Centre for Environment Fisheries & Aquaculture Science

Cefas

# Radiological Habits Survey: Springfields, 2022

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Authors: F.J. Clyne, B.J. Greenhill, K.J. Moore, F.C. Mickleburgh, and H.G. Limbach

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# 1. Key Points

- There were significant changes to the conservation management of the Ribble Estuary since the last habits survey, with an increase in the size of the National Nature Reserve and a Marine Conservation Zone designation.
- There was a decrease in the number of commercial fishermen due to the closure of the commercial salmon fishery in 2019. The cockle beds and parts of the shrimp fishing grounds were located outside of the aquatic survey area.
- In 2022, there was a significant increase in the consumption of fish and wildfowl albeit with fewer people in the high-rate groups.
- The consumption of molluscs was not identified in 2022 but the consumption of lamb and beef from livestock grazed on salt marsh was identified.
- The activities being undertaken on intertidal substrates in 2022 were broadly similar to 2011, but the substrates had changed.
- No one was identified living on a houseboat in the aquatic survey area in 2022.
- There was a new motorway link road through the terrestrial and direct radiation areas to the east of the Springfields site.
- In 2022, there was a significant increase in the consumption rates of other vegetables, potatoes, and honey. Conversely, the consumption rates significantly decreased for pig meat and poultry.
- There were a number of new housing developments in the direct radiation survey area.
- The occupancy rates in the direct radiation survey area were broadly similar in 2012 and 2022.

# 2. Summary

This report presents the results of a survey conducted in 2022 to determine the habits and consumption patterns of people living, working and pursuing recreational activities in the vicinity of the Springfields Fuels Limited nuclear site near Preston, Lancashire. The Springfields nuclear site is situated in Salwick, approximately 7 km north-west of Preston. The site's main commercial activity is the manufacture of fuel elements for nuclear reactors and the production of uranium hexafluoride. Other activities include the recovery of uranium from residues and the decommissioning of redundant plants and buildings. The site discharges liquid radioactive wastes into the River Ribble, gaseous radioactive wastes via stacks to the atmosphere, and contains sources of direct radiation. Areas likely to be most affected by the discharges and sources of radiation were defined as the aquatic

survey area for liquid discharges, the terrestrial survey area for the deposition from gaseous discharges, and the direct radiation survey area for ionising radiation emanating directly from the site. The occupancy data collected from the direct radiation survey area 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 consumption of food from the terrestrial survey area
- The use and destination of produce originating from the survey areas
- The consumption and use of groundwater and surface water in the terrestrial survey area
- The transfer of contamination off-site by wildlife
- Activities and occupancy within the direct radiation survey area
- Any new or unusual exposure pathways

Information was collected from members of the public by means of interviews and the data obtained for 340 individuals are presented and discussed. High rates of consumption, occupancy over intertidal substrates and handling are identified using established methods comprising (a) a ‘cut-off’ to define the high-rate group and (b) 97.5$^{th}$ 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 tidal waters and intertidal areas of the Ribble Estuary and its tributaries east of a line between Fairhaven on the north bank and Marshside Sands on the south bank. The eastern extent of the survey area was at the A6 road bridge at Frenchwood which was the approximate tidal limit. The mouth of the Ribble Estuary comprises sizable areas of salt marsh and extensive mud and sand flats. The river narrows towards Preston and the banks are mud and grass.

A limited amount of commercial fishing took place within the aquatic survey area. Commercial fishermen were identified operating from the Seafield slipway in Lytham, catching brown shrimp, bass and Dover sole. Shrimp fishermen also accessed the estuary from Marshside Sands, but the fishing grounds were outside of the survey area. A cockle fishery operated under license from the Inshore Fisheries and Conservation Authority

(IFCA), but the cockle beds were located just outside of the survey area. The salmon fishery closed in 2019 and the fishermen reported that brown shrimp numbers have been declining in recent years.

Wildfowling was popular on the Ribble Estuary salt marshes and several of the wildfowling clubs were undertaking conservation activities. Activities taking place on intertidal areas also included angling, collecting litter, collecting samphire, dog walking, walking, warden duties, undertaking surveys on salt marsh, and tending livestock. During the last habits survey in 2012, people were identified living on houseboats, but in the 2022 survey no houseboats were identified.

**The terrestrial survey area**

The terrestrial survey area (Figure 6) covered the land within 5 km from the centre of the Springfields site, which is primarily agricultural. Interviews were conducted at 19 working farms, where beef, milk, lamb, pork and chicken were produced. Grass (for haylage and silage), maize and barley were grown for animal feed. Wheat and barley were produced for human consumption.

Three allotment sites were identified within the terrestrial survey area. A wide variety of fruit and vegetables were grown on these allotments and a small number of private gardens were identified growing small quantities of produce. Four 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 with pheasant and mallard 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 14 food groups: green vegetables; other vegetables; root vegetables; potato; domestic fruit; milk; cattle meat; pig meat; sheep meat; poultry; eggs; wild/free foods; honey; wild fungi. 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 10 food groups: green vegetables; other vegetables; root vegetables; potato; domestic fruit; milk; cattle meat; sheep meat; eggs; honey.

The human consumption of borehole water was identified. Livestock were drinking mains water, borehole water, and had access to streams.

The potential transfer of contamination off-site by wildlife was investigated since radionuclides could enter the food chain or contaminate the environment through this pathway. The site reported that it was highly unlikely that wildlife could enter controlled areas and did not consider this pathway to be a risk.

**The direct radiation survey area**

The direct radiation survey area (Figure 7) covered the land within 1 km of the Springfields 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 boundaries. The zones were 0 – 0.25 km, >0.25 – 0.5 km and >0.5 – 1.0 km. The highest indoor, outdoor and total occupancy rates were for residents in all zones.

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 Springfields site centre. Of the 21 measurements taken indoors at locations within the direct radiation survey area, 15 readings were higher than the maximum background reading. Of the 22 measurements taken outdoors at locations within the direct radiation survey area, 10 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.

**Comparisons with the previous survey**

Comparisons were made with the results from the previous Springfields habits survey in 2012, which were for adults only. Reasons for changes in the consumption and occupancy rates were identified for certain pathways and these are presented in Section 10 of the report.

For the consumption of foods from the aquatic survey area, the main differences in 2022 were that the mean consumption rate increased significantly for fish and for wildfowl and decreased significantly for crustaceans (Figure 1). The consumption of salt marsh grazed cattle meat and sheep meat was identified in 2022 but not in 2012. The consumption of molluscs was identified in 2012 but not in 2022.

There were significant changes in occupancy over intertidal substrates in 2022 (Figure 2). The most noteworthy changes in 2022 were: an increase over mud; a decrease over mud, sand and stones; a decrease over salt marsh; and an increase over stones. In 2012, activities were identified over grass, over sand, and on a boat over mud, but activities were not identified over these substrates in 2022.

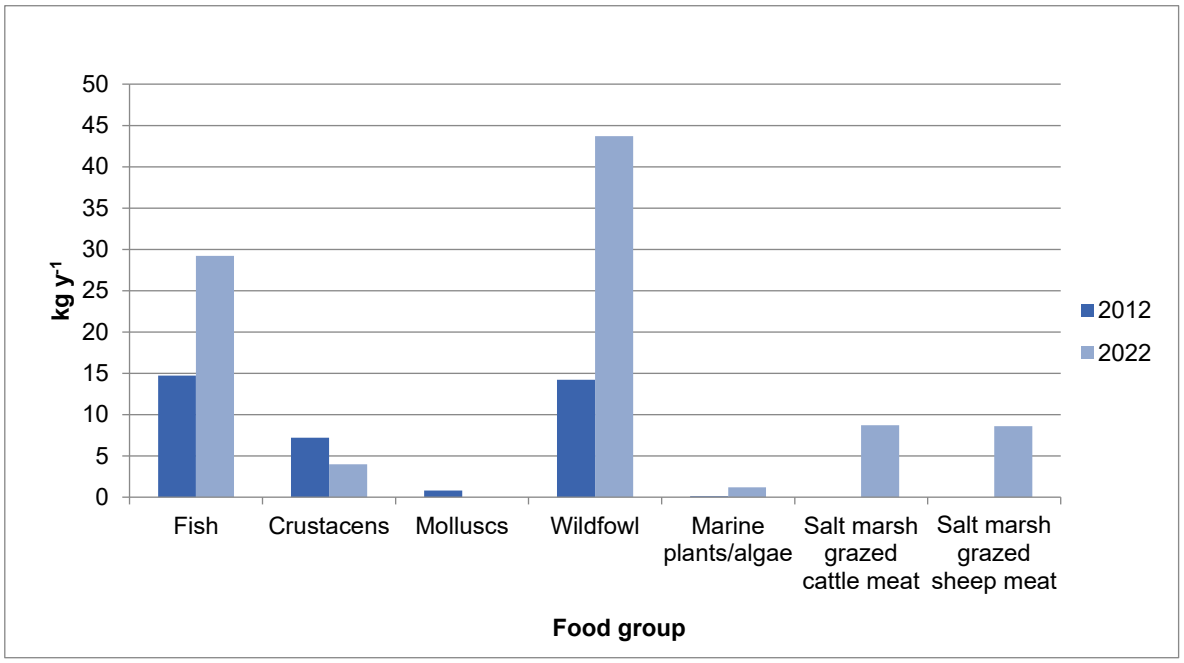


**Figure 1. Comparison between 2012 and 2022 mean rates for the high-rate groups for aquatic foods**

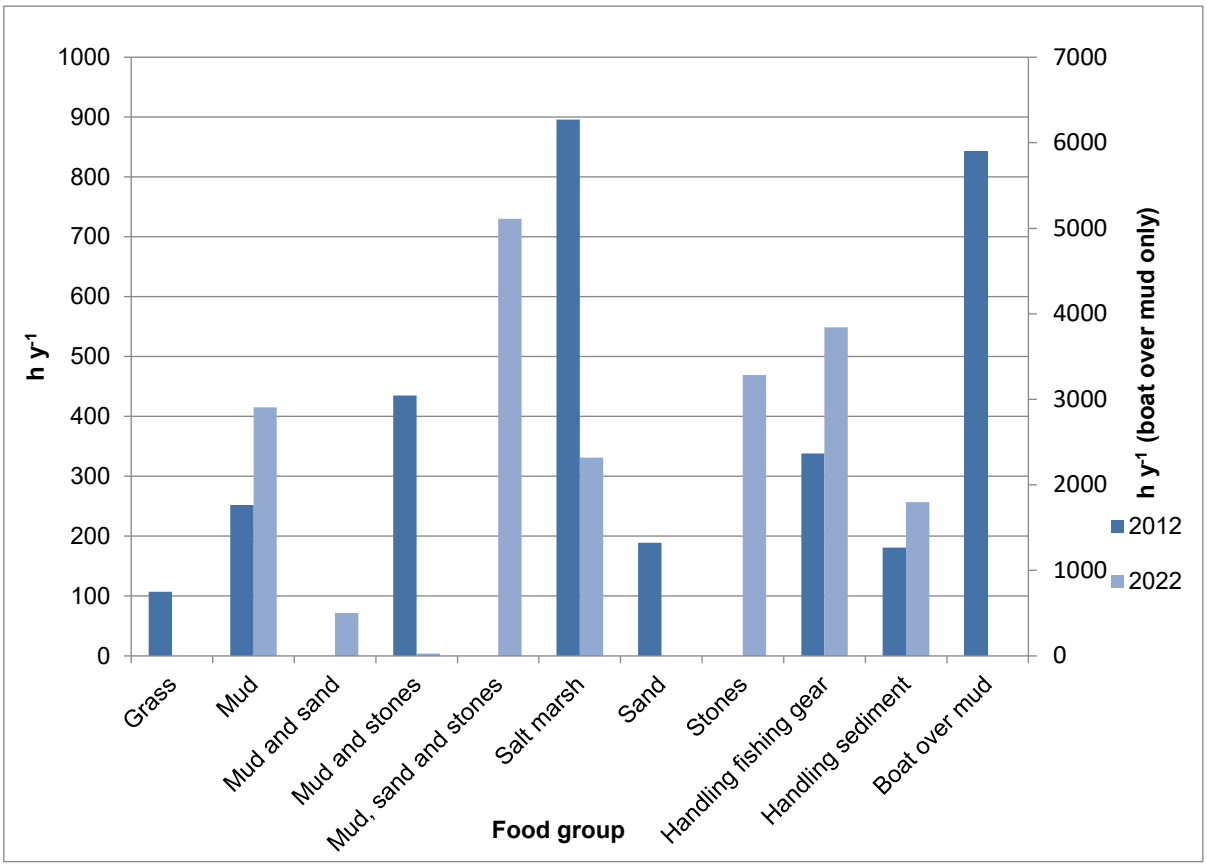


**Figure 2. Comparison between 2012 and 2022 mean rates for the high-rate groups for occupancy over intertidal substrates, and handling pathways**

The most notable changes in the consumption of terrestrial foods in 2022 were the increased consumption rates of other vegetables, potato, and honey, and the decrease in the consumption rates of pig meat and poultry, compared with 2012 (Figure 3).

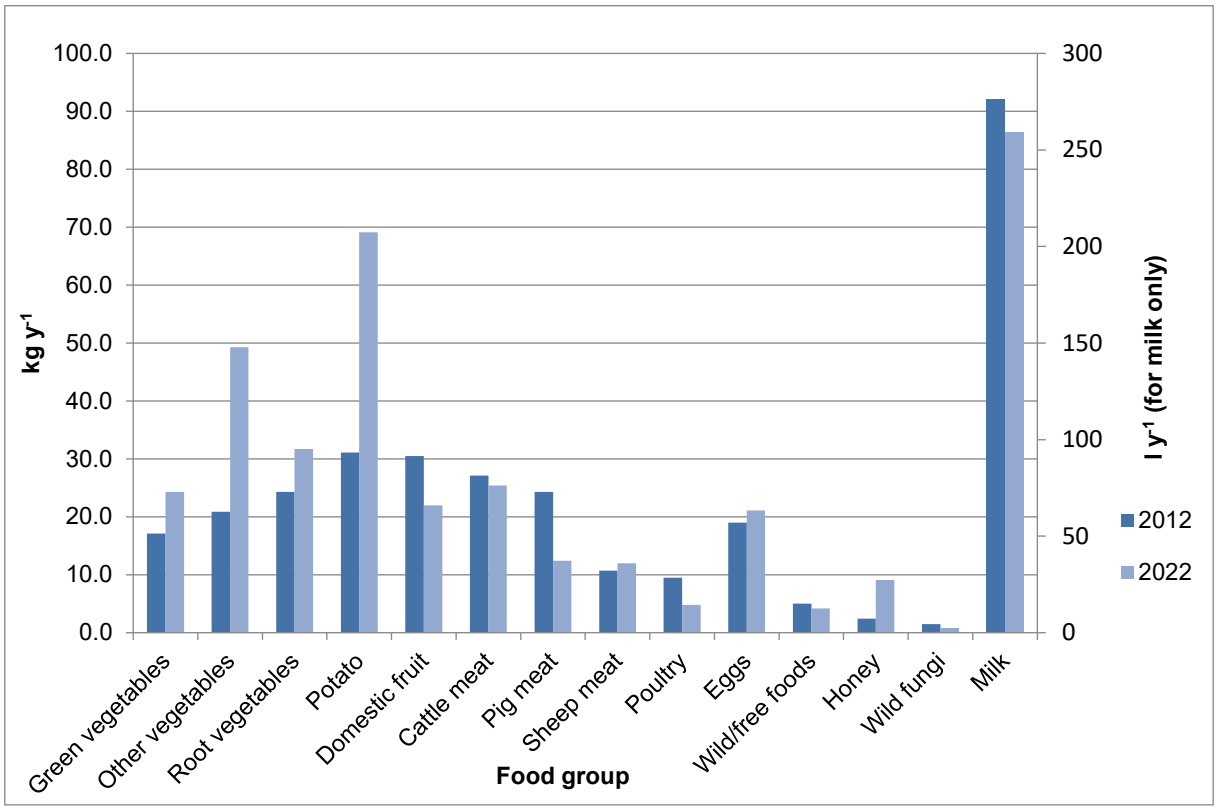


**Figure 3. Comparison between 2012 and 2022 mean consumption rates for the high-rate groups for terrestrial foods**

The maximum occupancy rates in the direct radiation survey area in 2022 were broadly similar to those in 2012 (Figure 4). The main changes in 2022 were an increase in the maximum outdoor occupancy rate in the >0.25 – 0.5 km zone and a decrease in the maximum outdoor occupancy rate >0.5 – 1.0 km zone.

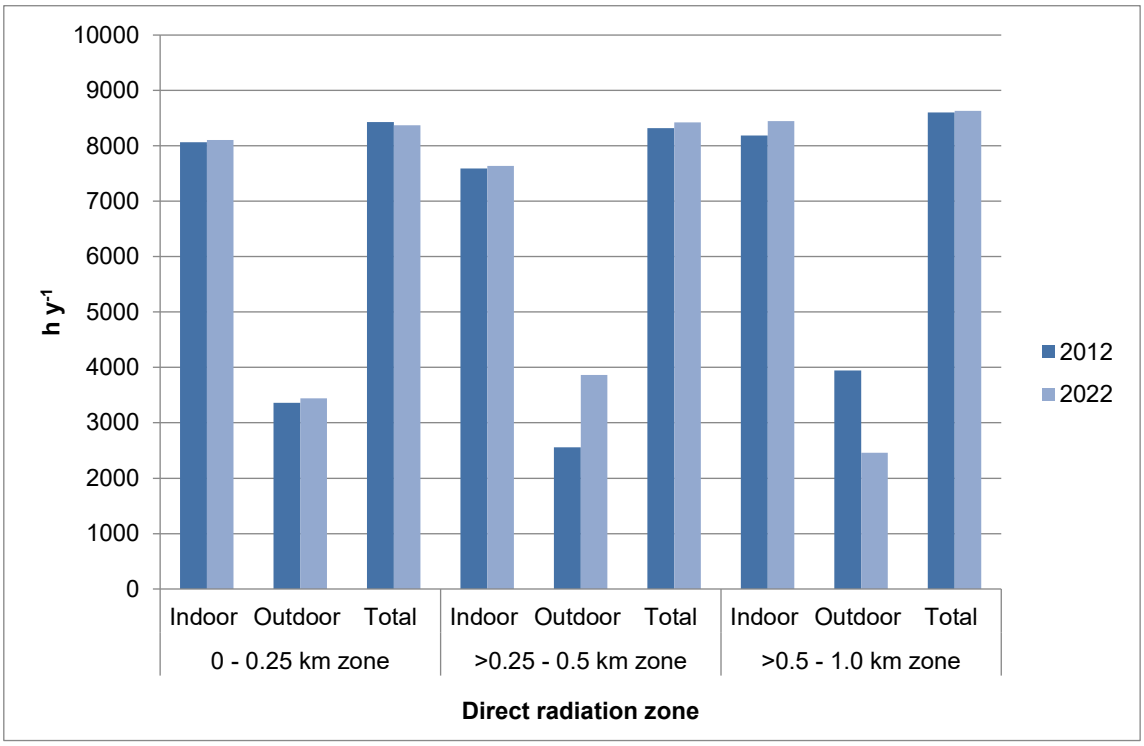


**Figure 4. Comparison between 2012 and 2022 maximum direct radiation occupancy rates**

**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 2022 Springfields 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 for considering sample selection for the Food Standards Agency monitoring programme. The current environmental monitoring programme carried out for the Environment Agency adequately covers the Springfields area and no changes are suggested.

# 3. Introduction

Members of the public might be exposed to radiation as a result of the operations of the Springfields 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 Springfields nuclear licensed site, which may influence their radiation exposure. The study has been funded by 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.

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 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, 2022). 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 Springfields nuclear site near Salwick in Lancashire is under the management of Westinghouse Electric Company UK Limited on behalf of the Nuclear Decommissioning Authority. Operations are carried out by Springfields Fuels Limited. The site's main commercial activity is the manufacture of fuel elements for nuclear reactors and the production of uranium hexafluoride. Other activities include the recovery of uranium from residues and decommissioning redundant plants. The National Nuclear Laboratory also undertakes research and development on site, producing small amounts of gaseous radionuclides, discharged under permit.

Under the radioactive substances provisions of Environmental Permitting (England and Wales) Regulations 2016 (UK Parliament, 2016), Springfields Fuels Limited 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 River Ribble. 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, 2022).

## 4.2. Survey objectives

The Centre for Environment, Fisheries & Aquaculture Science (Cefas) undertook the Springfields habits survey in 2022 on behalf of the EA, the FSA, and the 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 Springfields nuclear licensed site.

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 consumption of food from the terrestrial survey area
- The use and destination of produce originating from the survey areas

- The consumption and use of groundwater and surface water in the terrestrial survey area
- The transfer of contamination off-site by wildlife
- Activities and occupancy within the direct radiation survey area
- Any new or unusual exposure pathways

No other additional site-specific investigations were requested for this survey.

## 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, a terrestrial survey area relating to deposition from gaseous discharges, and a direct radiation survey area relating to ionising radiation emanating directly from the Springfields nuclear licensed site.

The aquatic survey area (Figure 5) covered the tidal waters and intertidal areas of the Ribble Estuary and its tributaries east of a line between Fairhaven on the north bank and Marshside Sands on the south bank. The eastern extent of the survey area was at the A6 road bridge at Frenchwood which was the approximate tidal limit. The survey included Deepdale Brook which flows through the Springfields site and into the Millennium Ribble Link.

The terrestrial survey area (Figure 6) covered all land within 5 km of the site centre (National Grid Reference: SD 470 314), to encompass the main areas of potential deposition from gaseous discharges. Watercourses and lakes within the survey area, which potentially contained contamination from the washout of gaseous discharges, are included in the terrestrial section of this report.

