.8**	3.6	1.2	1.4
Other Domestic Vegetable Consumers		2		-	1.00	-	-	12.1	2.6	62	-	-	0.22	-	-	160	-	-	4.8	**3.6**	1.2	1.4
Potato Consumers		2		-	-	-	-	0.83	0.83	-	-	3.3	-	-	-	-	-	-	1.7	-	**8.3**	0.83
Root Vegetable Consumers		4		-	0.50	-	-	6.4	1.7	31	-	1.7	0.11	-	-	79	-	-	3.2	1.8	4.8	**1.1**

Notes

1) Direct radiation is expressed as proportion of group who are present within 1 km of site perimeter.
2) Gamma ext (external gamma) - Sediments represents occupancy over intertidal substrates including mud; mud and sand; sand; sand and stones.
3) Plume times are the sum of individuals' indoor and outdoor times.

The means of the high-rate groups are determined by the ‘cut-off’ method and are emboldened 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.

Annex 9. Summary of profiles for the infant age group (0 - 5 years old) in the Sellafield area for use in the assessment of total dose

Profile Name	Pathway Name	Number of Individuals		Direct	Fish - Sea	Fruit - Domestic	Fruit and nuts - Wild	Gamma ext - Sediments	Marine plants/algae	Meat - Cow	Meat - Poultry	Meat - Sheep	Milk	Mushrooms	Occupancy ON water	Plume (IN; 0-0.25 km)
			Notes	1				2								3
			Units	-	kg	kg	kg	h	kg	kg	kg	kg	l	kg	h	h
Occupants for Direct Radiation		1		**1.00**	-	4.0	0.88	62	-	-	-	-	-	0.07	-	160
Sea Fish Consumers		2		-	**1.9**	-	-	240	0.02	-	-	-	-	-	-	-
Domestic Fruit Consumers		1		1.00	-	**4.0**	0.88	62	-	-	-	-	-	0.07	-	160
Wild Fruit and Nut Consumers		2		0.50	-	2.3	**0.68**	31	-	2.4	-	-	-	0.04	-	79
Occupants over Sediment		3		-	0.61	-	-	**300**	0.01	-	-	-	-	-	-	-
Consumers of Marine Plants and Algae		1		-	1.8	-	-	480	**0.04**	-	-	-	-	-	-	-
Cattle Meat Consumers		1		-	-	0.49	0.49	-	-	**4.9**	-	-	-	-	-	-
Poultry Meat Consumers		2		-	-	-	-	-	-	-	**0.59**	-	-	-	-	-
Sheep Meat Consumers		2		-	-	-	0.16	22	-	-	-	**2.3**	-	-	-	-
Milk Consumers		1		-	-	-	-	-	-	-	-	-	**44.5**	-	-	-
Mushroom Consumers		1		1.00	-	4.0	0.88	62	-	-	-	-	-	**0.07**	-	160
Occupants On Water		1		-	-	-	-	63	-	-	-	-	-	-	**13**	-
Local Inhabitants (0 - 0.25 km)		1		1.00	-	4.0	0.88	62	-	-	-	-	-	0.07	-	**160**

Notes

1) Direct radiation is expressed as proportion of group who are present within 1 km of site perimeter.
2) Gamma ext (external gamma) - Sediments represents occupancy over intertidal substrates including mud, sand and stones; sand; sand and stones; stones.
3) Plume times are the sum of individuals' indoor and outdoor times.

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

Annex 10. Summary of profiles for women of childbearing age[a] in the Sellafield area, for use in assessments of total dose to prenatal children