The direct radiation survey area (Figure 7) was defined as all land and watercourses 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 survey conducted by Cefas around the Springfields site, which was in 2012 (Ly and others, 2013).

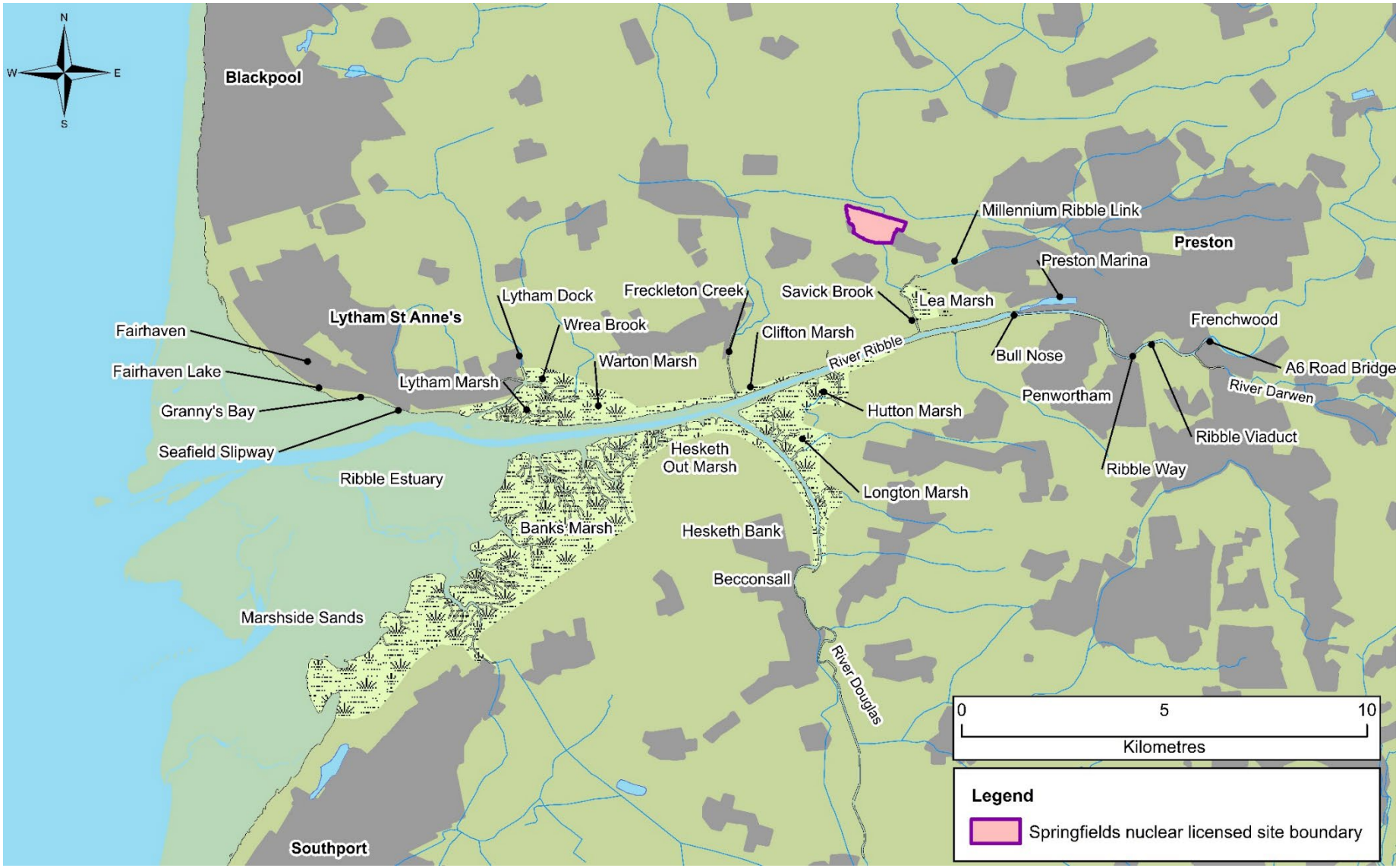


**Figure 5. The Springfields aquatic survey area**

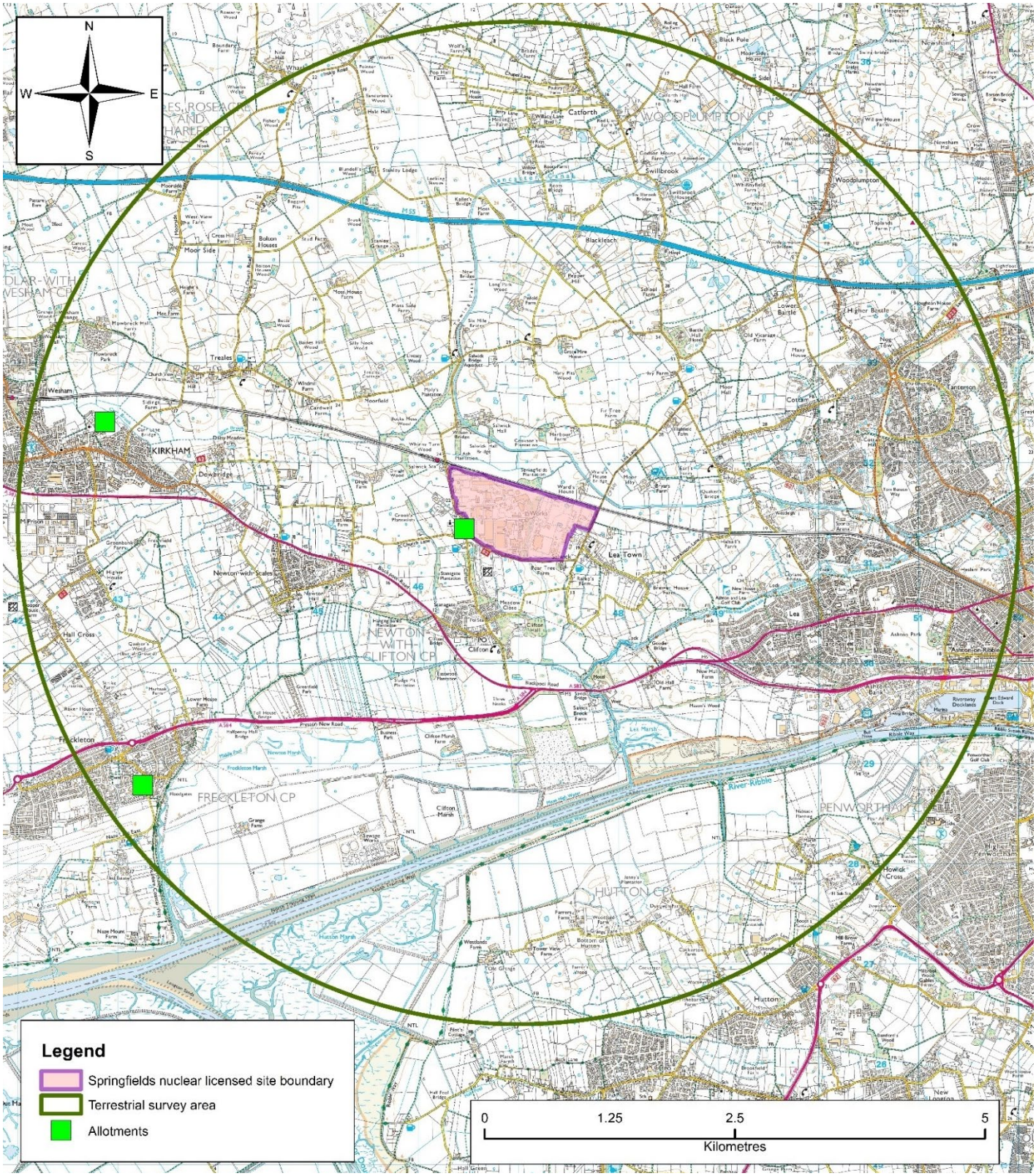


**Figure 6. The Springfields terrestrial survey area**

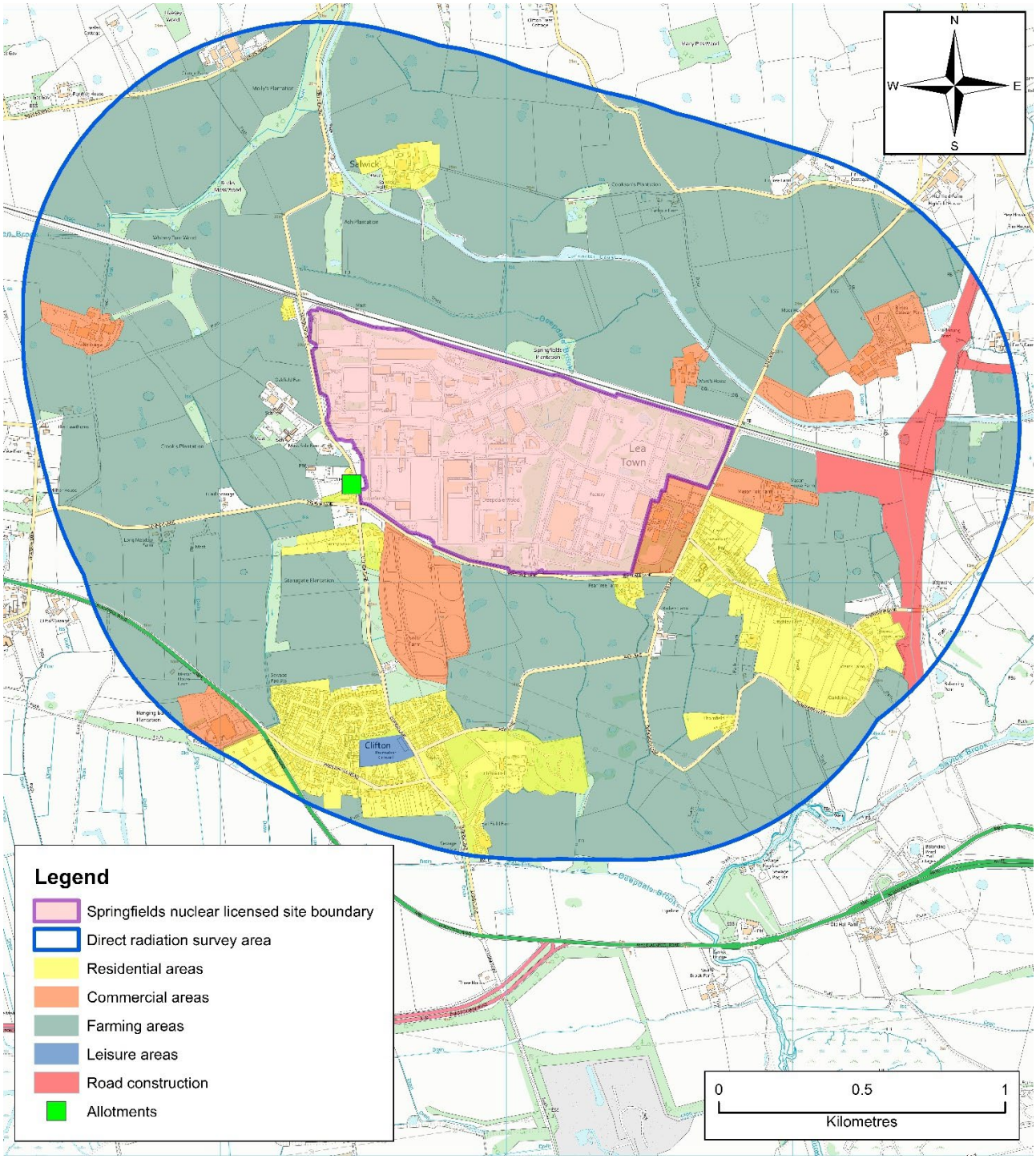


**Figure 7. The Springfields direct radiation survey area**

## 4.4. Conduct of the survey

As part of the pre-survey preparation, the EA, the FSA and the 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 Springfields nuclear licensed site. People with local knowledge of the survey area were contacted for information relevant to the various exposure pathways. These included Preston City Council, Kirkham Council and Freckleton Parish Council who provided information and access to local allotments, and local fishermen who provided information on activites in the aquatic survey area.

The fieldwork was carried out from the 16th August to the 24th August 2022 using survey techniques consistent with the previous Springfields habits survey report (Ly and others, 2013). During the fieldwork, a meeting was held between members of the survey team and representatives from Springfields Fuels Limited. The discussion provided details about current site activities, local information, potential exposure pathways and activities in the area, and the potential for transfer of contamination off-site by wildlife.

The following information was obtained during the meeting:

- Routine site operations were being undertaken at the time of the survey.
- No changes had been made to the nuclear licensed site boundary, outfalls or locations of sources of direct radiation since 2012.
- Processing plants have been decommissioned since the last Springfields habits survey in 2012.
- It is highly unlikely that wildlife could enter controlled areas and this was not considered to be a risk.
- There is a nature reserve on site, but this is accessed by site employees only.
- Information about potential exposure pathways and activities in the survey areas included wildfowling locations and activities in the direct radiation area.
- Changes to the area around the site included:
    - New housing developments in the direct radiation survey area
    - A new farm close to the site
    - A new motorway link road to the east of the site

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 centre. 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 Springfields 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 21. 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 34,600 people living in the 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 sites while they were at work. This is because dose criteria applicable to these people whilst at work and the dose assessment methods are different from those for members of the public. However, data were collected for employees and contractors while outside work if these people were encountered during the survey.

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

# 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 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 97.5$^{th}$ percentile rates. The consumption rates, occupancy rates and handling rates for all 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 Springfields 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 97.5$^{th}$ 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 22. 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 grass) 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 for both nuclear licensed sites. 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 97.5$^{th}$ percentile rate was calculated for each group. The use of percentiles accords with precedents used in risk assessments of the safety of food consumption. It should be noted that the interviewees in this study are often selected and, therefore, the calculated percentiles are not based on random data.

Mean and 97.5$^{th}$ 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, in cases where few child or infant observations were identified, an alternative approach that may be used for assessments is to estimate the mean rates for the high-rate groups for children and infants by applying scaling ratios to the mean rates for the high-rate groups for adults. Ratios for this purpose for the consumption and occupancy of intertidal substrates pathways, based on generic 97.5$^{th}$ 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 in Annex 6 for women of childbearing age. The age range used in this report for women of childbearing age is 15 – 44 years old, which is based on the classification used by the Office of National Statistics (www.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 site, which can provide additional shielding between these sources on 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, 2022).

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, the FSA and the ONR.
- Final reports were only issued when the EA, the FSA and the 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 the tidal waters and intertidal areas of the Ribble Estuary and its tributaries east of a line between Fairhaven on the north bank and Marshside Sands on the south bank. The eastern extent of the survey area was at the A6 road bridge at Frenchwood, which was the approximate tidal limit. The survey included the Deepdale Brook which flows through the Springfields site and into the Millennium Ribble Link. The same aquatic survey area was used in the previous habits survey in 2012.

The Ribble Estuary is an important area for wildlife and is a National Nature Reserve (NNR). It is designated as a Special Protection Area (SPA), Ramsar site, and Site of Specific Scientific Interest (SSSI). In 2019, the Ribble Estuary was designated a Marine Conservation Zone to manage the habitat for the recovery of Smelt (Osmerus eperlanus), and in 2020, the NNR was expanded to include additional areas at Lytham St Anne's, Hesketh Out Marsh and Marshside Sands. These additional areas of the NNR are managed by Natural England, the Royal Society for the Protection of Birds (RSPB) and a wildfowling association.

The intertidal areas of the Ribble Estuary comprise sizable areas of salt marsh and extensive mud and sand flats. The River Ribble narrows as it flows through Preston and the river banks are mud and grass. The aquatic survey area is described in detail below from west to east.

**Ribble Estuary north shore, Fairhaven to Warton Marsh**

The town of Lytham borders the shore between Fairhaven (north-western limit of the survey area) and Wrea Brook (Figure 8). The intertidal area along this stretch is a mixture of mud, sand and stones with patches of salt marsh. Adjacent to the shore at Fairhaven is a large brackish lake that is topped up with seawater several times per year. The lake was used for pleasure boating, canoeing and windsurfing.

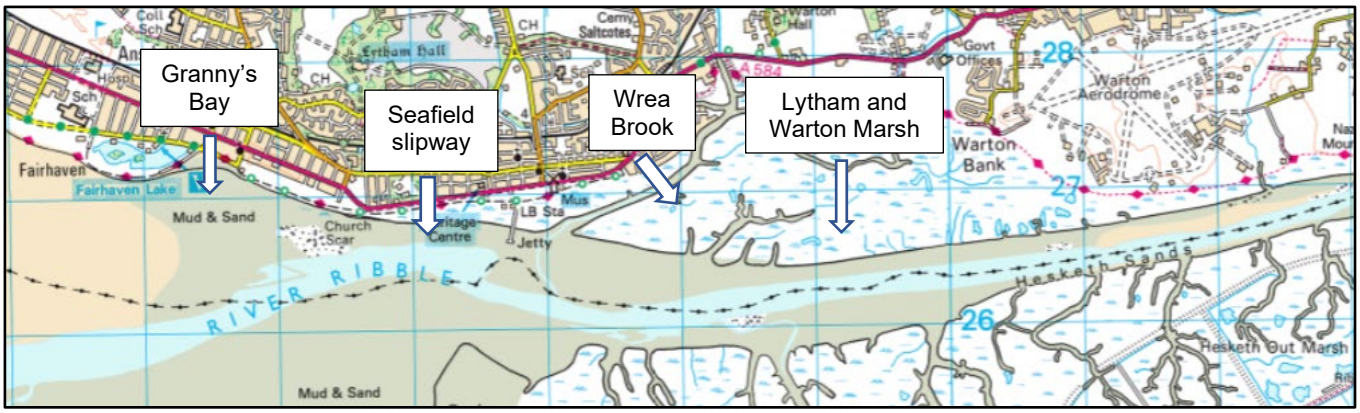


**Figure 8. Fairhaven to Warton Marsh**

Extensive works to rebuild the sea wall and promenade that runs along the Lytham shore was completed in 2020 (Figure 9). Since the intertidal substrate was primarily mud and sand, few people were undertaking activities on the shore, and most people were walking along the promenade. However, dog walking, walking and litter collecting were identified at Fairhaven, Granny's Bay, Lytham and Seafield slipway. Angling was undertaken from the sea wall at Fairhaven and from the shore at Seafield slipway. Samphire was collected from the salt marsh in this area. The concrete slipway at Seafield was the main centre of activity for the boats fishing in the estuary. A small number of commercial fishermen and hobby fishermen kept their boats on the shore near the slipway or moored them in the channel just offshore.

**Figure 9. The sea wall at Granny's Bay**

East of Seafield slipway was a Royal National Lifeboat Institution (RNLI) station and a cruising club's clubhouse and boat compound, where dinghies were kept. A wooden slipway across the salt marsh was used for launching the dinghies and the RNLI inshore rescue boat. The cruising club also had moorings at Lytham Dock, which was located on the northern tributary of Wrea Brook.

East of Wrea Brook, a large area of salt marsh (Lytham Marsh and Warton Marsh) was managed by a local wildfowling association. Shooting was permited on two thirds of the marsh and one third was designated a no shooting conservation area. Wildfowling club members spent time managing the marsh. Cattle were grazed on the marsh in the summer months.

### Ribble Estuary south shore, Marshside Sands to Hesketh Out Marsh

On the south shore from Marshside Sands at the south-western limit of the survey area to Hesketh Out Marsh (Figure 10) are extensive areas of salt marsh, and mud and sand flats.

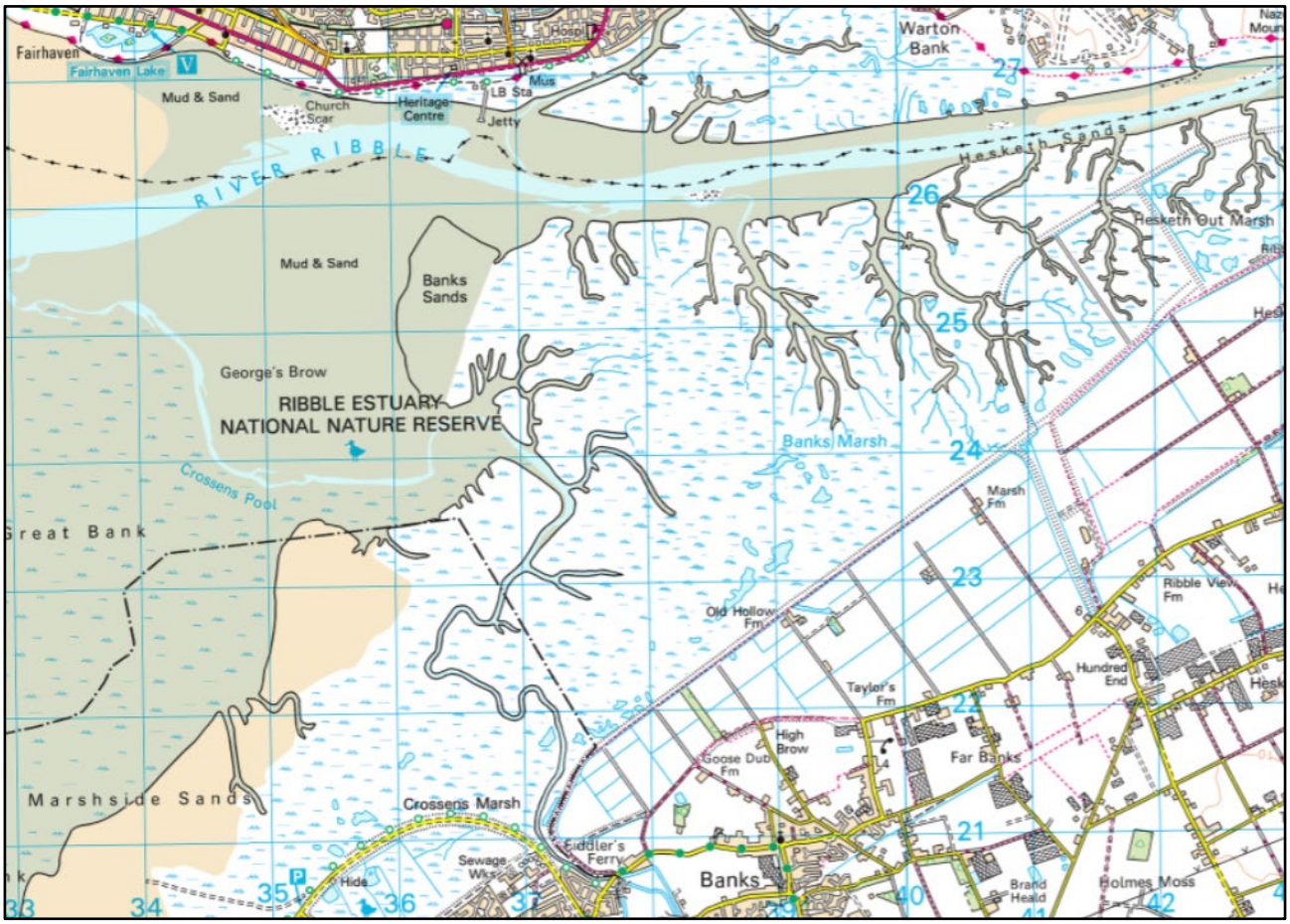


**Figure 10. Marshside Sands to Hesketh Out Marsh**

Marshside Sands is an RSPB reserve with a car park and viewing points over the reserve. The sands could be accessed via a disused track, which was used by shrimp and cockle fishermen. The track was also popular with birdwatchers, walkers and dog walkers. Tractor fishermen based at Southport fished the shrimping grounds that were off Marshside Sands but were outside of the survey area.

Crossens Marsh, Banks Marsh and Hesketh Out Marsh together form the largest area of salt marsh in the Ribble Estuary NNR. Crossens Marsh was popular with birdwatchers and livestock were observed grazing (Figure 11). Banks Marsh is managed by RSPB and Natural England, and as part of the marsh management, cattle are grazed during the summer months. A wildfowling association held the rights to shoot on one third of Banks Marsh with a regulated bag limit. Students undertook survey work on the marsh. There were reports of large groups of people collecting samphire on the marsh without a license.

**Figure 11. Crossens Marsh**

Hesketh Out Marsh is a large area of reclaimed grassland. Half of the marsh was flooded in 2007 and the remainder was flooded in 2017, as part of a managed realignment project undertaken by the Environment Agency and RSPB to return the area to salt marsh. A new sea wall has been built to separate the salt marsh from agricultural land and public access to the shore is not permitted. Visitors to the RSPB reserve walked along the banks around the marsh which are not tide washed. Wardens spent time on the salt marsh at Hesketh Out Marsh.

**River Ribble north shore, east of Warton Marsh, and the south shore, east of Hesketh Out Marsh**

East of Warton Marsh (north shore) and Hesketh Out Marsh (south shore) to the Savick Brook (Figure 12) the River Ribble narrows.

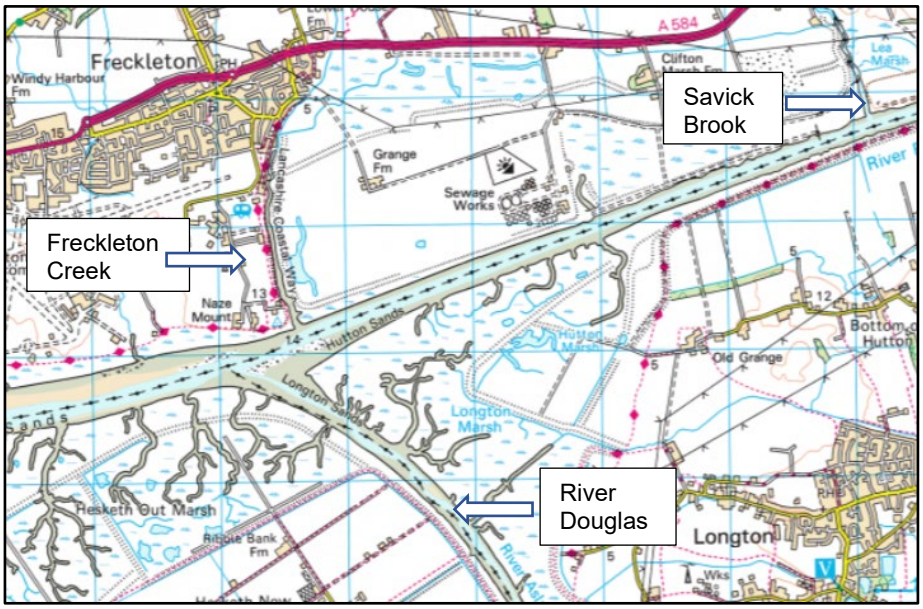


**Figure 12. East of Warton Marsh (north shore) and Hesketh Out Marsh (south shore) to the Savick Brook**

From the eastern end of Warton Marsh to the confluence of Freckleton Creek the shore is accessible only by rough tracks or walking along the Lancashire Coastal Way. The upper shore is a narrow belt of salt marsh and the lower shore is mud. The coastal way runs parallel to Freckleton Creek but the banks of the creek are mud (Figure 13) and no activities were identified.

**Figure 13. Freckleton Creek**

Between Freckleton Creek and Savick Brook, the river banks are mud with small areas of salt marsh. The only activity identified in this area was tending livestock that were grazing on the salt marsh. The Savick Brook flows through farmland and is tidal up to the first lock (Figure 14). Sheep were grazing on the banks but no activities were identified taking place during the survey. Further upstream, the Savick Brook connects with the Millennium Ribble Link which forms a waterway between the Ribble Estuary and the Lancaster Canal.

**Figure 14. Savick Brook**

On the south shore of the River Ribble, east of Hesketh Out Marsh and the River Douglas are Longton and Hutton marshes, which are large areas of salt marsh. Livestock were grazing on the marshes. The wildfowling rights of Hutton and Longton marshes belonged to a local wildfowling association who kept Hutton Marsh as a wildlife sanctuary. The Hutton Marsh Habitat Improvement Scheme was launched in 2022 to improve the habitat for a variety of bird species.

The River Douglas flows past the villages of Hesketh Bank and Becconsall. There is a boatyard at Becconsall, which provides moorings for yachts and other boats. In the last habits survey in 2012, one individual was identified living permanently on one of the boats but this was not the case in 2022.

**River Ribble, north and south bank, east of Savick Brook to Preston Marina**

The River Ribble east of Savick Brook (Figure 15), on the north and south shore is salt marsh with mud and sand exposed at low tide.

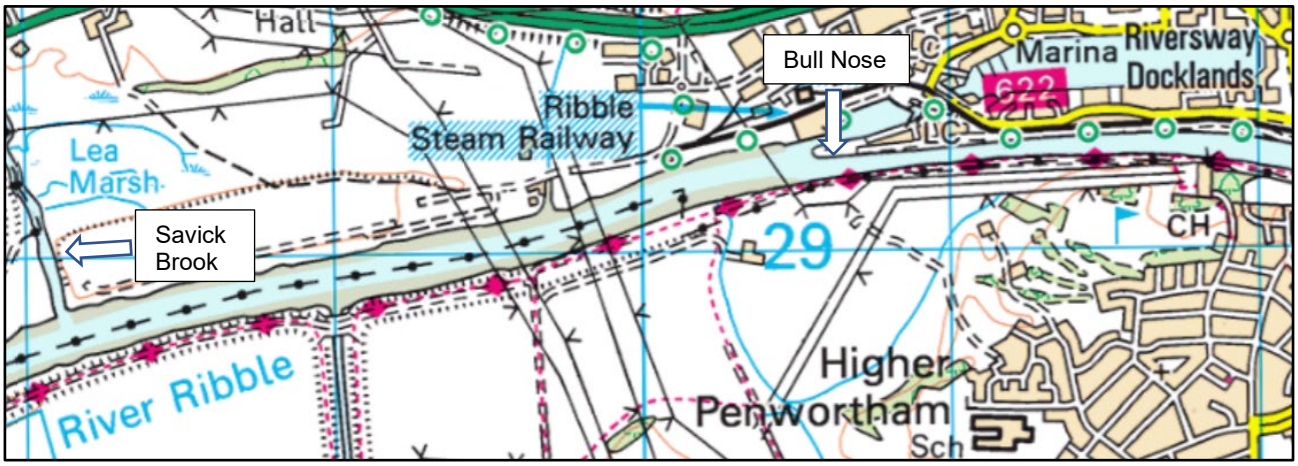


**Figure 15. River Ribble east of Savick Brook**

On the north shore, livestock were observed grazing on Lea Marsh (Figure 16). Bull Nose is a concrete quay at the entrance of Preston Marina and was a popular angling location due to easy access and parking. Anglers fished from the grass banks adjacent to Bull Nose and from the concrete quay. Preston Marina was mainly used by pleasure boats and canal boats. On the south shore, the Ribble Way footpath provided access to the river bank and people were observed dog walking.

**Figure 16. Looking towards Lea Marsh and the River Ribble to the east**

**River Ribble north and south bank, east of Preston Marina to the A6 road bridge at Frenchwood**

The banks of the River Ribble east of Preston Marina to the eastern limit of the survey area (Figure 17) are mud. The river flows through industrial (Figure 18) and residential areas with the Ribble Way footpath running parallel to the shore. At low tide, large areas of mud are exposed which can be reached down steep banks from the path. No activities were observed in this area during the survey.


**Figure 17. River Ribble east of Preston Marina to Frenchwood**

**Figure 18. The River Ribble in Preston, east of the marina**

## 6.2. Commercial fisheries

The number of commercial fishermen operating in the aquatic survey area has decreased since the last habits survey in 2012. Only a small number of commercial fishermen were identified in 2022 who operated their boats from the Seafield slipway in Lytham. The catch included bass, Dover sole, plaice, mackerel, thornback ray and brown shrimp.

A salmon fishery was operating in the Ribble Estuary in 2012 but it closed in 2019 due to the introduction of the 2018 National Salmon and Sea Trout Protection byelaws. This was introduced because of a decline in the stocks of Ribble salmon.

Fishermen based at Southport used tractors and amphibious vehicles to tow nets through shallow water offshore of Marshside Sands to catch brown shrimp out on the sand flats of the estuary. However, the shrimp grounds were located outside of the aquatic survey area.

The Penfold cockle bed managed by the North Western IFCA was located on Great Bank, just outside of the aquatic survey area. The fishery was planned to open 26th October 2022 until 30th April 2023 under permit from the local council.

A seed mussel bed managed by the North Western IFCA was open off Seafield Road and an edible size mussel bed was open along the the training wall with a permit but no one was identified collecting mussels commercially.

## 6.3. Destination of seafood originating from the aquatic survey area

A local wet fish shop bought bass, mullet, plaice, Dover sole, cod, thornback ray and brown shrimp landed from within the survey area.

## 6.4. Angling

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. Hobby fishermen operated in the survey area, including netting from a boat for bass.

A small number of angling boats were moored or launched from Seafield slipway. Shore angling was identified at Fairhaven, Bull Nose and off the Seafield slipway. Much of the shore angling was carried out from sea walls rather than intertidal areas. The main edible species caught by the anglers were bass, cod, and whiting.

## 6.5. Wildfowling

Wildfowling was popular along the Ribble Estuary and three wildfowling clubs were identified whose members were shooting in the survey area. One club was based on Lytham and Warton Marsh, one was based at Banks Marsh, and one at Longton and Hutton marshes. The wildfowling season extended from 1st September to 20th February. Wildfowling took place on most of the salt marshes and associated foreshores within the survey area.

Wildfowlers were both lying and kneeling on the salt marsh and in the muddy gullies. Most of the wildfowlers wore many layers of clothing to protect themselves from the cold weather and some wore waders and gloves. The main species being shot were mallard, teal, pintail, wigeon, Canada goose, pink-footed goose, and greylag goose. The shot wildfowl were consumed by the wildfowlers and their families and friends. It was reported that the wildfowl species has shifted in recent years from being predominantly duck species to goose species.

## 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 on Clifton Marsh, Hesketh Out Marsh, Banks Marsh, Warton and Lytham marshes, and people were spending time on the salt marsh tending the livestock.

## 6.7. Food consumption data

**Adults' consumption rates**

The people consuming the greatest quantities of food from the aquatic survey area were commercial fishermen and their families.

Table 2 presents a summary of the adults' consumption rates for the following food groups: fish; crustaceans; marine plants/algae; salt marsh grazed cattle meat; salt marsh grazed sheep meat. The consumption of molluscs was not identified. 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 fish and crustaceans based on national data, which are referred to as 'generic' data in this report. No generic consumption rates are available for wildfowl, marine plants/algae, salt marsh grazed cattle meat or salt marsh grazed sheep meat.

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

| Food group | Number of observations | Number of high-rate consumers | Observed maximum for the high-rate group (kg $y^{-1}$ ) | Observed minimum for the high-rate group (kg $y^{-1}$ ) | Observed mean for the high-rate group (kg $y^{-1}$ ) | Observed 97.5$^{th}$ percentile (kg $y^{-1}$ ) | Generic mean (kg $y^{-1}$ ) | Generic 97.5$^{th}$ percentile (kg $y^{-1}$ ) |
|---|---|---|---|---|---|---|---|---|
| Fish | 11 | 4 | 40.7 | 17.8 | 29.2 | 40.7 | 15.0 | 40.0 |
| Crustaceans | 10 | 5 | 5.2 | 2.9 | 4.0 | 5.0 | 3.5 | 10.0 |
| Wildfowl | 12 | 7 | 49.7 | 27.0 | 43.7 | 49.7 | Not determined | Not determined |
| Marine plants/algae | 7 | 2 | 1.2 | 1.2 | 1.2 | 1.2 | Not determined | Not determined |
| Salt marsh grazed cattle meat | 4 | 4 | 8.7 | 8.7 | 8.7 | 8.7 | Not determined | Not determined |
| Salt marsh grazed sheep meat | 15 | 5 | 8.6 | 8.6 | 8.6 | 8.6 | Not determined | Not determined |

The fish were caught throughout the aquatic survey area. Of the fish consumed by the four people in the high-rate group, the percentage breakdown of species (rounded to the nearest 5%) was 30% Dover sole, 25% bass, 15% mackerel, 15% plaice and 15% thornback ray.

The only species of crustaceans consumed by adults was brown shrimp which were caught throughout the survey area.

The wildfowl were shot on Lytham Marsh and Warton Marsh. Of the wildfowl consumed by the seven members of the high-rate group, the percentage breakdown of species (rounded to the nearest 5%) was 35% pink-footed goose, 15% greylag goose, 15% wigeon, 10% Canada goose, 10% teal and 15% a mix of mallard, pintail, pigeon and snipe.

The only species of marine plants consumed by adults was samphire which was collected from salt marsh near the Seafield slipway.

Livestock were grazing on Banks Marsh, Clifton Marsh, Hesketh Out Marsh, Lytham and Warton marshes, and salt marsh grazed beef and lamb were consumed.

**Children's and infants' consumption rates**

Table 3 presents a summary of children's consumption rates of salt marsh grazed cattle meat and salt marsh grazed sheep meat. No consumption of fish, crustaceans, molluscs,

wildfowl or marine plants/algae were identified for both the child age group and the infant age group. No infants were identified consuming salt marsh grazed cattle meat or salt marsh grazed sheep meat. The table includes the mean consumption rates for the high-rate group and the observed 97.5$^{th}$ 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 | Number of observations | Number of high-rate consumers | Observed maximum for the high-rate group (kg $y^{-1}$) | Observed minimum for the high-rate group (kg $y^{-1}$) | Observed mean for the high-rate group (kg $y^{-1}$) | Observed 97.5$^{th}$ percentile (kg $y^{-1}$) |
|---|---|---|---|---|---|---|
| Salt marsh grazed cattle meat | 2 | 2 | 8.7 | 6.5 | 7.6 | 8.6 |
| Salt marsh grazed sheep meat | 2 | 2 | 8.6 | 8.6 | 8.6 | 8.6 |

## 6.8. Occupancy over intertidal substrates

Occupancy rates over intertidal areas for adults are presented in Table 31. Occupancy rates over intertidal substrates were not identified for infants. 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 4 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 97.5$^{th}$ percentile rates.

**Table 4. Summary of adults' intertidal occupancy rates**

| Intertidal substrate | Number of observations | Number of people in the high-rate group | Maximum of the high-rate group (h $y^{-1}$) | Mean of the high-rate group (h $y^{-1}$) | Observed 97.5$^{th}$ percentile (h $y^{-1}$) |
|---|---|---|---|---|---|
| Mud | 19 | 3 | 415 | 415 | 415 |
| Mud and sand | 4 | 4 | 78 | 72 | 78 |
| Mud, sand and stones | 22 | 3 | 730 | 730 | 730 |
| Salt marsh | 41 | 3 | 442 | 331 | 382 |
| Stones | 1 | 1 | 469 | 469 | Not applicable |

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

- For mud: wildfowling on Lytham Marsh and Warton Marsh
- For mud and sand: dog walking at Fairhaven and Granny's Bay
- For mud, sand and stones: litter collecting at Granny's Bay, Seafield slipway and Lytham, walking at Lytham, and dog walking at Granny's Bay and Lytham
- For salt marsh: wildfowling and conservation activities at Lytham Marsh and Warton Marsh
- For stones: angling at Seafield slipway

**Children's occupancy rates over intertidal substrates**

Table 5 presents a summary of the children's 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 97.5$^{th}$ percentile rates.

**Table 5. Summary of children's intertidal occupancy rates**

| Intertidal substrate | Number of observations | Number of people in the high-rate group | Maximum of the high-rate group (h $y^{-1}$) | Mean of the high-rate group (h $y^{-1}$) | Observed 97.5$^{th}$ percentile (h $y^{-1}$) |
|---|---|---|---|---|---|
| Mud | 1 | 1 | 78 | 78 | Not applicable |

## 6.9. Gamma dose rate measurements

Gamma dose rate measurements were taken over five intertidal substrates. All measurements were taken at a height of 1 metre above the substrate. The results are presented in Table 33 and are summarised in Table 6.

**Table 6. Summary of gamma dose rate measurements taken over intertidal substrates**

| Substrate | Number of measurements taken | Minimum gamma dose rate at 1 metre[a] (μGy $h^{-1}$) | Maximum gamma dose rate at 1 metre[a] (μGy $h^{-1}$) |
|---|---|---|---|
| Grass | 1 | 0.084 | 0.084 |
| Mud | 3 | 0.078 | 0.090 |
| Mud and sand | 1 | 0.066 | 0.066 |
| Salt marsh | 7 | 0.071 | 0.093 |
| Stones | 1 | 0.097 | 0.097 |

**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, 2022).

## 6.10. Handling of fishing gear and sediment

Handling fishing gear 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 was not considered to be a significant pathway. Therefore, as in previous surveys, data were not collected for this pathway.

Handling rates of fishing gear and sediment for adults are presented in Table 34. No children or infants were identified handling sediment or fishing gear.

### Adults' handling rates of fishing gear and sediment

Table 7 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 97.5$^{th}$ percentile rates.

**Table 7. Summary of adults' handling rates**

| Handling activity | Number of observations | Number of people in the high-rate group | Maximum of the high-rate group (h y$^{-1}$) | Mean of the high-rate group (h y$^{-1}$) | Observed 97.5$^{th}$ percentile (h y$^{-1}$) |
|---|---|---|---|---|---|
| Handling fishing gear | 2 | 1 | 549 | 549 | 540 |
| Handling sediment | 18 | 14 | 519 | 257 | 519 |

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

- For handling fishing gear: netting in the Ribble Estuary
- For handling sediment: wildfowling on Lytham Marsh and Warton Marsh

## 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 35 for adults. The only interviews undertaken for activities taking place on water in the aquatic survey area were for commercial fishing in the Ribble Estuary, and the highest occupancy rate was 1100 h y$^{-1}$.

No interviews were conducted with adults undertaking activities 'in water'. No children or infants were recorded undertaking activities in or on the water.

# 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 Springfields site centre (National Grid Reference: SD 470 314).

The land in the terrestrial survey area is primarily agricultural with urban areas. The main population centres are the suburbs of the city of Preston (to the east of the Springfields site) and part of the town of Kirkham and Freckleton (to the west of the site). The villages of Catforth, Woodplumpton and Blackleach were located to the north, with Clifton Village and Lea Town located to the south and south-east respectively. The village of Newton-with-Scales is situated to the west. The River Ribble flows through the southern part of the survey area, from east to west, and there are areas of salt marsh within the terrestrial survey area where farmers grazed their livestock. The Lancaster Canal and the Millennium Ribble Link also flow through the survey area. The Deepdale Brook joins the Savick Brook after flowing through the Springfields site via a culvert and is not subject to any site discharges.

Interviews were conducted at 19 working farms in the Springfields terrestrial survey area. These farms produced the following:

- Cows' milk
- Young dairy cows
- Beef cattle
- Store cattle
- Suckler beef
- Lambs
- Pigs
- Chickens
- Arable crops

Grass (for haylage and silage), maize, barley and wheat were grown for animal feed. Wheat and barley were produced for human consumption (depending on the grade). Farmers and their families were consuming beef, lamb, chicken and milk produced on their own farms. One smallholding was identified in the survey area that produced lambs.

Three allotment sites were located within the terrestrial survey area. A wide variety of fruit and vegetables were grown on the allotments and small quantities of produce were grown on a small number of private gardens.

Four beekeepers were identified with a total of 14 hives in the survey area. These hives were located on allotment sites and on farmland within the survey area. The average production of honey per hive on the allotment site was 30 kg $y^{-1}$. The honey was consumed by the beekeepers, their families and friends.