Profile Name	Pathway Name	Number of Individuals	Notes	Crustacea	Direct	Eggs	Fish - Sea	Fruit - Domestic	Fruit and nuts - Wild	Gamma ext - Sediments	Honey	Marine plants/algae	Meat - Cow	Meat - Game	Meat - Poultry	Meat - Sheep	Mushrooms	Occupancy IN water	Occupancy ON water	Plume (IN; 0-0.25 km)	Plume (MID; 0.25-0.5 km)	Plume (OUT; 0.5-1 km)	Vegetables - Green	Vegetables - Other Domestic	Vegetables - Potatoes	Vegetables - Root
			Notes		1					2		3								4	4	4				
			Units	kg	-	kg	kg	kg	kg	h	kg	kg	kg	kg	kg	kg	kg	h	h	h	h	h	kg	kg	kg	kg
Crustacean Consumers	2			**10.0**	-	-	19.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Occupants for Direct Radiation	16			-	**1.00**	1.9	-	0.15	0.09	4	-	-	1.9	-	-	0.50	-	<1	-	69	470	980	-	-	0.07	-
Egg Consumers	3			-	0.33	**16.6**	-	11.3	0.90	9	0.20	-	-	-	-	1.3	-	-	-	-	2490	-	-	-	0.38	-
Sea Fish Consumers	2			3.8	-	-	**26.3**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Domestic Fruit Consumers	6			0.03	-	4.0	0.06	**12.7**	1.7	-	0.55	-	-	0.83	0.05	7.3	0.12	-	-	-	-	-	4.7	2.4	0.84	1.9
Wild Fruit and Nut Consumers	4			0.04	0.25	6.5	0.09	10.3	**2.6**	7	-	-	-	1.3	0.07	11.9	0.18	-	-	-	1860	-	3.2	2.4	1.1	0.91
Occupants over Sediment	1			-	-	-	-	-	-	**2020**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Honey Consumers	1			-	-	-	-	5.5	-	-	**2.7**	-	-	-	-	-	-	-	-	-	-	-	15.2	5.0	1.8	7.5
Consumers of Marine Plants and Algae	3			-	-	-	2.4	-	-	290	-	**0.12**	-	-	-	-	-	<1	-	-	-	-	-	-	-	-
Cattle Meat Consumers	1			-	1.00	4.1	-	-	-	-	-	-	**30.0**	-	-	4.0	-	-	-	1100	-	-	-	-	-	-
Game Meat Consumers	2			0.08	-	-	0.18	3.3	1.3	11	-	-	-	**5.0**	0.15	25.9	0.08	-	-	-	-	-	-	-	-	-
Poultry Meat Consumers	1			-	-	-	-	-	-	-	-	-	-	-	**1.4**	-	-	-	-	-	-	-	-	-	-	-	-
Sheep Meat Consumers	1			0.16	-	-	0.37	6.7	2.0	-	-	-	-	5.0	0.30	**43.6**	0.15	-	-	-	-	-	-	-	-	-
Mushroom Consumers	3			0.05	-	-	0.12	12.9	3.0	-	-	-	-	1.7	0.10	14.5	**0.25**	-	-	-	-	-	4.3	3.2	1.1	1.2
Occupants In Water	1			-	-	-	-	-	-	380	-	-	-	-	-	-	-	**490**	-	-	-	-	-	-	-	-
Occupants On Water	1			-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	**100**	-	-	-	-	-	-	-	-
Local Inhabitants (0 - 0.25 km)	1			-	1.00	4.1	-	-	-	-	-	-	30.0	-	-	4.0	-	-	-	**1100**	-	-	-	-	-	-
Local Inhabitants (0.25 - 0.5 km)	1			-	1.00	26.0	-	2.4	1.4	26	-	-	-	-	-	4.0	-	-	-	-	**7460**	-	-	-	1.1	-
Local Inhabitants (0.5 - 1 km)	13			-	1.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**1210**	-	-	-	-
Green Vegetable Consumers	3			-	-	-	-	12.5	2.3	-	0.91	-	-	-	-	-	0.20	-	-	-	-	-	**9.3**	4.9	1.7	3.7
Other Domestic Vegetable Consumers	5			-	-	-	-	7.8	1.4	-	0.54	-	-	-	-	-	0.12	-	-	-	-	-	7.1	**4.6**	3.9	4.5
Potato Consumers	2			-	-	-	-	0.53	0.42	-	-	-	-	-	-	1.7	-	-	-	-	-	-	2.2	3.0	**9.9**	4.4
Root Vegetable Consumers	3			-	-	-	-	2.3	-	-	0.91	-	-	-	-	-	-	-	-	-	-	-	7.6	4.4	5.5	**6.3**

Notes

[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.

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3) Marine plants/algae represents the consumption of samphire, dulse and sea lettuce.
4) Plume times are the sum of individuals' indoor and outdoor times.

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