Wild foods that were collected from within the survey area and consumed included blackberries, mushrooms and sloes. Game shooting was identified taking place on farmland in the terrestrial survey area, and pheasant and mallard were shot and consumed. Human consumption of groundwater was not identified. Livestock were identified drinking mains water, borehole 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 livestock auctions and markets across the UK, to a supermarket, and to an abattoir.
- Lambs were sold at local livestock auctions and markets, and to an abattoir.
- Pigs were sold at livestock markets.
- Beef, lamb and pork were sold from local farm shops.
- Chickens were sold to a processing company.
- Milk was sold to several dairies and to a farm outside the area.
- Wheat was sold to a grain merchant and to a milling company.
- Barley was sold for malting.
- Honey was sold from the door.

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

The potential transfer of contamination off-site by wildlife was investigated, since radionuclides could enter the food chain or contaminate the environment through this pathway. The site reported that it was highly unlikely that wildlife could enter controlled areas and did not consider this pathway to be a risk.

## 7.4. Food consumption data

Consumption data for locally produced foodstuffs potentially affected by deposition of gaseous discharges are presented from Table 36 to Table 49 for adults and Table 50 to Table 72 for children and infants. The mean consumption rates for the high-rate groups and the observed 97.5$^{th}$ 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. The data are summarised in Table 73.

**Adults' consumption rates**

Consumption of locally produced foods was identified in the following 14 food groups: green vegetables; other vegetables; root vegetables; potato; domestic fruit; milk; cattle meat; pig meat; sheep meat; poultry; eggs; wild/free foods; honey; wild fungi. No consumption was identified in the following food groups: rabbits/hares; venison; freshwater fish; freshwater plants.

Table 8 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 97.5$^{th}$ percentile rates. For comparison, the table also includes mean consumption rates and 97.5$^{th}$ percentile consumption rates based on national data, which are referred to as 'generic' data in this report.

**Table 8. Summary of adults' consumption rates of foods from the terrestrial survey area**

| Food group | Number of observations | Number of high-rate consumers | Observed maximum for the high-rate group | Observed minimum for the high-rate group | Observed mean for the high-rate group (Kg $y^{-1}$ or l $y^{-1}$) | Observed 97.5$^{th}$ percentile (Kg $y^{-1}$ or l $y^{-1}$) | Generic mean * (Kg $y^{-1}$ or l $y^{-1}$) | Generic 97.5$^{th}$ percentile* (Kg $y^{-1}$ or l $y^{-1}$) |
|---|---|---|---|---|---|---|---|---|
| Green vegetables | 86 | 31 | 37.4 | 14.3 | 24.3 | 33.9 | 15.0 | 45.0 |
| Other vegetables | 100 | 23 | 90.7 | 31.3 | 49.3 | 65.7 | 20.0 | 50.0 |
| Root vegetables | 86 | 28 | 58.1 | 20.3 | 31.7 | 48.8 | 10.0 | 40.0 |
| Potato | 82 | 9 | 118.8 | 40.4 | 69.1 | 79.5 | 50.0 | 120.0 |
| Domestic fruit | 118 | 27 | 39.7 | 13.3 | 22.0 | 33.7 | 20.0 | 75.0 |
| Milk | 27 | 19 | 414.6 | 184.0 | 259.2 | 414.6 | 95.0 | 240.0 |
| Cattle meat | 40 | 27 | 41.6 | 14.3 | 25.4 | 41.6 | 15.0 | 45.0 |
| Pig meat | 15 | 11 | 18.0 | 6.5 | 12.4 | 18.0 | 15.0 | 40.0 |
| Sheep meat | 30 | 16 | 15.6 | 10.0 | 12.0 | 15.6 | 8.0 | 25.0 |
| Poultry | 11 | 8 | 7.0 | 3.0 | 4.8 | 7.0 | 10.0 | 30.0 |
| Eggs | 33 | 12 | 34.2 | 13.4 | 21.1 | 34.2 | 8.5 | 25.0 |
| Wild/free foods | 51 | 4 | 6.3 | 2.2 | 4.2 | 5.2 | 7.0 | 25.0 |
| Honey | 7 | 1 | 9.1 | 9.1 | 9.1 | 7.8 | 2.5 | 9.5 |
| Wild fungi | 14 | 3 | 0.8 | 0.8 | 0.8 | 0.8 | 3.0 | 10.0 |

**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 97.5$^{th}$ percentile consumption rate for milk. Ten of the mean consumption rates for the high-rate groups exceeded the generic mean consumption rates. These were for green vegetables, other vegetables, root vegetables, potato, domestic fruit, milk, cattle meat, sheep meat, eggs and honey. Four of the observed 97.5$^{th}$ percentile consumption rates exceeded the generic 97.5$^{th}$ percentile consumption rates, which were for other vegetables, root vegetables, milk, and eggs.

### Children's and infants' consumption rates

Twenty-seven individuals in the child age group and nine individuals in the infant age group were identified consuming foods from the terrestrial survey area.

Table 9 presents a summary of children's consumption rates and Table 10 presents a summary of infants' consumption rates. The tables include the mean consumption rates for the high-rate groups and the observed 97.5$^{th}$ 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: poultry; rabbits/hares; venison; freshwater

fish; freshwater plants. In the infant age group, no consumption of foods from the following food groups was identified: pig meat; sheep meat; eggs; rabbits/hares; honey; venison; freshwater fish; freshwater plants.

**Table 9. Summary of children's consumption rates of foods from the terrestrial survey area (Age range: 6-year-old to 15-year-old)**

| Food group | Number of observations | Number of high-rate consumers | Observed maximum for the high-rate group (Kg $y^{-1}$) | Observed minimum for the high-rate group (Kg $y^{-1}$) | Observed mean for the high-rate group (Kg $y^{-1}$) | Observed 97.5$^{th}$ percentile (Kg $y^{-1}$) |
|---|---|---|---|---|---|---|
| Green vegetables | 9 | 5 | 4.0 | 1.7 | 2.7 | 4.0 |
| Other vegetables | 9 | 9 | 2.8 | 1.2 | 1.9 | 2.8 |
| Root vegetables | 9 | 3 | 6.8 | 5.3 | 6.3 | 6.8 |
| Potato | 11 | 5 | 18.9 | 6.5 | 11.6 | 18.9 |
| Domestic fruit | 10 | 4 | 5.2 | 2.6 | 3.9 | 4.9 |
| Milk | 8 | 8 | 193.3 | 73.0 | 151.3 | 193.3 |
| Cattle meat | 8 | 8 | 20.8 | 11.7 | 14.0 | 20.2 |
| Pig meat | 2 | 2 | 6.5 | 6.5 | 6.5 | 6.5 |
| Sheep meat | 6 | 4 | 10.6 | 4.7 | 7.8 | 10.3 |
| Eggs | 4 | 2 | 31.2 | 31.2 | 31.2 | 31.2 |
| Wild/free foods | 8 | 5 | 0.7 | 0.5 | 0.6 | 0.7 |
| Honey | 2 | 2 | 0.2 | 0.2 | 0.2 | 0.2 |
| Wild fungi | 4 | 4 | 0.1 | 0.04 | 0.1 | 0.1 |

**Table 10. Summary of infants' consumption rates of foods from the terrestrial survey area (Age range: 0 to 5-year-old)**

| Food group | Number of observations | Number of high-rate consumers | Observed maximum for the high-rate group (Kg $y^{-1}$) | Observed minimum for the high-rate group (Kg $y^{-1}$) | Observed mean for the high-rate group (Kg $y^{-1}$) | Observed 97.5$^{th}$ percentile (Kg $y^{-1}$) |
|---|---|---|---|---|---|---|
| Green vegetables | 3 | 2 | 1.3 | 0.5 | 0.9 | 1.3 |
| Other vegetables | 4 | 4 | 1.3 | 0.7 | 0.9 | 1.2 |
| Root vegetables | 3 | 2 | 3.5 | 2.3 | 2.9 | 3.5 |
| Potato | 4 | 2 | 6.3 | 4.8 | 5.5 | 6.2 |
| Domestic fruit | 4 | 2 | 0.7 | 0.4 | 0.6 | 0.7 |
| Milk | 2 | 2 | 128.9 | 85.1 | 107 | 127.8 |
| Cattle meat | 5 | 3 | 7.1 | 3.9 | 5.4 | 6.9 |
| Poultry | 1 | 1 | 2.5 | 2.5 | 2.5 | Not applicable |
| Wild/free foods | 2 | 2 | 0.1 | 0.04 | 0.1 | 0.1 |
| Wild fungi | 1 | 1 | 0.1 | 0.1 | 0.1 | Not applicable |

# 8. Direct radiation pathways

## 8.1. Direct radiation survey area

The direct radiation survey area (Figure 7) covered the land and watercourses within 1 km of the Springfields 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 Springfields 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 land within the direct radiation survey area is predominantly agricultural with two main residential areas. Lea Town is a village to the east of the site, which covers the land from the site licensed boundary to the outer limit of the survey area. The village of Clifton is the largest residential area and is located to the south of the site in the >0.5 – 1.0 km zone. A range of businesses, a church, a primary school, and a public house are located within the residential areas. Close to the western side of the site boundary are residential properties, a small allotment site, a church, and two primary schools. There were a number of new housing developments in the direct radiation survey area.

The Preston to Blackpool railway line bisects the direct radiation survey area from east to west and runs adjacent to the northern perimeter fence of the Springfields site. An unmanned railway station is located close to the north-west boundary of the site. The Lancaster Canal flows from the north-west of the survey area to the east.

## 8.2. Residential activities

The closest residences to the Springfields nuclear site were located along the road which runs alongside the eastern and western site boundary in the 0 – 0.25 km zone. The village of Lea Town is located to the south-east of the site and covers the 0 – 0.25 km, >0.25 – 0.5 km and >0.5 – 1.0 km zones. The village of Clifton is located to the south of the site in the >0.5 – 1.0 km zone. Residential properties are also scattered throughout the survey area.

Interviews were conducted at 31 residences and five farms, which had a combination of families with children, single occupants, and retired people. Of these 36 properties, 13 were within the 0 – 0.25 km zone, four were within >0.25 – 0.5 km zone and 19 were within the >0.5 – 1.0 km zone.

## 8.3. Leisure activities

Walking and dog walking were noted along the paths throughout the direct radiation survey area. A small allotment site with two plots was located to the west of the site. A non-residential caravan park with 25 pitches was located within a working farm to the north-east of the site. Two churches and a recreation area were located within the survey area. The Lancaster Canal flows through the direct radiation survey area and attracts walkers and pleasure boat visitors.

## 8.4. Commercial activities

Business of various sizes were located within the direct radiation survey area. To the east of the site in Lea Town (0 – 0.25 km zone) were three companies, and south of the site on was a new farm. Several businesses were located along a main road through Clifton to the south of the site (>0.5 – 1.0 km zone) including a café, a post office, and a garden centre.

Interviews were conducted at three businesses and five working farms, which covered all three zones in the survey area.

## 8.5. Educational activities

Two primary schools were located within the 0 – 0.25 km zone to the west of the site and one primary school was located in the >0.25 – 0.5 km zone to the east.

## 8.6. Occupancy rates

Table 74 presents indoor, outdoor and total occupancy data for adults, children and infants. An analysis of the data by distance zones and occupancy rates is shown in Table 75. A summary of occupancy rates in the direct radiation survey area is presented in Table 11. 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 11. Summary of direct radiation occupancy rates**

| Zone | Number of observations | Highest indoor occupancy (h $y^{-1}$) | Highest outdoor occupancy (h $y^{-1}$) | Highest total occupancy (h $y^{-1}$) |
|---|---|---|---|---|
| 0 - 0.25 km | 43 | 8108 | 3440 | 8369 |
| >0.25 - 0.5 km | 27 | 7635 | 3861 | 8424 |
| >0.5 - 1.0 km | 42 | 8447 | 2457 | 8630 |

### 0 - 0.25 km from the nuclear licensed site boundary

Occupancy data for 43 individuals in the 0 - 0.25 km zone were included in the analysis. The observations were for 26 residents, and 17 employees. The highest indoor, outdoor and total occupancy rates were for residents.

### >0.25 - 0.5 km from the nuclear licensed site boundary

Occupancy data for 27 individuals in the >0.25 - 0.5 km zone were included in the analysis. The observations were for 11 residents and 16 employees. The highest indoor, outdoor and total occupancy rates were for residents.

### >0.5 - 1.0 km from the nuclear licensed site boundary

Occupancy data for 42 people in the >0.5 - 1.0 km zone were included in the analysis. All 42 observations were for residents. The highest indoor, outdoor and total occupancy rates were for residents.

## 8.7. Gamma dose rate measurements

Gamma dose rates were measured indoors and outdoors at most properties where interviews were conducted in the Springfields 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 results are presented in Table 76 and are summarised in Table 12.

**Table 12. 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]** | | | |
| Concrete | 19 | 0.078 | 0.109 |
| Wood | 2 | 0.068 | 0.100 |
| **Outdoor measurements[a]** | | | |
| Concrete | 1 | 0.067 | 0.067 |
| Grass | 21 | 0.068 | 0.092 |
| **Background measurements** | | | |
| Grass | 4 | 0.078 | 0.082 |

**Notes**

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

Of the 21 measurements taken indoors at locations within the direct radiation survey area, 15 readings were higher than the maximum background reading. Of the 22 measurements taken outdoors at locations within the direct radiation survey area, 10 readings were 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 92 fixed monitors and 100 mobile monitors distributed throughout the UK (www.gov.uk). The nearest RREMS station to Springfields was at Blackpool (Squires Gate), which was approximately 9 km away. The ambient (background) gamma dose rates at Blackpool from April to June, which is the most recent data at the time of reporting, ranged from 0.08 μGy $h^{-1}$ to 0.12 μGy $h^{-1}$. All the

indoor, outdoor and background readings taken during the Springfields habits survey were within or below this range.

# 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 78. Each of the 21 combinations shown in Table 78 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 78 because they have fewer pathways and a dose assessment for them would be adequately covered by one of the 21 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 Springfields habits survey for females of childbearing age are presented in Annex 6. The Office of National Statistics classifies women to be of childbearing age if they are between 15 and 44 years old (www.ons.gov.uk); this age range has been used in Annex 6. It was not possible to collect ages for all female observations during the habits survey. However, these females with unknown ages have been included in Annex 6 as they 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, 2022).

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 2022 survey are compared below with results from the last combined habits survey undertaken at Springfields in 2012. The aquatic, terrestrial and direct radiation survey areas in the 2022 survey were the same as those in the 2012 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

Significant changes in the conservation management of the Ribble Estuary were identified in 2022 compared with the last habits survey undertaken in 2012. The Ribble Estuary was designated a Marine Conservation Zone in 2019, and in 2020, the NNR was expanded to include additional areas at Lytham St Anne’s, Hesketh Out Marsh and Marshside Sands. The salmon fishery had closed in 2019 and there was a decrease in the number of commercial fishermen. The cockle beds and some of the brown shrimp fishing grounds

were located outside of the survey area. Wildfowling was a popular activity in 2012 and 2022.

The main species of fish consumed by the adult high-rate group in 2022 were Dover sole, bass, mackerel, plaice and thornback ray, and the main species of fish consumed by the adult high-rate group in 2012 were plaice, bass, flounder and cod. The only species of crustaceans consumed by the adult high-rate group in both 2012 and 2022 were brown shrimp. The only species of molluscs consumed by the high-rate group in 2012 was cockles, whereas in 2022, no consumption was identified. The main species of wildfowl consumed by the adult high-rate group in 2022 were pink-footed goose, greylag goose, wigeon, Canada goose and teal, and in 2012 the species were wigeon, mallard, pink-footed goose, duck (unidentified species) and teal. The only species of marine plants/algae consumed by the adult high-rate group in 2012 and 2022 was samphire. Sheep, lambs and beef cattle were grazing on salt marsh, and the consumption of salt marsh grazed lamb and beef was identified in 2022 but not in 2012.

A comparison between the consumption of aquatic foods in 2012 and 2022 is presented in Table 13.

**Table 13. Comparison between 2012 and 2022 consumption rates of aquatic food groups for adults**

| | 2012 | | | 2022 | | |
|---|---|---|---|---|---|---|
| Food group | Number in high-rate group | Maximum consumption rate (kg $y^{-1}$) | Mean consumption rate for the high-rate group (kg $y^{-1}$) | Number in high-rate group | Maximum consumption rate (kg $y^{-1}$) | Mean consumption rate for the high-rate group (kg $y^{-1}$) |
| Fish | 20 | 20.4 | 10.4 | 4 | 40.7 | 29.2 |
| Crustaceans | 3 | 10.0 | 7.2 | 5 | 5.2 | 4.0 |
| Molluscs | 1 | 0.8 | 0.8 | Not identified | Not identified | Not identified |
| Wildfowl | 10 | 19.5 | 14.2 | 7 | 49.7 | 43.7 |
| Marine plants/algae | 3 | 0.2 | 0.1 | 2 | 1.2 | 1.2 |
| Salt marsh grazed cattle meat | Not identified | Not identified | Not identified | 4 | 8.7 | 8.7 |
| Salt marsh grazed sheep meat | Not identified | Not identified | Not identified | 5 | 8.6 | 8.6 |

The decrease in the number of commercial fishermen operating in the survey area had an impact on the consumption of fish and crustaceans in 2022. Although there were less people consuming fish in 2022, there was a significant increase in the maximum and mean

consumption rates of fish compared with 2012. This was attributed to fishermen consuming larger quantities of fish in 2022 than in 2012. The consumption of crustaceans (brown shrimp) decreased significantly in 2022 because one high-rate consumer from 2012 was no longer consuming brown shrimp in 2022.

There was a significant increase in the consumption of wildfowl in 2022 compared with 2012. This was due to a wildfowling family identified in 2022, who consumed wildfowl as their main source of protein throughout the year. The consumption of samphire increased in 2022.

For intertidal occupancy in 2012, occupancy over intertidal substrates for adults was recorded over grass; mud; mud and stones; salt marsh; sand; and boat over mud. In 2022, activities were recorded over mud; mud and sand; mud, sand and stones; salt marsh; and stones.

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

- In 2012: angling, wildfowling, tractor fishing, walking, mud dipping, boat maintenance, collecting mussels, collecting cockles, collecting samphire, dog walking, tending livestock, fixing moorings, and boat dwelling.
- In 2022: angling, wildfowling, litter collecting, dog walking, walking, and conservation activities.

A comparison between the 2012 and 2022 data for adult occupancy over intertidal substrates and handling pathways is shown in Table 14.

**Table 14. Comparison between 2012 and 2022 intertidal occupancy rates and handling rates of fishing gear and sediment for adults**

| | 2012 | | | 2022 | | |
|---|---|---|---|---|---|---|
| Intertidal substrate or handling pathway | Number in high-rate group | Maximum occupancy or handling rate (h $y^{-1}$) | Mean occupancy or handling rate for the high-rate group (h $y^{-1}$) | Number in high-rate group | Maximum occupancy or handling rate (h $y^{-1}$) | Mean occupancy or handling rate for the high-rate group (h $y^{-1}$) |
| Mud | 54 | 252 | 140 | 3 | 415 | 415 |
| Mud and sand | Not identified | Not identified | Not identified | 4 | 78 | 72 |
| Mud and stones | 3 | 435 | 403 | Not identified | Not identified | Not identified |
| Mud, sand and stones | Not identified | Not identified | Not identified | 3 | 730 | 730 |
| Salt marsh | 2 | 1092 | 896 | 3 | 442 | 331 |
| Sand | 4 | 270 | 189 | Not identified | Not identified | Not identified |
| Stones | Not identified | Not identified | Not identified | 1 | 469 | 469 |
| Grass | 1 | 107 | 107 | Not identified | Not identified | Not identified |
| Boat on mud | 3 | 7596 | 5892 | Not identified | Not identified | Not identified |
| Handling fishing gear | 9 | 500 | 338 | 1 | 549 | 549 |
| Handling sediment | 32 | 349 | 181 | 14 | 519 | 257 |

In 2022, compared to 2012, the mean intertidal rate for the adult high-rate group increased significantly over mud and decreased significantly over salt marsh. Occupancy over mud and sand; mud, sand and stones; and stones was identified in 2022, but not in 2012. Occupancy over mud and stones; sand; grass; and boat on mud was identified in 2012, but not in 2022.

The increase in occupancy over mud in 2022 was due to the identification of high-rate wildfowlers, and there were less people in the high-rate group than in 2012. The decrease in occupancy over salt marsh was attributed to a high-rate person in 2012 who was no longer spending time on salt marsh in 2022. The substrates had changed along the shore in the Lytham area from mud and sand in 2012 to mud, sand and stones in 2022. The activities undertaken over sand in 2012 were dog walking at Granny's Bay, and collecting cockles and tractor fishing in the Ribble Estuary. In 2022, dog walking in Granny's Bay was taking place over mud, sand and stones rather than sand, and cockle and tractor

fishing were undertaken outside the survey area. In 2012 there were people living on houseboats, but in 2022 this was no longer taking place.

The mean rates for the adult high-rate groups for handling fishing gear and sediment increased in 2022 compared to 2012. Although there were significantly less people in the high-rate group for both handling pathways, the fisherman and wildfowlers had increased occupancy.

For activities undertaken in the water in the aquatic survey area, the maximum adult occupancy rate decreased significantly from 2200 h $y^{-1}$ in 2012, for an individual living on a boat, to 1100 h $y^{-1}$, for a commercial fisherman undertaking netting. Activities undertaken in water were not identified in both 2012 and 2022.

## 10.2. Terrestrial survey area

Activities in the terrestrial survey area in 2022 were broadly similar to those in 2012. The principal types of farm produce within the area continued to be cows' milk, beef, pork 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 2012 and 2022 surveys are shown in Table 15.

**Table 15. Comparison between 2012 and 2022 mean consumption rates (kg $y^{-1}$or l $y^{-1}$) for the adult high-rate groups for terrestrial food groups**

| Food group | 2012 | 2022 |
|---|---|---|
| Green vegetables | 17.1 | 24.3 |
| Other vegetables | 20.9 | 49.3 |
| Root vegetables | 24.3 | 31.7 |
| Potato | 31.1 | 69.1 |
| Domestic fruit | 30.5 | 22.0 |
| Milk | 276.5 | 259.2 |
| Cattle meat | 27.1 | 25.4 |
| Pig meat | 10.7 | 12.4 |
| Sheep meat | 24.3 | 12.0 |
| Poultry | 9.5 | 4.8 |
| Eggs | 19.0 | 21.1 |
| Wild/free foods | 5.0 | 4.2 |
| Honey | 2.4 | 9.1 |
| Wild fungi | 1.5 | 0.8 |

In 2022, compared to 2012, the mean consumption rates for the adult high-rate group increased in the following food groups: green vegetables; other vegetable; root vegetables;

potato; pig meat; eggs; honey. In 2022 the mean consumption rates for the adult high-rate groups decreased in the following food groups: domestic fruit; milk; cattle meat; sheep meat; poultry; wild/free foods; wild fungi. The most significant increases in the consumption rates were for other vegetables, potato, and honey, whilst the most significant decreases were for sheep meat and poultry.

The increased consumption of honey in 2022 was due to new beekeepers that were identified in the terrestrial survey area. The consumption of poultry decreased since a poultry farmer had diversified into other types of farming. No specific reasons were identified for the other changes in consumption rates.

In 2022 the human consumption of groundwater was identified but this was not identified in 2012. Livestock were identified drinking borehole water in both years.

## 10.3. Direct radiation survey area

Activities identified in the direct radiation survey area in 2012 and 2022 were similar and included people residing, working and undertaking recreational activities. There were a number of new housing developments in the area in 2022. A comparison between the 2012 and 2022 direct radiation occupancy rates for all age groups combined, by zone, is presented in Table 16.

**Table 16. Comparison between 2012 and 2022 direct radiation occupancy rates (h $y^{-1}$) for all age groups combined**

| | 2012 | 2022 |
|---|---|---|
| **0 - 0.25 km** | | |
| Highest indoor occupancy | 8063 | 8108 |
| Highest outdoor occupancy | 3360 | 3440 |
| Highest total occupancy | 8428 | 8369 |
| **>0.25 - 0.5 km** | | |
| Highest indoor occupancy | 7592 | 7635 |
| Highest outdoor occupancy | 2555 | 3861 |
| Highest total occupancy | 8322 | 8424 |
| **>0.5 - 1.0 km** | | |
| Highest indoor occupancy | 8187 | 8447 |
| Highest outdoor occupancy | 3942 | 2457 |
| Highest total occupancy | 8604 | 8630 |

The occupancy rates in the direct radiation survey area were very similar in 2012 and 2022. The main change in 2022 was an increase in the highest outdoor occupancy rate in the >0.25 – 0.5 km zone because of an individual who lived in the area and spent a significant amount of time working outdoors. There was also a decrease in the highest outdoor occupancy rate in the >0.5 – 1.0 km zone.

**Table 17. Comparison between 2012 and 2022 gamma dose rates (μGy $h^{-1}$)**

| Location | Indoor | | Outdoor | |
|---|---|---|---|---|
| | 2012 | 2022 | 2012 | 2022 |
| Residence 2 | 0.056 | Not Taken | 0.078 | 0.092 |
| Residence 3 | 0.094 | 0.081 | 0.076 | 0.087 |
| Residence 4 | 0.088 | 0.100 | 0.078 | Not Taken |
| Residence 6 | 0.089 | 0.097 | 0.078 | 0.081 |
| Residence 10 | 0.088 | 0.091 | 0.074 | 0.077 |
| Residence 14 | 0.070 | 0.078 | 0.061 | 0.076 |
| Residence 16 | 0.079 | 0.080 | 0.078 | 0.087 |
| Residence 17 | 0.093 | 0.100 | 0.073 | 0.081 |
| Residence 19 | Not Taken | 0.109 | 0.075 | 0.092 |

**Notes**
These measurements have not been adjusted for background dose rates.
The locations correspond to those in Table 76.

There was no consistent pattern in the difference in the gamma dose rates between 2012 and 2022. Six of the indoor readings were higher in 2022 than in 2012, and one was lower. For the outdoor readings, all were higher in 2022 than in 2012.

# 11. Main findings

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

- Discharges of liquid radioactive waste into the River Ribble
- 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 340 individuals are presented in this report. All consumption rates recorded are only for foods produced, collected or caught from within the aquatic and terrestrial survey areas as defined in Section 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:

- 29 kg $y^{-1}$ for fish
- 4.0 kg $y^{-1}$ for crustaceans
- 44 kg $y^{-1}$ for wildfowl
- 1.2 kg $y^{-1}$ for marine plants/algae
- 8.7 kg $y^{-1}$ for salt marsh grazed cattle meat
- 8.6 kg $y^{-1}$ for salt marsh grazed sheep meat

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

- For fish: Dover sole, bass, mackerel, plaice and thornback ray
- For crustaceans: brown shrimp
- For wildfowl: pink-footed goose, greylag goose, wigeon, Canada goose and teal
- For marine plants/algae: samphire
- For salt marsh grazed cattle meat: salt marsh grazed beef
- For salt marsh grazed sheep meat: salt marsh grazed lamb

Seaweed was not identified being used as a fertiliser on allotment plots and vegetable gardens for the production of fruit and vegetables in the survey area. The use of seaweed as an animal feed was not identified.

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

- 420 h $y^{-1}$ for mud
- 72 h $y^{-1}$ for mud and sand
- 730 h $y^{-1}$ for mud, sand and stones
- 330 h $y^{-1}$ for salt marsh
- 470 h $y^{-1}$ for stones

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

- 550 h $y^{-1}$ for handling fishing gear (nets)
- 260 h $y^{-1}$ for handling sediment

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

- 1100 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:

- 24 kg $y^{-1}$ for green vegetables
- 49 kg $y^{-1}$ for other vegetables
- 32 kg $y^{-1}$ for root vegetables
- 69 kg $y^{-1}$ for potato
- 22 kg $y^{-1}$ for domestic fruit
- 260 l $y^{-1}$ for milk
- 25 kg $y^{-1}$ for cattle meat
- 12 kg $y^{-1}$ for pig meat
- 12 kg $y^{-1}$ for sheep meat
- 4.8 kg $y^{-1}$ for poultry
- 21 kg $y^{-1}$ for eggs
- 4.2 kg $y^{-1}$ for wild/free foods
- 9.1 kg $y^{-1}$ for honey
- 0.8 kg $y^{-1}$ for wild fungi

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

The human consumption of borehole water was identified. Livestock were supplied with mains water and borehole 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**

- 8100 h $y^{-1}$ for the indoor occupancy rate
- 3400 h $y^{-1}$ for the outdoor occupancy rate
- 8400 h $y^{-1}$ for the total occupancy rate

**>0.25 - 0.5 km zone**

- 7600 h $y^{-1}$ for the indoor occupancy rate
- 3900 h $y^{-1}$ for the outdoor occupancy rate
- 8400 h $y^{-1}$ for the total occupancy rate

**>0.5 - 1.0 km zone**

- 8400 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

In all zones, the highest indoor, outdoor 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, 2022).

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 for Springfields

The 2021 monitoring programmes relevant to the Springfields area included the samples and measurements listed in Table 18 and Table 19. The location names, foods and substrate classifications are taken directly from RIFE 27 (EA, FSA, FSS, NRW, NIEA and SEPA, 2022). Some of the samples and measurements taken for the monitoring programmes may be from outside the survey areas used for the 2022 Springfields habits survey.

**Table 18. Aquatic food and environmental samples used in the RIFE 27 monitoring programme**

| Sample | Location |
|---|---|
| Flounder | Ribble Estuary |
| Sea Bass | Ribble Estuary |
| Shrimps | Ribble Estuary |
| Mussels | Ribble Estuary |
| Wildfowl | Ribble Estuary |
| Samphire | Marshside Sands |
| Sediment | River Ribble Outfall |
| Sediment | Lea Gate |
| Sediment | Lower Penwortham Park |
| Sediment | River Angler Location 1 |
| Sediment | Penwortham road bridge – west bank |
| Sediment | Lytham Yacht Club |
| Sediment | Becconsall |
| Sediment | Freckleton |
| Sediment | Hutton Marsh |
| Sediment | Longton Marsh |
| Grass (washed) | Hutton Marsh |
| Grass (unwashed) | Hutton Marsh |
| Soil | Hutton Marsh |

**Table 19. Terrestrial samples used in the RIFE 27 monitoring programme**

| Sample | Location |
|---|---|
| Milk | Not provided |
| Beetroot | Not provided |
| Sediment | Deepdale Brook |
| Silage | Not provided |
| Grass | Opposite site entrance |
| Grass | Opposite windmill |
| Grass | Deepdale Brook |
| Grass | N of Lea Town |
| Soil | Opposite site entrance |
| Soil | Opposite windmill |
| Soil | Deepdale Brook |
| Soil | N of Lea Town |
| Freshwater | Deepdale Brook |
| Freshwater | Ulnes Walton |

## 12.2. Information from the 2022 Springfields habits survey for use in the selection of samples and measurements for monitoring programmes

### Food Standards Agency monitoring

The following foods presented in Table 20 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 20. Foods considered for potentially selecting samples for the FSA monitoring programme**

| Food | Food Group |
|---|---|
| Dover sole | Fish |
| Brown shrimp | Crustacean |
| Samphire | Marine plants/algae |
| Salt marsh grazed beef | Salt marsh grazed cattle meat |
| Salt marsh grazed lamb | Salt marsh grazed sheep meat |
| Courgette | Green vegetables |
| Tomato | Other vegetables |
| Onion | Root vegetables |
| Potato | Potato |
| Apple | Domestic fruit |
| Cow's milk | Milk |
| Beef | Cattle meat |
| Pork | Pig meat |
| Lamb | Sheep meat |
| Turkey | Poultry |
| Chicken egg | Egg |
| Blackberry | Wild/free foods |
| Honey | Honey |
| Mushroom | Wild fungi |

### Environment Agency monitoring

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

# 13. Acknowledgements

Gratitude is expressed to representatives of Springfields Fuels Limited, local authorities and associations, and members of the public who offered helpful advice and information during the survey. This survey was undertaken on behalf of the Environment Agency, the Food Standards Agency and the Office for Nuclear Regulation. The project officers for these organisations provided considerable help during the planning of the survey and the drafting of the report.

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## Table 21. 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 Springfields 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) | 33600[a] | 148[b] | 0.44% | 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) | 1000 | 79[b] | 7.9% | Interviews were conducted with members of the public from 36 residences out of an estimated total of 470 permanent residences. |
| | Number of people working, visiting and undertaking recreational activities in the direct radiation survey area (See (C) Direct radiation pathways) | U | 33[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 | 80[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 | 340[b] | U | |

| Group | Criteria | Estimate of complete coverage | Number for whom positive data was obtained | Coverage for positive observations | Notes |
|---|---|---|---|---|---|
| (A) **Aquatic pathways** | | | | | |
| 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 | 55 | 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 | 2 | U | |
| Fish and shellfish consumers (from waters subject to liquid discharges) | Number of people consuming fish and/or crustaceans from the aquatic survey area | U | 16 | U | |
| Wildfowl consumers (from waters or intertidal areas subject to liquid discharges) | Number of people consuming wildfowl from the aquatic survey area | U | 12 | U | |
| (B) **Terrestrial pathways** | | | | | |
| Farmers | Number of farmers, smallholders and their family members consuming food from the terrestrial survey area | U | 99 | U | Interviews were conducted at 19 farms out of an estimated 24 farms in the terrestrial survey area. Two of the farms interviewed were not consuming any food from the terrestrial survey area. |

| Group | Criteria | Estimate of complete coverage | Number for whom positive data was obtained | Coverage for positive observations | Notes |
|---|---|---|---|---|---|
| (B) **Terrestrial pathways** | | | | | |
| Allotment holders and gardeners | Number of allotment holders, gardeners and their family members consuming food from the terrestrial survey area | U | 126 | U | |
| Honey consumers | Number of people consuming honey produced in the survey area | U | 9 | U | Four beekeepers were identified who kept hives in the survey area. |
| (C) **Direct radiation pathways** | | | | | |
| Residents | Number of residents in the survey area | 1000 | 79 | 7.9% | Interviews were conducted with members of the public from 36 residences out of an estimated total of 470 permanent residences. |
| Employees | Number of people working in the survey area | U | 33 | 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 |
|---|---|---|---|---|---|
| **Breakdown of age groups for people resident in the 5 km terrestrial survey area** | | | | | |
| Adult | 16-year-old and over | 28000[a] | 233 | 0.83% | |
| Child | 6-year-old to 15-year-old | 4200[a] | 27 | 0.64% | |
| Infant | 0 to 5-year-old | 2400[a] | 10 | 0.42% | |

**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 22. 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 fish due to their mobility and physiology.

**Table 23. Adults' consumption rates of fish from the Springfields aquatic survey area (kg $y^{-1}$)**

| Person ID number | Bass | Cod | Dover sole | Mackerel | Plaice | Thornback ray | Whiting | Total |
|---|---|---|---|---|---|---|---|---|
| **3619/1/1** | **8.1** | **-** | **8.1** | **8.1** | **8.1** | **8.1** | **-** | **40.7** |
| **3619/2/1** | **8.1** | **-** | **8.1** | **8.1** | **8.1** | **8.1** | **-** | **40.7** |
| **3547/1/1** | **7.7** | **-** | **10.1** | **-** | **-** | **-** | **-** | **17.8** |
| **3547/2/1** | **7.7** | **-** | **10.1** | **-** | **-** | **-** | **-** | **17.8** |
| 3644/1/1 | 3.9 | - | 1.9 | - | - | - | - | 5.9 |
| 3644/2/1 | 3.9 | - | 1.9 | - | - | - | - | 5.9 |
| 3545/1/1 | 1.6 | 2.2 | - | - | - | - | 0.8 | 4.6 |
| 3545/2/1 | 1.6 | 2.2 | - | - | - | - | 0.8 | 4.6 |
| 3620/1/1 | - | - | 1.1 | - | 1.1 | - | - | 2.3 |
| 3628/1/1 | - | - | 0.8 | - | - | 0.8 | - | 1.5 |
| 3551/1/1 | 0.4 | - | - | - | - | - | - | 0.4 |

**Notes**

Emboldened observations are the high-rate consumers

The mean consumption rate of fish for adults based on the 4 high-rate consumers is 29.2 kg $y^{-1}$

The observed 97.5$^{th}$ percentile rate based on 11 observations is 40.7 kg $y^{-1}$

**Table 24. Adults' consumption rates of crustaceans from the Springfields aquatic survey area (kg $y^{-1}$)**

| Person ID number | Brown shrimp |
|---|---|
| **3628/1/1** | **5.2** |
| **3628/2/1** | **4.2** |
| **3644/1/1** | **3.9** |
| **3644/2/1** | **3.9** |
| **3620/1/1** | **2.9** |
| 3551/1/1 | 1.0 |
| 3551/2/1 | 1.0 |
| 3551/3/1 | 1.0 |
| 3551/4/1 | 1.0 |
| 3551/5/1 | 1.0 |

**Notes**

Emboldened observations are the high-rate consumers

The mean consumption rate of crustaceans for adults based on the 5 high-rate consumers is 4.0 kg $y^{-1}$

The observed 97.5$^{th}$ percentile rate based on 10 observations is 5.0 kg $y^{-1}$

**Table 25. Adults' consumption rates of wildfowl from the Springfields aquatic survey area (kg $y^{-1}$)**

| Person ID number | Canada goose | Greylag goose | Mallard | Pink-footed goose | Pintail | Pigeon | Snipe | Teal | Wigeon | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| **3551/1/1** | **5.6** | **8.8** | **3.1** | **17.0** | **2.1** | **2.8** | **-** | **3.2** | **7.1** | **49.7** |
| **3551/2/1** | **5.6** | **8.8** | **3.1** | **17.0** | **2.1** | **2.8** | **-** | **3.2** | **7.1** | **49.7** |
| **3551/3/1** | **5.6** | **8.8** | **3.1** | **17.0** | **2.1** | **2.8** | **-** | **3.2** | **7.1** | **49.7** |
| **3551/4/1** | **5.6** | **8.8** | **3.1** | **17.0** | **2.1** | **2.8** | **-** | **3.2** | **7.1** | **49.7** |
| **3551/5/1** | **5.6** | **8.8** | **3.1** | **17.0** | **2.1** | **2.8** | **-** | **3.2** | **7.1** | **49.7** |
| **3628/2/1** | **-** | **-** | **-** | **-** | **-** | **-** | **10.2** | **8.2** | **11.9** | **30.3** |
| **3516/1/1** | **1.4** | **-** | **3.1** | **17.0** | **-** | **-** | **-** | **1.3** | **4.2** | **27.0** |
| 3534/1/1 | 1.1 | - | 0.4 | 5.1 | 0.3 | - | - | 0.2 | 1.0 | 8.1 |
| 3534/2/1 | 1.1 | - | 0.4 | 5.1 | 0.3 | - | - | 0.2 | 1.0 | 8.1 |
| 3534/3/1 | 1.1 | - | 0.4 | 5.1 | 0.3 | - | - | 0.2 | 1.0 | 8.1 |
| 3534/4/1 | 1.1 | - | 0.4 | 5.1 | 0.3 | - | - | 0.2 | 1.0 | 8.1 |
| 3534/5/1 | 1.1 | - | 0.4 | 5.1 | 0.3 | - | - | 0.2 | 1.0 | 8.1 |

**Notes**

Emboldened observations are the high-rate consumers

The mean consumption rate of wildfowl for adults based on the 7 high-rate consumers is 43.7 kg $y^{-1}$

The observed 97.5$^{th}$ percentile rate based on 12 observations is 49.7 kg $y^{-1}$

**Table 26. Adults' consumption rates of marine plants/algae from the Springfields aquatic survey area (kg $y^{-1}$)**

| Person ID number | Samphire |
|---|---|
| **3619/1/1** | **1.2** |
| **3619/2/1** | **1.2** |
| 3551/1/1 | 0.2 |
| 3551/2/1 | 0.2 |
| 3551/3/1 | 0.2 |
| 3551/4/1 | 0.2 |
| 3551/5/1 | 0.2 |

**Notes**

Emboldened observations are the high-rate consumers

The mean consumption rate of marine plants/algae for adults based on the 2 high-rate consumers is 1.2 kg $y^{-1}$

The observed 97.5$^{th}$ percentile rate based on 7 observations is 1.2 kg $y^{-1}$

**Table 27. Adults' consumption rates of salt marsh grazed cattle meat from the Springfields aquatic survey area (kg $y^{-1}$)**

| Person ID number | Salt marsh beef |
|---|---|
| **3573/1/1** | **8.7** |
| **3573/2/1** | **8.7** |
| **3573/3/1** | **8.7** |
| **3573/4/1** | **8.7** |

**Notes**

Emboldened observations are the high-rate consumers

The mean consumption rate of salt marsh grazed cattle meat for adults based on the 4 high-rate consumers is 8.7 kg $y^{-1}$

The observed 97.5$^{th}$ percentile rate based on 4 observations is 8.7 kg $y^{-1}$

**Table 28. Adults' consumption rates of salt marsh grazed sheep meat from the Springfields aquatic survey area (kg $y^{-1}$)**

| Person ID number | Salt marsh lamb |
|---|---|
| **3528/1/1** | **8.6** |
| **3528/2/1** | **8.6** |
| **3528/3/1** | **8.6** |
| **3528/4/1** | **8.6** |
| **3528/5/1** | **8.6** |
| 3622/1/1 | 2.0 |
| 3622/2/1 | 2.0 |
| 3622/2/2 | 2.0 |
| 3622/2/3 | 2.0 |
| 3622/2/4 | 2.0 |
| 3622/2/5 | 2.0 |
| 3622/2/6 | 2.0 |
| 3622/2/7 | 2.0 |
| 3622/2/8 | 2.0 |
| 3622/2/9 | 2.0 |

**Notes**

Emboldened observations are the high-rate consumers

The mean consumption rate of salt marsh grazed sheep meat for adults based on the 5 high-rate consumers is 8.6 kg $y^{-1}$

The observed 97.5$^{th}$ percentile rate based on 15 observations is 8.6 kg $y^{-1}$

**Table 29. Children's consumption rates of salt marsh grazed cattle meat from the Springfields aquatic survey area (kg $y^{-1}$)**

| Person ID number | Age | Salt marsh beef |
|---|---|---|
| **3573/5/1** | **11** | **8.7** |
| **3573/6/1** | **8** | **6.5** |

**Notes**

Emboldened observations are the high-rate consumers

The mean consumption rate of salt marsh grazed cattle meat for the child age group based on the 2 high-rate consumers is 7.6 kg $y^{-1}$

The observed 97.5$^{th}$ percentile rate based on 2 observations is 8.6 kg $y^{-1}$

**Table 30. Children's consumption rates of salt marsh grazed sheep meat from the Springfields aquatic survey area (kg $y^{-1}$)**

| Person ID number | Age | Salt marsh lamb |
|---|---|---|
| **3528/6/1** | **15** | **8.6** |
| **3528/7/1** | **13** | **8.6** |

**Notes**

Emboldened observations are the high-rate consumers

The mean consumption rate of salt marsh grazed sheep meat for the child age group based on the 2 high-rate consumers is 8.6 kg $y^{-1}$

The observed 97.5$^{th}$ percentile rate based on 2 observations is 8.6 kg $y^{-1}$

**Table 31. Adults' intertidal occupancy rates in the Springfields aquatic survey area (h $y^{-1}$)**

| Person ID number | Location | Activity | Mud | Mud and sand | Mud, sand and stones | Salt marsh | Stones |
|---|---|---|---|---|---|---|---|
| **3551/1/1** | **Lytham Marsh and Warton Marsh** | **Wildfowling** | **415** | - | - | - | - |
| | | | - | - | - | 104 | - |
| **3551/2/1** | **Lytham Marsh and Warton Marsh** | **Wildfowling** | **415** | - | - | - | - |
| | | | - | - | - | 104 | - |
| **3551/3/1** | **Lytham Marsh and Warton Marsh** | **Wildfowling** | **415** | - | - | - | - |
| | | | - | - | - | 104 | - |
| **3516/1/1** | Lytham Marsh and Warton Marsh | Wildfowling | 80 | - | - | - | - |
| | | | - | - | - | 40 | - |
| **3627/1/1** | Opposite Bull Nose | Dog walking | 78 | - | - | - | - |
| **3534/1/1** | **Lytham Marsh and Warton Marsh** | Wildfowling | 47 | - | - | - | - |
| | | **Wildfowling and conservation activities** | - | - | - | **442** | - |
| 3534/6/1 | Lytham Marsh and Warton Marsh | Wildfowling | 47 | - | - | - | - |
| | | | - | - | - | 138 | - |
| 3534/6/2 | Lytham Marsh and Warton Marsh | Wildfowling | 47 | - | - | - | - |
| | | | - | - | - | 138 | - |
| 3534/6/3 | Lytham Marsh and Warton Marsh | Wildfowling | 47 | - | - | - | - |
| | | | - | - | - | 138 | - |
| 3534/6/4 | Lytham Marsh and Warton Marsh | Wildfowling | 47 | - | - | - | - |
| | | | - | - | - | 138 | - |

| Person ID number | Location | Activity | Mud | Mud and sand | Mud, sand and stones | Salt marsh | Stones |
|---|---|---|---|---|---|---|---|
| 3534/6/5 | Lytham Marsh and Warton Marsh | Wildfowling | 47 | - | - | - | - |
| | | | - | - | - | 138 | - |
| 3534/6/6 | Lytham Marsh and Warton Marsh | Wildfowling | 47 | - | - | - | - |
| | | | - | - | - | 138 | - |
| 3534/6/7 | Lytham Marsh and Warton Marsh | Wildfowling | 47 | - | - | - | - |
| | | | - | - | - | 138 | - |
| 3534/6/8 | Lytham Marsh and Warton Marsh | Wildfowling | 47 | - | - | - | - |
| | | | - | - | - | 138 | - |
| 3534/6/9 | Lytham Marsh and Warton Marsh | Wildfowling | 47 | - | - | - | - |
| | | | - | - | - | 138 | - |
| 3534/6/10 | Lytham Marsh and Warton Marsh | Wildfowling | 47 | - | - | - | - |
| | | | - | - | - | 138 | - |
| 3628/1/1 | Lytham Marsh | Wildfowling | 32 | - | - | - | - |
| | | | - | - | - | 98 | - |
| 3628/2/1 | Lytham Marsh | Wildfowling | 20 | - | - | - | - |
| | | | - | - | - | 60 | - |
| 3534/5/1 | Lytham Marsh and Warton Marsh | Wildfowling | 4 | - | - | - | - |
| | | | - | - | - | 11 | - |
| **3537/1/1** | **Fairhaven** | **Dog walking** | - | **78** | - | - | - |
| | Granny's Bay and Lytham | | - | - | 156 | - | - |
| **3531/1/1** | **Granny's Bay** | **Dog walking** | - | **78** | - | - | - |
| | Lytham | | - | - | 78 | - | - |

| Person ID number | Location | Activity | Mud | Mud and sand | Mud, sand and stones | Salt marsh | Stones |
|---|---|---|---|---|---|---|---|
| **3531/2/1** | **Granny's Bay** | **Dog walking** | - | **78** | - | - | - |
| | Lytham | | - | - | 78 | - | - |
| **3537/2/1** | **Fairhaven** | **Dog walking** | - | **52** | - | - | - |
| | Granny's Bay and Lytham | | - | - | 104 | - | - |
| **3644/1/1** | **Granny's Bay, Seafield slipway and Lytham** | **Litter collecting** | - | - | **730** | - | - |
| | **Lytham** | **Walking** | - | - | | - | - |
| | Granny's Bay, Seafield slipway and Lytham | Litter collecting | - | - | - | 26 | - |
| **3644/2/1** | **Granny's Bay, Seafield slipway and Lytham** | **Litter collecting** | - | - | **730** | - | - |
| | **Lytham** | **Walking** | - | - | | - | - |
| | Granny's Bay, Seafield slipway and Lytham | Litter collecting | - | - | - | 26 | - |
| **3544/1/1** | **Granny's Bay and Lytham** | **Dog walking** | - | - | **730** | - | - |
| 3546/1/1 | Lytham | Dog walking | - | - | 209 | - | - |
| 3546/2/1 | Lytham | Dog walking | - | - | 209 | - | - |
| 3547/1/1 | Lytham | Dog walking | - | - | 182 | - | - |
| 3547/2/1 | Lytham | Dog walking | - | - | 182 | - | - |
| 3538/1/1 | Lytham | Dog walking | - | - | 156 | - | - |
| 3644/3/1 | Granny's Bay, Seafield slipway and Lytham | Litter collecting | - | - | 78 | - | - |
| | | | - | - | - | 26 | - |
| 3644/3/2 | Granny's Bay, Seafield slipway and Lytham | Litter collecting | - | - | 78 | - | - |
| | | | - | - | - | 26 | - |
| 3644/3/3 | Granny's Bay, Seafield slipway and Lytham | Litter collecting | - | - | 78 | - | - |
| | | | - | - | - | 26 | - |

| Person ID number | Location | Activity | Mud | Mud and sand | Mud, sand and stones | Salt marsh | Stones |
|---|---|---|---|---|---|---|---|
| 3644/3/4 | Granny's Bay, Seafield slipway and Lytham | Litter collecting | - | - | 78 | - | - |
| | | | - | - | - | 26 | - |
| 3644/3/5 | Granny's Bay, Seafield slipway and Lytham | Litter collecting | - | - | 78 | - | - |
| | | | - | - | - | 26 | - |
| 3644/4/1 | Granny's Bay, Seafield slipway and Lytham | Litter collecting | - | - | 78 | - | - |
| | | | - | - | - | 26 | - |
| 3644/4/2 | Granny's Bay, Seafield slipway and Lytham | Litter collecting | - | - | 78 | - | - |
| | | | - | - | - | 26 | - |
| 3644/4/3 | Granny's Bay, Seafield slipway and Lytham | Litter collecting | - | - | 78 | - | - |
| | | | - | - | - | 26 | - |
| 3644/4/4 | Granny's Bay, Seafield slipway and Lytham | Litter collecting | - | - | 78 | - | - |
| | | | - | - | - | 26 | - |
| 3644/4/5 | Granny's Bay, Seafield slipway and Lytham | Litter collecting | - | - | 78 | - | - |
| | | | - | - | - | 26 | - |
| 3615/2/1 | Banks Marsh | Warden duties | - | - | - | 382 | - |
| 3615/1/1 | Banks Marsh | Warden duties | - | - | - | 168 | - |
| 3573/1/1 | Clifton Marsh | Tending livestock | - | - | - | 107 | - |
| 3573/2/1 | Clifton Marsh | Tending livestock | - | - | - | 107 | - |
| 3622/1/1 | Hesketh Out Marsh | Tending livestock | - | - | - | 79 | - |
| 3615/3/1 | Banks Marsh | Surveying marshland | - | - | - | 24 | - |
| 3615/3/2 | Banks Marsh | Surveying marshland | - | - | - | 24 | - |

| Person ID number | Location | Activity | Mud | Mud and sand | Mud, sand and stones | Salt marsh | Stones |
|---|---|---|---|---|---|---|---|
| 3615/3/3 | Banks Marsh | Surveying marshland | - | - | - | 24 | - |
| 3615/3/4 | Banks Marsh | Surveying marshland | - | - | - | 24 | - |
| 3615/3/5 | Banks Marsh | Surveying marshland | - | - | - | 24 | - |
| 3619/1/1 | Seafield slipway | Collecting samphire | - | - | - | 4 | - |
| **3545/1/1** | **Seafield slipway** | **Angling** | - | - | - | - | **469** |

**Notes**

Emboldened observations are the high-rate individuals

The mean intertidal occupancy rate over mud for adults based on 3 high-rate observations is 415 h $y^{-1}$

The observed 97.5$^{th}$ percentile rate based on 19 observations is 415 h $y^{-1}$

The mean intertidal occupancy rate over mud and sand for adults based on 4 high-rate observations is 72 h $y^{-1}$

The observed 97.5$^{th}$ percentile rate based on 4 observations is 78 h $y^{-1}$

The mean intertidal occupancy rate over mud, sand and stones for adults based on 3 high-rate observations is 730 h $y^{-1}$

The observed 97.5$^{th}$ percentile rate based on 22 observations is 730 h $y^{-1}$

The mean intertidal occupancy rate over salt marsh for adults based on 3 high-rate observations is 331 h $y^{-1}$

The observed 97.5$^{th}$ percentile rate based on 41 observations is 382 h $y^{-1}$

The mean intertidal occupancy rate over stones for adults based on 1 high-rate observation is 469 h $y^{-1}$

The observed 97.5$^{th}$ percentile is not applicable for 1 observation

**Table 32. Children's intertidal occupancy rates in the Springfields aquatic survey area (h $y^{-1}$)**

| Person ID number | Age | Location | Activity | Mud |
|---|---|---|---|---|
| 3627/2/1 | 14 | Opposite Bull Nose | Dog walking | 78 |

**Notes**

The emboldened observation is the high-rate individual

The mean intertidal occupancy rate over mud for the child age group based on 1 high-rate observation is 78 h $y^{-1}$

The observed 97.5$^{th}$ percentile is not applicable for 1 observation

**Table 33. Gamma dose rate measurements over intertidal substrates in the Springfields aquatic survey area (µGy $h^{-1}$)**

| Location | National Grid Reference | Substrate | Gamma dose rate at 1 metre[a] |
|---|---|---|---|
| **North shore, west to east** | | | |
| Granny's Bay | SD 345 272 | Mud and sand | 0.066 |
| Granny's Bay | SD 345 272 | Salt marsh | 0.072 |
| Seafield slipway | SD 357 268 | Stones | 0.097 |
| Seafield slipway | SD 357 268 | Mud | 0.078 |
| Lytham Jetty | SD 367 268 | Salt marsh | 0.077 |
| Lytham Queen Street | SD 364 269 | Mud | 0.090 |
| Savick Brook | SD 478 296 | Grass | 0.084 |
| West Of Bull Nose | SD 504 293 | Mud | 0.086 |
| West Of Bull Nose | SD 504 293 | Salt marsh | 0.088 |
| **South shore, west to east** | | | |
| Marshside Sands | SD 340 207 | Salt marsh | 0.071 |
| Banks Marsh | SD 390 228 | Salt marsh | 0.092 |
| Longton Marsh | SD 455 253 | Salt marsh | 0.093 |
| Ribble South Shore, opposite Bull Nose | SD 494 289 | Salt marsh | 0.080 |

**Notes**

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

**Table 34. Adults' handling rates of fishing gear and sediment in the Springfields aquatic survey area (h $y^{-1}$)**

| Person ID number | Location | Activity | Fishing gear | Sediment |
|---|---|---|---|---|
| **3619/1/1** | **Ribble Estuary** | **Netting** | **549** | **-** |
| 3620/1/1 | Ribble Estuary | Trawling | 182 | - |
| **3551/1/1** | **Lytham Marsh and Warton Marsh** | **Wildfowling** | **-** | **519** |
| **3551/2/1** | **Lytham Marsh and Warton Marsh** | **Wildfowling** | **-** | **519** |
| **3551/3/1** | **Lytham Marsh and Warton Marsh** | **Wildfowling** | **-** | **519** |
| **3534/1/1** | **Lytham Marsh and Warton Marsh** | **Wildfowling** | **-** | **185** |
| **3534/6/1** | **Lytham Marsh and Warton Marsh** | **Wildfowling** | **-** | **185** |
| **3534/6/2** | **Lytham Marsh and Warton Marsh** | **Wildfowling** | **-** | **185** |
| **3534/6/3** | **Lytham Marsh and Warton Marsh** | **Wildfowling** | **-** | **185** |
| **3534/6/4** | **Lytham Marsh and Warton Marsh** | **Wildfowling** | **-** | **185** |
| **3534/6/5** | **Lytham Marsh and Warton Marsh** | **Wildfowling** | **-** | **185** |
| **3534/6/6** | **Lytham Marsh and Warton Marsh** | **Wildfowling** | **-** | **185** |
| **3534/6/7** | **Lytham Marsh and Warton Marsh** | **Wildfowling** | **-** | **185** |
| **3534/6/8** | **Lytham Marsh and Warton Marsh** | **Wildfowling** | **-** | **185** |
| **3534/6/9** | **Lytham Marsh and Warton Marsh** | **Wildfowling** | **-** | **185** |
| **3534/6/10** | **Lytham Marsh and Warton Marsh** | **Wildfowling** | **-** | **185** |
| 3628/1/1 | Lytham Marsh | Wildfowling | - | 130 |
| 3516/1/1 | Lytham Marsh and Warton Marsh | Wildfowling | - | 120 |
| 3628/2/1 | Lytham Marsh | Wildfowling | - | 80 |
| 3534/5/1 | Lytham Marsh and Warton Marsh | Wildfowling | - | 15 |

**Notes**

Emboldened observations are the high-rate individuals

The mean handling rate of fishing gear for adults based on 1 high-rate observations is 549 h $y^{-1}$

The observed 97.5$^{th}$ percentile rate based on 2 observations is 540 h $y^{-1}$

The mean handling rate of sediments for adults based on 14 high-rate observations is 257 h $y^{-1}$

The observed 97.5$^{th}$ percentile rate based on 18 observations is 519 h $y^{-1}$

**Table 35. Adults' occupancy rates on water in the Springfields aquatic survey area (h $y^{-1}$)**

| Person ID number | Location | Activity | On water |
|---|---|---|---|
| 3619/1/1 | Ribble Estuary | Netting | 1098 |
| 3620/1/1 | Ribble Estuary | Trawling | 818 |

**Table 36. Adults' consumption rates of green vegetables from the Springfields terrestrial survey area (kg $y^{-1}$)**

| Person ID number | Artichoke | Asparagus | Broccoli | Brussel sprout | Cabbage | Calabrese | Cauliflower | Chard | Courgette | Cucumber | Gherkin | Kale | Lettuce | Marrow | Rocket | Spinach | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3597/1/1 | - | 1.4 | 1.3 | 0.8 | 5.2 | - | - | 4.0 | 9.2 | 7.5 | - | 1.1 | 6.8 | - | - | 0.1 | 37.4 |
| 3597/2/1 | - | 1.4 | 1.3 | 0.8 | 5.2 | - | - | 4.0 | 9.2 | 7.5 | - | 1.1 | 6.8 | - | - | 0.1 | 37.4 |
| 3635/1/1 | - | - | 3.4 | 3.2 | 11.1 | - | - | - | 1.5 | 6.8 | - | 5.9 | 2.0 | - | - | - | 33.9 |
| 3635/2/1 | - | - | 3.4 | 3.2 | 11.1 | - | - | - | 1.5 | 6.8 | - | 5.9 | 2.0 | - | - | - | 33.9 |
| 3641/1/1 | - | - | - | - | 2.4 | 3.9 | - | - | 2.1 | - | - | 22.5 | - | - | - | 2.4 | 33.3 |
| 3641/2/1 | - | - | - | - | 2.4 | 3.9 | - | - | 2.1 | - | - | 22.5 | - | - | - | 2.4 | 33.3 |
| 3637/1/1 | - | - | 7.1 | - | 4.0 | - | 3.2 | - | 8.0 | 2.4 | - | 4.3 | 1.1 | - | - | 1.0 | 31.2 |
| 3637/2/1 | - | - | 7.1 | - | 4.0 | - | 3.2 | - | 8.0 | 2.4 | - | 4.3 | 1.1 | - | - | 1.0 | 31.2 |
| 3633/1/1 | - | 2.8 | 4.1 | 4.4 | 6.1 | - | - | - | 1.5 | 10.2 | - | - | - | - | - | 1.8 | 30.8 |
| 3633/2/1 | - | 2.8 | 4.1 | 4.4 | 6.1 | - | - | - | 1.5 | 10.2 | - | - | - | - | - | 1.8 | 30.8 |
| 3588/1/1 | - | - | 4.3 | - | 5.7 | - | - | - | 13.2 | - | - | 4.9 | - | - | - | - | 28.2 |
| 3588/2/1 | - | - | 4.3 | - | 5.7 | - | - | - | 13.2 | - | - | 4.9 | - | - | - | - | 28.2 |
| 3579/1/1 | - | - | 1.5 | 2.0 | 1.7 | - | 1.5 | - | 1.8 | 19.1 | - | - | - | - | - | - | 27.8 |
| 3579/2/1 | - | - | 1.5 | 2.0 | 1.7 | - | 1.5 | - | 1.8 | 19.1 | - | - | - | - | - | - | 27.8 |
| 3543/1/1 | - | - | - | 1.7 | - | - | - | - | 10.5 | 8.6 | - | - | 1.2 | - | - | - | 22.0 |
| 3543/2/1 | - | - | - | 1.7 | - | - | - | - | 10.5 | 8.6 | - | - | 1.2 | - | - | - | 22.0 |
| 3613/1/1 | - | - | 17.0 | - | 1.1 | - | - | - | 1.1 | - | - | - | 0.8 | - | 0.8 | - | 20.8 |
| 3613/2/1 | - | - | 17.0 | - | 1.1 | - | - | - | 1.1 | - | - | - | 0.8 | - | 0.8 | - | 20.8 |
| 3589/1/1 | 4.3 | - | 1.6 | - | 2.0 | - | - | 1.3 | 5.9 | - | - | 2.5 | 1.6 | - | - | - | 19.3 |
| 3589/2/1 | 4.3 | - | 1.6 | - | 2.0 | - | - | 1.3 | 5.9 | - | - | 2.5 | 1.6 | - | - | - | 19.3 |
| 3593/1/1 | - | - | - | 5.5 | 10.2 | - | 3.4 | - | - | - | - | - | - | - | - | - | 19.1 |

| Person ID number | Artichoke | Asparagus | Broccoli | Brussel sprout | Cabbage | Calabrese | Cauliflower | Chard | Courgette | Cucumber | Gherkin | Kale | Lettuce | Marrow | Rocket | Spinach | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **3593/2/1** | **-** | **-** | **-** | **5.5** | **10.2** | **-** | **3.4** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **19.1** |
| **3564/1/1** | **-** | **0.1** | **2.0** | **-** | **5.1** | **-** | **4.1** | **2.9** | **-** | **-** | **-** | **3.8** | **0.6** | **-** | **-** | **-** | **18.6** |
| **3564/2/1** | **-** | **0.1** | **2.0** | **-** | **5.1** | **-** | **4.1** | **2.9** | **-** | **-** | **-** | **3.8** | **0.6** | **-** | **-** | **-** | **18.6** |
| **3552/1/1** | **-** | **1.6** | **-** | **4.6** | **9.0** | **-** | **-** | **-** | **-** | **-** | **0.9** | **-** | **1.0** | **-** | **-** | **-** | **17.1** |
| **3568/1/1** | **-** | **-** | **-** | **-** | **3.8** | **-** | **1.6** | **-** | **3.3** | **-** | **-** | **8.2** | **-** | **-** | **-** | **-** | **17.0** |
| **3568/2/1** | **-** | **-** | **-** | **-** | **3.8** | **-** | **1.6** | **-** | **3.3** | **-** | **-** | **8.2** | **-** | **-** | **-** | **-** | **17.0** |
| **3632/1/1** | **-** | **-** | **-** | **0.9** | **1.3** | **-** | **-** | **-** | **9.0** | **3.4** | **-** | **-** | **-** | **-** | **-** | **-** | **14.6** |
| **3632/2/1** | **-** | **-** | **-** | **0.9** | **1.3** | **-** | **-** | **-** | **9.0** | **3.4** | **-** | **-** | **-** | **-** | **-** | **-** | **14.6** |
| **3590/1/1** | **-** | **-** | **1.4** | **2.2** | **-** | **-** | **4.9** | **-** | **5.9** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **14.3** |
| **3590/2/1** | **-** | **-** | **1.4** | **2.2** | **-** | **-** | **4.9** | **-** | **5.9** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **14.3** |
| 3564/3/1 | - | 0.1 | 1.4 | - | 3.4 | - | 2.7 | 1.9 | - | - | - | 2.5 | 0.4 | - | - | - | 12.4 |
| 3564/4/1 | - | 0.1 | 1.4 | - | 3.4 | - | 2.7 | 1.9 | - | - | - | 2.5 | 0.4 | - | - | - | 12.4 |
| 3639/1/1 | - | 2.0 | - | - | - | - | - | - | 3.0 | 3.4 | - | - | - | 3.0 | - | - | 11.4 |
| 3596/1/1 | - | - | - | - | - | - | - | - | 11.0 | - | - | - | - | - | - | - | 11.0 |
| 3596/2/1 | - | - | - | - | - | - | - | - | 11.0 | - | - | - | - | - | - | - | 11.0 |
| 3523/1/1 | - | - | - | 0.9 | - | - | - | - | - | 8.5 | - | - | 0.4 | - | - | - | 9.8 |
| 3557/1/1 | - | - | - | - | - | - | - | - | - | 8.5 | - | - | - | - | - | - | 8.5 |
| 3557/2/1 | - | - | - | - | - | - | - | - | - | 8.5 | - | - | - | - | - | - | 8.5 |
| 3557/3/1 | - | - | - | - | - | - | - | - | - | 8.5 | - | - | - | - | - | - | 8.5 |
| 3562/1/1 | - | - | 0.9 | 2.0 | 3.7 | - | - | - | - | - | - | - | 1.4 | - | - | - | 7.9 |
| 3562/2/1 | - | - | 0.9 | 2.0 | 3.7 | - | - | - | - | - | - | - | 1.4 | - | - | - | 7.9 |
| 3633/3/1 | - | 0.7 | 1.0 | 1.1 | 1.5 | - | - | - | 0.4 | 2.6 | - | - | - | - | - | 0.4 | 7.7 |
| 3562/3/1 | - | - | 0.9 | 1.9 | 3.5 | - | - | - | - | - | - | - | 1.3 | - | - | - | 7.6 |

| Person ID number | Artichoke | Asparagus | Broccoli | Brussel sprout | Cabbage | Calabrese | Cauliflower | Chard | Courgette | Cucumber | Gherkin | Kale | Lettuce | Marrow | Rocket | Spinach | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3640/1/1 | - | 1.7 | 1.4 | - | 0.7 | - | 1.4 | - | 1.7 | - | - | 0.7 | - | - | - | - | 7.6 |
| 3640/2/1 | - | 1.7 | 1.4 | - | 0.7 | - | 1.4 | - | 1.7 | - | - | 0.7 | - | - | - | - | 7.6 |
| 3636/1/1 | - | - | - | - | 2.0 | - | - | - | 2.5 | - | - | 2.4 | - | - | - | - | 7.0 |
| 3636/2/1 | - | - | - | - | 2.0 | - | - | - | 2.5 | - | - | 2.4 | - | - | - | - | 7.0 |
| 3603/1/1 | - | - | - | - | - | - | - | - | 4.1 | - | - | - | 2.0 | - | - | - | 6.2 |
| 3603/2/1 | - | - | - | - | - | - | - | - | 4.1 | - | - | - | 2.0 | - | - | - | 6.2 |
| 3640/3/1 | - | 1.1 | 0.9 | - | 0.8 | - | 1.4 | - | 1.1 | - | - | 0.8 | - | - | - | - | 6.1 |
| 3638/1/1 | - | - | - | - | - | - | - | - | 1.4 | 4.0 | - | - | - | - | - | - | 5.5 |
| 3638/2/1 | - | - | - | - | - | - | - | - | 1.4 | 4.0 | - | - | - | - | - | - | 5.5 |
| 3578/1/1 | - | - | - | - | 3.0 | - | 2.4 | - | - | - | - | - | - | - | - | - | 5.4 |
| 3578/2/1 | - | - | - | - | 3.0 | - | 2.4 | - | - | - | - | - | - | - | - | - | 5.4 |
| 3552/2/1 | - | 0.5 | - | 1.3 | 2.8 | - | - | - | - | - | 0.3 | - | 0.3 | - | - | - | 5.3 |
| 3552/3/1 | - | 0.5 | - | 1.3 | 2.8 | - | - | - | - | - | 0.3 | - | 0.3 | - | - | - | 5.3 |
| 3552/6/1 | - | 0.5 | - | 1.3 | 2.8 | - | - | - | - | - | 0.3 | - | 0.3 | - | - | - | 5.3 |
| 3634/1/1 | - | - | - | - | - | - | - | - | 5.0 | - | - | - | - | - | - | - | 5.0 |
| 3634/2/1 | - | - | - | - | - | - | - | - | 5.0 | - | - | - | - | - | - | - | 5.0 |
| 3523/2/1 | - | - | - | 0.5 | - | - | - | - | - | 4.3 | - | - | 0.2 | - | - | - | 4.9 |
| 3523/3/1 | - | - | - | 0.5 | - | - | - | - | - | 4.3 | - | - | 0.2 | - | - | - | 4.9 |
| 3556/1/1 | - | - | - | - | - | - | - | 2.1 | - | - | - | - | 1.0 | - | - | - | 3.1 |
| 3562/4/1 | - | - | 0.3 | 0.7 | 1.4 | - | - | - | - | - | - | - | 0.5 | - | - | - | 2.9 |
| 3562/5/1 | - | - | 0.3 | 0.7 | 1.4 | - | - | - | - | - | - | - | 0.5 | - | - | - | 2.9 |
| 3568/3/1 | - | - | - | - | 0.6 | - | 0.3 | - | 0.6 | - | - | 1.4 | - | - | - | - | 2.8 |
| 3568/4/1 | - | - | - | - | 0.6 | - | 0.3 | - | 0.6 | - | - | 1.4 | - | - | - | - | 2.8 |

| Person ID number | Artichoke | Asparagus | Broccoli | Brussel sprout | Cabbage | Calabrese | Cauliflower | Chard | Courgette | Cucumber | Gherkin | Kale | Lettuce | Marrow | Rocket | Spinach | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3568/5/1 | - | - | - | - | 0.6 | - | 0.3 | - | 0.6 | - | - | 1.4 | - | - | - | - | 2.8 |
| 3559/1/1 | - | - | - | - | - | - | - | - | - | - | - | - | 2.4 | - | - | - | 2.4 |
| 3586/1/1 | - | - | - | - | - | - | - | - | 0.3 | 1.5 | - | - | 0.3 | - | - | - | 2.1 |
| 3586/2/1 | - | - | - | - | - | - | - | - | 0.3 | 1.5 | - | - | 0.3 | - | - | - | 2.1 |
| 3586/3/1 | - | - | - | - | - | - | - | - | 0.3 | 1.5 | - | - | 0.3 | - | - | - | 2.1 |
| 3586/4/1 | - | - | - | - | - | - | - | - | 0.3 | 1.5 | - | - | 0.3 | - | - | - | 2.1 |
| 3590/3/1 | - | - | 0.1 | 0.2 | - | - | 0.3 | - | 0.4 | - | - | - | - | - | - | - | 1.0 |
| 3590/4/1 | - | - | 0.1 | 0.2 | - | - | 0.3 | - | 0.4 | - | - | - | - | - | - | - | 1.0 |
| 3590/5/1 | - | - | 0.1 | 0.2 | - | - | 0.3 | - | 0.4 | - | - | - | - | - | - | - | 1.0 |
| 3590/6/1 | - | - | 0.1 | 0.2 | - | - | 0.3 | - | 0.4 | - | - | - | - | - | - | - | 1.0 |
| 3601/1/1 | - | - | - | - | - | - | - | - | - | 1.0 | - | - | - | - | - | - | 1.0 |
| 3601/2/1 | - | - | - | - | - | - | - | - | - | 1.0 | - | - | - | - | - | - | 1.0 |
| 3604/1/1 | - | - | - | - | - | - | - | - | - | 0.7 | - | - | - | - | - | - | 0.7 |
| 3604/2/1 | - | - | - | - | - | - | - | - | - | 0.7 | - | - | - | - | - | - | 0.7 |
| 3519/1/1 | - | - | - | - | - | - | - | - | - | - | - | - | 0.2 | - | - | - | 0.2 |
| 3519/2/1 | - | - | - | - | - | - | - | - | - | - | - | - | 0.2 | - | - | - | 0.2 |
| 3519/3/1 | - | - | - | - | - | - | - | - | - | - | - | - | 0.2 | - | - | - | 0.2 |
| 3519/4/1 | - | - | - | - | - | - | - | - | - | - | - | - | 0.2 | - | - | - | 0.2 |
| 3519/5/1 | - | - | - | - | - | - | - | - | - | - | - | - | 0.2 | - | - | - | 0.2 |

**Notes**

Emboldened observations are the high-rate consumers

The mean consumption rate of green vegetables for adults based on the 31 high-rate consumers is 24.3 kg $y^{-1}$

The observed 97.5$^{th}$ percentile rate based on 86 observations is 33.9 kg $y^{-1}$

**Table 37. Adults' consumption rates of other vegetables from the Springfields terrestrial survey area (kg $y^{-1}$)**

| Person ID number | Aubergine | Broad bean | Butter bean | Chilli pepper | French bean | Mangetout | Pea | Pepper | Pumpkin | Runner bean | Squash | Sweetcorn | Tomato | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3640/1/1 | - | 1.7 | - | - | 2.9 | - | 0.9 | 3.4 | - | - | - | 2.6 | 79.2 | 90.7 |
| 3640/2/1 | - | 1.7 | - | - | 2.9 | - | 0.9 | 3.4 | - | - | - | 2.6 | 79.2 | 90.7 |
| 3640/3/1 | - | 1.1 | - | - | 1.9 | - | 0.9 | 2.3 | - | - | - | 1.6 | 60.3 | 68.2 |
| 3638/1/1 | - | 1.4 | - | - | - | - | 0.5 | - | 4.3 | 0.7 | 1.3 | - | 54.7 | 62.9 |
| 3638/2/1 | - | 1.4 | - | - | - | - | 0.5 | - | 4.3 | 0.7 | 1.3 | - | 54.7 | 62.9 |
| 3632/1/1 | 3.5 | 2.2 | 1.4 | - | - | - | 0.5 | 6.9 | - | 2.6 | 2.7 | 1.5 | 39.6 | 60.8 |
| 3632/2/1 | 3.5 | 2.2 | 1.4 | - | - | - | 0.5 | 6.9 | - | 2.6 | 2.7 | 1.5 | 39.6 | 60.8 |
| 3597/1/1 | 1.5 | 14.2 | - | - | 4.0 | - | 5.0 | 3.3 | - | - | 10.7 | 2.2 | 11.9 | 52.8 |
| 3597/2/1 | 1.5 | 14.2 | - | - | 4.0 | - | 5.0 | 3.3 | - | - | 10.7 | 2.2 | 11.9 | 52.8 |
| 3639/1/1 | 7.0 | 2.0 | - | - | - | - | 2.0 | 3.0 | - | - | - | 2.8 | 28.8 | 45.6 |
| 3557/1/1 | - | - | - | 0.6 | 19.0 | - | 0.6 | 3.7 | 7.6 | - | 9.8 | 1.5 | - | 42.8 |
| 3557/2/1 | - | - | - | 0.6 | 19.0 | - | 0.6 | 3.7 | 7.6 | - | 9.8 | 1.5 | - | 42.8 |
| 3557/3/1 | - | - | - | 0.6 | 19.0 | - | 0.6 | 3.7 | 7.6 | - | 9.8 | 1.5 | - | 42.8 |
| 3588/1/1 | 2.8 | - | - | - | 4.8 | - | 8.0 | - | - | 3.4 | 4.9 | 2.5 | 14.6 | 40.9 |
| 3588/2/1 | 2.8 | - | - | - | 4.8 | - | 8.0 | - | - | 3.4 | 4.9 | 2.5 | 14.6 | 40.9 |
| 3603/1/1 | - | - | - | - | - | - | 4.6 | - | - | - | - | - | 32.4 | 37.0 |
| 3603/2/1 | - | - | - | - | - | - | 4.6 | - | - | - | - | - | 32.4 | 37.0 |
| 3590/1/1 | 0.3 | - | - | 0.2 | - | 0.1 | 0.2 | - | 9.6 | - | - | 1.7 | 24.0 | 36.0 |
| 3590/2/1 | 0.3 | - | - | 0.2 | - | 0.1 | 0.2 | - | 9.6 | - | - | 1.7 | 24.0 | 36.0 |
| 3641/1/1 | - | 4.3 | - | - | - | - | - | - | - | - | - | 3.1 | 25.6 | 33.0 |
| 3641/2/1 | - | 4.3 | - | - | - | - | - | - | - | - | - | 3.1 | 25.6 | 33.0 |

| Person ID number | Aubergine | Broad bean | Butter bean | Chilli pepper | French bean | Mangetout | Pea | Pepper | Pumpkin | Runner bean | Squash | Sweetcorn | Tomato | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **3634/1/1** | **-** | **1.9** | **-** | **-** | **1.9** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **27.5** | **31.3** |
| **3634/2/1** | **-** | **1.9** | **-** | **-** | **1.9** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **27.5** | **31.3** |
| 3613/1/1 | - | 3.4 | - | - | 4.5 | - | 4.5 | - | - | - | - | - | 16.2 | 28.6 |
| 3613/2/1 | - | 3.4 | - | - | 4.5 | - | 4.5 | - | - | - | - | - | 16.2 | 28.6 |
| 3633/1/1 | 2.4 | 7.2 | - | 0.05 | 7.1 | - | 4.7 | 0.5 | - | - | 1.5 | 1.1 | - | 24.6 |
| 3633/2/1 | 2.4 | 7.2 | - | 0.05 | 7.1 | - | 4.7 | 0.5 | - | - | 1.5 | 1.1 | - | 24.6 |
| 3593/1/1 | - | 6.4 | 3.2 | - | - | - | 0.9 | - | - | 6.4 | - | 5.8 | - | 22.5 |
| 3593/2/1 | - | 6.4 | 3.2 | - | - | - | 0.9 | - | - | 6.4 | - | 5.8 | - | 22.5 |
| 3637/1/1 | 0.3 | 4.8 | - | - | 0.4 | - | 4.8 | - | - | 4.8 | 1.3 | 2.2 | 3.8 | 22.2 |
| 3637/2/1 | 0.3 | 4.8 | - | - | 0.4 | - | 4.8 | - | - | 4.8 | 1.3 | 2.2 | 3.8 | 22.2 |
| 3564/1/1 | - | - | - | 0.1 | - | - | - | - | 14.4 | - | - | - | 6.5 | 21.0 |
| 3564/2/1 | - | - | - | 0.1 | - | - | - | - | 14.4 | - | - | - | 6.5 | 21.0 |
| 3589/1/1 | - | - | - | - | 4.3 | - | - | - | - | 1.8 | 5.8 | 1.7 | 5.8 | 19.3 |
| 3589/2/1 | - | - | - | - | 4.3 | - | - | - | - | 1.8 | 5.8 | 1.7 | 5.8 | 19.3 |
| 3579/1/1 | - | 1.3 | - | 0.1 | 0.4 | - | 0.4 | 4.4 | - | - | - | 0.7 | 10.8 | 18.1 |
| 3579/2/1 | - | 1.3 | - | 0.1 | 0.4 | - | 0.4 | 4.4 | - | - | - | 0.7 | 10.8 | 18.1 |
| 3543/1/1 | - | - | - | - | - | - | - | - | 7.1 | - | - | - | 7.1 | 14.2 |
| 3543/2/1 | - | - | - | - | - | - | - | - | 7.1 | - | - | - | 7.1 | 14.2 |
| 3564/3/1 | - | - | - | 0.1 | - | - | - | - | 9.6 | - | - | - | 4.3 | 14.0 |
| 3564/4/1 | - | - | - | 0.1 | - | - | - | - | 9.6 | - | - | - | 4.3 | 14.0 |
| 3636/1/1 | - | 2.0 | - | - | 0.8 | - | 2.0 | - | - | 2.4 | 2.4 | 1.4 | 3.0 | 14.0 |
| 3636/2/1 | - | 2.0 | - | - | 0.8 | - | 2.0 | - | - | 2.4 | 2.4 | 1.4 | 3.0 | 14.0 |

| Person ID number | Aubergine | Broad bean | Butter bean | Chilli pepper | French bean | Mangetout | Pea | Pepper | Pumpkin | Runner bean | Squash | Sweetcorn | Tomato | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3523/1/1 | - | 1.1 | - | - | - | - | - | - | - | 2.0 | - | - | 10.8 | 14.0 |
| 3568/1/1 | - | - | - | - | - | - | 4.0 | - | - | 3.1 | - | 1.4 | 4.9 | 13.3 |
| 3568/2/1 | - | - | - | - | - | - | 4.0 | - | - | 3.1 | - | 1.4 | 4.9 | 13.3 |
| 3635/1/1 | - | - | - | 0.7 | - | - | - | 0.3 | - | 2.6 | 7.3 | 1.8 | 0.5 | 13.2 |
| 3635/2/1 | - | - | - | 0.7 | - | - | - | 0.3 | - | 2.6 | 7.3 | 1.8 | 0.5 | 13.2 |
| 3577/1/1 | - | 7.6 | - | - | 3.4 | - | - | - | - | - | - | 2.1 | - | 13.0 |
| 3552/1/1 | 0.4 | - | - | 0.4 | - | - | - | 1.8 | - | - | - | - | 9.1 | 11.6 |
| 3523/2/1 | - | 0.6 | - | - | - | - | - | - | - | 1.0 | - | - | 5.4 | 7.0 |
| 3523/3/1 | - | 0.6 | - | - | - | - | - | - | - | 1.0 | - | - | 5.4 | 7.0 |
| 3633/3/1 | 0.6 | 1.8 | - | 0.01 | 1.8 | - | 1.2 | 0.1 | - | - | 0.4 | 0.3 | - | 6.1 |
| 3586/1/1 | - | - | - | - | 0.9 | - | - | - | - | 0.4 | - | 0.8 | 2.4 | 4.5 |
| 3586/2/1 | - | - | - | - | 0.9 | - | - | - | - | 0.4 | - | 0.8 | 2.4 | 4.5 |
| 3586/3/1 | - | - | - | - | 0.9 | - | - | - | - | 0.4 | - | 0.8 | 2.4 | 4.5 |
| 3586/4/1 | - | - | - | - | 0.9 | - | - | - | - | 0.4 | - | 0.8 | 2.4 | 4.5 |
| 3577/2/1 | - | 2.5 | - | - | 1.1 | - | - | - | - | - | - | 0.7 | - | 4.3 |
| 3577/3/1 | - | 2.5 | - | - | 1.1 | - | - | - | - | - | - | 0.7 | - | 4.3 |
| 3577/4/1 | - | 2.5 | - | - | 1.1 | - | - | - | - | - | - | 0.7 | - | 4.3 |
| 3552/2/1 | 0.1 | - | - | 0.1 | - | - | - | 0.6 | - | - | - | - | 2.9 | 3.7 |
| 3552/3/1 | 0.1 | - | - | 0.1 | - | - | - | 0.6 | - | - | - | - | 2.9 | 3.7 |
| 3552/6/1 | 0.1 | - | - | 0.1 | - | - | - | 0.6 | - | - | - | - | 2.9 | 3.7 |
| 3601/1/1 | - | - | - | - | - | - | - | - | - | - | - | - | 3.6 | 3.6 |
| 3601/2/1 | - | - | - | - | - | - | - | - | - | - | - | - | 3.6 | 3.6 |

| Person ID number | Aubergine | Broad bean | Butter bean | Chilli pepper | French bean | Mangetout | Pea | Pepper | Pumpkin | Runner bean | Squash | Sweetcorn | Tomato | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3607/1/1 | - | - | - | - | - | - | - | - | - | - | - | - | 3.0 | 3.0 |
| 3607/2/1 | - | - | - | - | - | - | - | - | - | - | - | - | 3.0 | 3.0 |
| 3607/3/1 | - | - | - | - | - | - | - | - | - | - | - | - | 3.0 | 3.0 |
| 3590/3/1 | - | - | - | - | - | 0.01 | 0.01 | - | 0.7 | - | - | 0.1 | 1.7 | 2.5 |
| 3590/4/1 | - | - | - | - | - | 0.01 | 0.01 | - | 0.7 | - | - | 0.1 | 1.7 | 2.5 |
| 3590/5/1 | - | - | - | - | - | 0.01 | 0.01 | - | 0.7 | - | - | 0.1 | 1.7 | 2.5 |
| 3590/6/1 | - | - | - | - | - | 0.01 | 0.01 | - | 0.7 | - | - | 0.1 | 1.7 | 2.5 |
| 3568/3/1 | - | - | - | - | - | - | 0.7 | - | - | 0.5 | - | 0.2 | 0.8 | 2.2 |
| 3568/4/1 | - | - | - | - | - | - | 0.7 | - | - | 0.5 | - | 0.2 | 0.8 | 2.2 |
| 3568/5/1 | - | - | - | - | - | - | 0.7 | - | - | 0.5 | - | 0.2 | 0.8 | 2.2 |
| 3562/1/1 | - | - | - | - | - | - | 0.2 | - | - | 1.7 | - | - | - | 1.8 |
| 3562/2/1 | - | - | - | - | - | - | 0.2 | - | - | 1.7 | - | - | - | 1.8 |
| 3562/3/1 | - | - | - | - | - | - | 0.2 | - | - | 1.6 | - | - | - | 1.8 |
| 3519/1/1 | - | - | - | - | - | - | - | - | - | - | - | - | 1.6 | 1.6 |
| 3519/2/1 | - | - | - | - | - | - | - | - | - | - | - | - | 1.6 | 1.6 |
| 3519/3/1 | - | - | - | - | - | - | - | - | - | - | - | - | 1.6 | 1.6 |
| 3519/4/1 | - | - | - | - | - | - | - | - | - | - | - | - | 1.6 | 1.6 |
| 3519/5/1 | - | - | - | - | - | - | - | - | - | - | - | - | 1.6 | 1.6 |
| 3604/1/1 | - | - | - | - | - | - | - | - | - | 1.0 | - | - | 0.5 | 1.5 |
| 3604/2/1 | - | - | - | - | - | - | - | - | - | 1.0 | - | - | 0.5 | 1.5 |
| 3560/1/1 | - | - | - | 0.1 | - | - | 0.1 | - | - | - | - | - | 1.3 | 1.4 |
| 3560/2/1 | - | - | - | 0.1 | - | - | 0.1 | - | - | - | - | - | 1.3 | 1.4 |

| Person ID number | Aubergine | Broad bean | Butter bean | Chilli pepper | French bean | Mangetout | Pea | Pepper | Pumpkin | Runner bean | Squash | Sweetcorn | Tomato | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3578/1/1 | - | - | - | - | - | - | - | - | - | - | - | - | 1.1 | 1.1 |
| 3578/2/1 | - | - | - | - | - | - | - | - | - | - | - | - | 1.1 | 1.1 |
| 3541/1/1 | - | - | - | - | - | - | 0.2 | - | - | 0.8 | - | - | - | 1.0 |
| 3541/2/1 | - | - | - | - | - | - | 0.2 | - | - | 0.8 | - | - | - | 1.0 |
| 3542/1/1 | - | - | - | - | - | - | 0.2 | - | - | 0.8 | - | - | - | 1.0 |
| 3542/2/1 | - | - | - | - | - | - | 0.2 | - | - | 0.8 | - | - | - | 1.0 |
| 3596/1/1 | - | 0.5 | - | - | - | - | 0.5 | - | - | - | - | - | - | 0.9 |
| 3596/2/1 | - | 0.5 | - | - | - | - | 0.5 | - | - | - | - | - | - | 0.9 |
| 3562/4/1 | - | - | - | - | - | - | 0.1 | - | - | 0.6 | - | - | - | 0.7 |
| 3562/5/1 | - | - | - | - | - | - | 0.1 | - | - | 0.6 | - | - | - | 0.7 |
| 3642/2/1 | - | - | - | 0.4 | - | - | - | - | - | - | - | - | - | 0.4 |
| 3575/1/1 | - | - | - | - | - | - | 0.3 | - | - | - | - | - | - | 0.3 |
| 3575/2/1 | - | - | - | - | - | - | 0.3 | - | - | - | - | - | - | 0.3 |

**Notes**

Emboldened observations are the high-rate consumers

The mean consumption rate of other vegetables for adults based on the 23 high-rate consumers is 49.3 kg $y^{-1}$

The observed 97.5$^{th}$ percentile rate based on 100 observations is 65.7 kg $y^{-1}$

**Table 38. Adults' consumption rates of root vegetables from the Springfields terrestrial survey area (kg $y^{-1}$)**

| Person ID number | Artichoke | Beetroot | Carrot | Celeriac | Celery | Fennel | Garlic | Kohl rabi | Leek | Onion | Parsnip | Radish | Shallot | Spring onion | Swede | Turnip | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3639/1/1 | - | - | 2.3 | - | 2.7 | - | 1.6 | - | 9.0 | 39.0 | 3.6 | - | - | - | - | - | 58.1 |
| 3640/1/1 | - | 6.8 | 3.4 | - | - | - | 0.3 | - | 14.1 | - | 2.7 | - | 2.3 | - | 13.7 | 6.3 | 49.5 |
| 3640/2/1 | - | 6.8 | 3.4 | - | - | - | 0.3 | - | 14.1 | - | 2.7 | - | 2.3 | - | 13.7 | 6.3 | 49.5 |
| 3597/1/1 | - | 10.7 | - | - | - | 2.7 | 1.7 | - | 6.0 | 6.8 | 3.6 | 1.4 | 9.8 | 1.2 | - | - | 43.8 |
| 3597/2/1 | - | 10.7 | - | - | - | 2.7 | 1.7 | - | 6.0 | 6.8 | 3.6 | 1.4 | 9.8 | 1.2 | - | - | 43.8 |
| 3593/1/1 | - | 9.5 | - | - | - | - | - | - | 7.2 | 9.5 | 9.5 | - | - | - | - | 4.2 | 40.0 |
| 3593/2/1 | - | 9.5 | - | - | - | - | - | - | 7.2 | 9.5 | 9.5 | - | - | - | - | 4.2 | 40.0 |
| 3588/1/1 | - | 2.7 | 0.4 | - | - | - | - | - | 18.0 | 3.5 | 2.0 | - | - | - | 10.2 | - | 36.8 |
| 3588/2/1 | - | 2.7 | 0.4 | - | - | - | - | - | 18.0 | 3.5 | 2.0 | - | - | - | 10.2 | - | 36.8 |
| 3613/1/1 | - | 4.5 | - | - | 1.1 | - | - | - | 13.5 | 16.5 | - | - | - | - | - | - | 35.7 |
| 3613/2/1 | - | 4.5 | - | - | 1.1 | - | - | - | 13.5 | 16.5 | - | - | - | - | - | - | 35.7 |
| 3637/1/1 | 18.9 | 3.2 | 0.2 | 0.9 | - | - | 0.8 | - | 6.2 | 1.9 | 2.2 | - | - | 0.6 | - | - | 35.1 |
| 3637/2/1 | 18.9 | 3.2 | 0.2 | 0.9 | - | - | 0.8 | - | 6.2 | 1.9 | 2.2 | - | - | 0.6 | - | - | 35.1 |
| 3640/3/1 | - | 4.5 | 2.3 | - | - | - | 0.2 | - | 9.6 | - | 1.8 | - | 1.5 | - | 9.1 | 4.2 | 33.2 |
| 3552/1/1 | - | 1.4 | 10.0 | 0.3 | - | - | - | - | - | 9.1 | 8.0 | - | - | - | - | - | 28.8 |
| 3577/1/1 | - | 3.0 | - | - | - | - | - | - | 12.0 | 9.9 | 1.8 | - | - | - | - | - | 26.6 |
| 3638/1/1 | - | - | - | - | 6.0 | - | - | - | 5.7 | 11.9 | - | - | - | - | - | - | 23.6 |
| 3638/2/1 | - | - | - | - | 6.0 | - | - | - | 5.7 | 11.9 | - | - | - | - | - | - | 23.6 |
| 3543/1/1 | - | 6.4 | - | - | - | - | - | - | 9.5 | 3.2 | 3.4 | - | - | - | - | - | 22.6 |
| 3543/2/1 | - | 6.4 | - | - | - | - | - | - | 9.5 | 3.2 | 3.4 | - | - | - | - | - | 22.6 |
| 3579/1/1 | - | 0.8 | 0.7 | - | - | - | 0.5 | 0.3 | 3.2 | 11.0 | 2.7 | - | - | 0.2 | - | 2.1 | 21.4 |
| 3579/2/1 | - | 0.8 | 0.7 | - | - | - | 0.5 | 0.3 | 3.2 | 11.0 | 2.7 | - | - | 0.2 | - | 2.1 | 21.4 |

| Person ID number | Artichoke | Beetroot | Carrot | Celeriac | Celery | Fennel | Garlic | Kohl rabi | Leek | Onion | Parsnip | Radish | Shallot | Spring onion | Swede | Turnip | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **3633/1/1** | **-** | **0.4** | **-** | **-** | **-** | **-** | **-** | **-** | **0.8** | **14.0** | **2.4** | **-** | **-** | **-** | **-** | **3.5** | **21.1** |
| **3633/2/1** | **-** | **0.4** | **-** | **-** | **-** | **-** | **-** | **-** | **0.8** | **14.0** | **2.4** | **-** | **-** | **-** | **-** | **3.5** | **21.1** |
| **3589/1/1** | **-** | **1.2** | **-** | **-** | **-** | **-** | **-** | **-** | **8.0** | **8.8** | **0.6** | **-** | **1.8** | **-** | **-** | **-** | **20.4** |
| **3589/2/1** | **-** | **1.2** | **-** | **-** | **-** | **-** | **-** | **-** | **8.0** | **8.8** | **0.6** | **-** | **1.8** | **-** | **-** | **-** | **20.4** |
| **3636/1/1** | **-** | **3.6** | **1.2** | **-** | **-** | **-** | **-** | **-** | **3.2** | **12.3** | **-** | **-** | **-** | **-** | **-** | **-** | **20.3** |
| **3636/2/1** | **-** | **3.6** | **1.2** | **-** | **-** | **-** | **-** | **-** | **3.2** | **12.3** | **-** | **-** | **-** | **-** | **-** | **-** | **20.3** |
| 3590/1/1 | - | 2.4 | 1.6 | - | 6.0 | - | - | - | 1.9 | 1.6 | - | - | - | - | 4.4 | - | 17.9 |
| 3590/2/1 | - | 2.4 | 1.6 | - | 6.0 | - | - | - | 1.9 | 1.6 | - | - | - | - | 4.4 | - | 17.9 |
| 3557/1/1 | - | 1.4 | 0.6 | - | - | - | 2.0 | - | 1.3 | 7.0 | 2.4 | - | - | - | - | - | 14.7 |
| 3557/2/1 | - | 1.4 | 0.6 | - | - | - | 2.0 | - | 1.3 | 7.0 | 2.4 | - | - | - | - | - | 14.7 |
| 3557/3/1 | - | 1.4 | 0.6 | - | - | - | 2.0 | - | 1.3 | 7.0 | 2.4 | - | - | - | - | - | 14.7 |
| 3578/1/1 | - | 3.7 | - | - | - | - | - | - | 2.1 | 7.7 | - | - | - | - | - | - | 13.5 |
| 3578/2/1 | - | 3.7 | - | - | - | - | - | - | 2.1 | 7.7 | - | - | - | - | - | - | 13.5 |
| 3641/1/1 | - | 4.3 | 0.6 | - | - | - | - | - | 2.9 | 5.2 | - | - | - | - | - | - | 13.0 |
| 3641/2/1 | - | 4.3 | 0.6 | - | - | - | - | - | 2.9 | 5.2 | - | - | - | - | - | - | 13.0 |
| 3635/1/1 | - | - | 3.1 | - | - | - | - | - | 2.4 | 2.2 | 3.6 | - | - | 1.6 | - | - | 12.9 |
| 3635/2/1 | - | - | 3.1 | - | - | - | - | - | 2.4 | 2.2 | 3.6 | - | - | 1.6 | - | - | 12.9 |
| 3568/1/1 | - | 2.5 | - | - | - | - | - | - | - | 4.0 | - | - | - | - | 3.3 | - | 9.7 |
| 3568/2/1 | - | 2.5 | - | - | - | - | - | - | - | 4.0 | - | - | - | - | 3.3 | - | 9.7 |
| 3596/1/1 | - | 0.8 | 0.5 | - | - | - | - | - | 5.0 | 2.9 | - | - | - | - | - | - | 9.1 |
| 3596/2/1 | - | 0.8 | 0.5 | - | - | - | - | - | 5.0 | 2.9 | - | - | - | - | - | - | 9.1 |
| 3552/2/1 | - | 0.4 | 3.2 | 0.1 | - | - | - | - | - | 2.9 | 2.5 | - | - | - | - | - | 9.0 |
| 3552/3/1 | - | 0.4 | 3.2 | 0.1 | - | - | - | - | - | 2.9 | 2.5 | - | - | - | - | - | 9.0 |

| Person ID number | Artichoke | Beetroot | Carrot | Celeriac | Celery | Fennel | Garlic | Kohl rabi | Leek | Onion | Parsnip | Radish | Shallot | Spring onion | Swede | Turnip | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3552/6/1 | - | 0.4 | 3.2 | 0.1 | - | - | - | - | - | 2.9 | 2.5 | - | - | - | - | - | 9.0 |
| 3577/2/1 | - | 1.0 | - | - | - | - | - | - | 4.0 | 3.3 | 0.6 | - | - | - | - | - | 8.9 |
| 3577/3/1 | - | 1.0 | - | - | - | - | - | - | 4.0 | 3.3 | 0.6 | - | - | - | - | - | 8.9 |
| 3577/4/1 | - | 1.0 | - | - | - | - | - | - | 4.0 | 3.3 | 0.6 | - | - | - | - | - | 8.9 |
| 3603/1/1 | - | 3.0 | 4.6 | - | - | - | - | - | - | - | - | - | - | - | - | - | 7.6 |
| 3603/2/1 | - | 3.0 | 4.6 | - | - | - | - | - | - | - | - | - | - | - | - | - | 7.6 |
| 3519/1/1 | - | - | - | - | - | - | - | - | - | 7.0 | - | - | - | - | - | - | 7.0 |
| 3519/2/1 | - | - | - | - | - | - | - | - | - | 7.0 | - | - | - | - | - | - | 7.0 |
| 3519/3/1 | - | - | - | - | - | - | - | - | - | 7.0 | - | - | - | - | - | - | 7.0 |
| 3519/4/1 | - | - | - | - | - | - | - | - | - | 7.0 | - | - | - | - | - | - | 7.0 |
| 3519/5/1 | - | - | - | - | - | - | - | - | - | 7.0 | - | - | - | - | - | - | 7.0 |
| 3562/1/1 | - | 0.6 | 0.3 | - | - | - | - | - | 1.9 | 1.8 | - | - | 1.5 | - | - | - | 6.2 |
| 3562/2/1 | - | 0.6 | 0.3 | - | - | - | - | - | 1.9 | 1.8 | - | - | 1.5 | - | - | - | 6.2 |
| 3562/3/1 | - | 0.6 | 0.3 | - | - | - | - | - | 1.9 | 1.8 | - | - | 1.4 | - | - | - | 5.9 |
| 3633/3/1 | - | 0.1 | - | - | - | - | - | - | 0.2 | 3.5 | 0.6 | - | - | - | - | 0.9 | 5.3 |
| 3634/1/1 | - | - | - | - | - | - | - | - | - | 4.9 | - | - | - | - | - | - | 4.9 |
| 3634/2/1 | - | - | - | - | - | - | - | - | - | 4.9 | - | - | - | - | - | - | 4.9 |
| 3562/4/1 | - | 0.2 | 0.1 | - | - | - | - | - | 0.7 | 0.7 | - | - | 0.5 | - | - | - | 2.3 |
| 3562/5/1 | - | 0.2 | 0.1 | - | - | - | - | - | 0.7 | 0.7 | - | - | 0.5 | - | - | - | 2.3 |
| 3586/1/1 | - | - | 0.2 | - | - | - | - | - | - | 1.8 | - | - | - | - | - | - | 2.0 |
| 3586/2/1 | - | - | 0.2 | - | - | - | - | - | - | 1.8 | - | - | - | - | - | - | 2.0 |
| 3586/3/1 | - | - | 0.2 | - | - | - | - | - | - | 1.8 | - | - | - | - | - | - | 2.0 |
| 3586/4/1 | - | - | 0.2 | - | - | - | - | - | - | 1.8 | - | - | - | - | - | - | 2.0 |

| Person ID number | Artichoke | Beetroot | Carrot | Celeriac | Celery | Fennel | Garlic | Kohl rabi | Leek | Onion | Parsnip | Radish | Shallot | Spring onion | Swede | Turnip | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3523/1/1 | - | - | - | - | - | - | - | - | 1.8 | - | - | - | - | - | - | - | 1.8 |
| 3568/3/1 | - | 0.4 | - | - | - | - | - | - | - | 0.7 | - | - | - | - | 0.5 | - | 1.6 |
| 3568/4/1 | - | 0.4 | - | - | - | - | - | - | - | 0.7 | - | - | - | - | 0.5 | - | 1.6 |
| 3568/5/1 | - | 0.4 | - | - | - | - | - | - | - | 0.7 | - | - | - | - | 0.5 | - | 1.6 |
| 3590/3/1 | - | 0.2 | 0.1 | - | 0.4 | - | - | - | 0.1 | 0.1 | - | - | - | - | 0.3 | - | 1.3 |
| 3590/4/1 | - | 0.2 | 0.1 | - | 0.4 | - | - | - | 0.1 | 0.1 | - | - | - | - | 0.3 | - | 1.3 |
| 3590/5/1 | - | 0.2 | 0.1 | - | 0.4 | - | - | - | 0.1 | 0.1 | - | - | - | - | 0.3 | - | 1.3 |
| 3590/6/1 | - | 0.2 | 0.1 | - | 0.4 | - | - | - | 0.1 | 0.1 | - | - | - | - | 0.3 | - | 1.3 |
| 3632/1/1 | - | - | - | - | - | - | - | - | - | 1.1 | - | - | - | - | - | - | 1.1 |
| 3632/2/1 | - | - | - | - | - | - | - | - | - | 1.1 | - | - | - | - | - | - | 1.1 |
| 3559/1/1 | - | 0.9 | - | - | - | - | - | - | - | - | - | - | - | 0.1 | - | - | 1.0 |
| 3564/1/1 | - | - | - | - | - | - | 0.9 | - | - | - | - | - | - | - | - | - | 0.9 |
| 3564/2/1 | - | - | - | - | - | - | 0.9 | - | - | - | - | - | - | - | - | - | 0.9 |
| 3523/2/1 | - | - | - | - | - | - | - | - | 0.9 | - | - | - | - | - | - | - | 0.9 |
| 3523/3/1 | - | - | - | - | - | - | - | - | 0.9 | - | - | - | - | - | - | - | 0.9 |
| 3564/3/1 | - | - | - | - | - | - | 0.6 | - | - | - | - | - | - | - | - | - | 0.6 |
| 3564/4/1 | - | - | - | - | - | - | 0.6 | - | - | - | - | - | - | - | - | - | 0.6 |
| 3556/1/1 | - | - | - | - | - | - | - | - | - | 0.4 | - | - | - | - | - | - | 0.4 |

**Notes**

Emboldened observations are the high-rate consumers

The mean consumption rate of root vegetables for adults based on the 28 high-rate consumers is 31.7 kg $y^{-1}$

The observed 97.5$^{th}$ percentile rate based on 86 observations is 48.8 kg $y^{-1}$

**Table 39. Adults' consumption rates of potato from the Springfields terrestrial survey area (kg $y^{-1}$)**

| Person ID number | Potato |
|---|---|
| **3641/1/1** | **118.8** |
| **3641/2/1** | **118.8** |
| **3552/1/1** | **80.0** |
| **3640/1/1** | **61.9** |
| **3640/2/1** | **61.9** |
| **3639/1/1** | **58.5** |
| **3640/3/1** | **41.3** |
| **3596/1/1** | **40.4** |
| **3596/2/1** | **40.4** |
| 3578/1/1 | 38.1 |
| 3578/2/1 | 38.1 |
| 3543/1/1 | 35.6 |
| 3543/2/1 | 35.6 |
| 3637/1/1 | 33.3 |
| 3637/2/1 | 33.3 |
| 3597/1/1 | 31.8 |
| 3597/2/1 | 31.8 |
| 3589/1/1 | 30.0 |
| 3589/2/1 | 30.0 |
| 3613/1/1 | 27.3 |
| 3613/2/1 | 27.3 |
| 3593/1/1 | 25.4 |
| 3593/2/1 | 25.4 |
| 3552/2/1 | 25.3 |
| 3552/3/1 | 25.3 |
| 3552/6/1 | 25.3 |
| 3633/1/1 | 23.9 |
| 3633/2/1 | 23.9 |
| 3636/1/1 | 20.0 |
| 3636/2/1 | 20.0 |
| 3559/1/1 | 15.0 |
| 3562/1/1 | 13.5 |
| 3562/2/1 | 13.5 |
| 3588/1/1 | 13.5 |
| 3588/2/1 | 13.5 |
| 3562/3/1 | 13.0 |
| 3557/1/1 | 12.7 |
| 3557/2/1 | 12.7 |
| 3557/3/1 | 12.7 |
| 3590/1/1 | 12.0 |
| 3590/2/1 | 12.0 |
| 3577/1/1 | 10.1 |
| 3635/1/1 | 10.1 |

| Person ID number | Potato |
|---|---|
| 3635/2/1 | 10.1 |
| 3632/1/1 | 10.0 |
| 3632/2/1 | 10.0 |
| 3519/1/1 | 9.6 |
| 3519/2/1 | 9.6 |
| 3519/3/1 | 9.6 |
| 3519/4/1 | 9.6 |
| 3519/5/1 | 9.6 |
| 3579/1/1 | 8.1 |
| 3579/2/1 | 8.1 |
| 3569/1/1 | 6.5 |
| 3569/2/1 | 6.5 |
| 3633/3/1 | 6.0 |
| 3586/1/1 | 5.6 |
| 3586/2/1 | 5.6 |
| 3586/3/1 | 5.6 |
| 3586/4/1 | 5.6 |
| 3559/2/1 | 5.0 |
| 3559/3/1 | 5.0 |
| 3562/4/1 | 5.0 |
| 3562/5/1 | 5.0 |
| 3577/2/1 | 3.4 |
| 3577/3/1 | 3.4 |
| 3577/4/1 | 3.4 |
| 3604/1/1 | 2.3 |
| 3604/2/1 | 2.3 |
| 3568/1/1 | 1.8 |
| 3568/2/1 | 1.8 |
| 3575/1/1 | 1.0 |
| 3575/2/1 | 1.0 |
| 3560/1/1 | 0.9 |
| 3560/2/1 | 0.9 |
| 3590/3/1 | 0.9 |
| 3590/4/1 | 0.9 |
| 3590/5/1 | 0.9 |
| 3590/6/1 | 0.9 |
| 3568/3/1 | 0.3 |
| 3568/4/1 | 0.3 |
| 3568/5/1 | 0.3 |

**Notes**

Emboldened observations are the high-rate consumers

The mean consumption rate of potato for adults based on the 9 high-rate consumers is 69.1 kg $y^{-1}$

The observed 97.5$^{th}$ percentile rate based on 82 observations is 79.5 kg $y^{-1}$

**Table 40. Adults' consumption rates of domestic fruit from the Springfields terrestrial survey area (kg $y^{-1}$)**

| Person ID number | Apple | Blackberry | Blackcurrant | Blueberry | Cherry | Damson | Fig | Gooseberry | Grapes | Loganberry | Melon | Pear | Plum | Raspberry | Redcurrant | Rhubarb | Strawberry | Tayberry | White currant | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3634/1/1 | 11.3 | - | 0.8 | - | - | - | 0.5 | 0.5 | 3.1 | 0.8 | - | 11.3 | 1.8 | 2.5 | 1.0 | - | 6.3 | - | - | 39.7 |
| 3634/2/1 | 11.3 | - | 0.8 | - | - | - | 0.5 | 0.5 | 3.1 | 0.8 | - | 11.3 | 1.8 | 2.5 | 1.0 | - | 6.3 | - | - | 39.7 |
| 3597/1/1 | 7.0 | - | 1.4 | 1.1 | 0.1 | - | 5.6 | 4.9 | - | 0.1 | - | - | - | 0.6 | 1.4 | 2.6 | 7.0 | 0.4 | 1.4 | 33.7 |
| 3597/2/1 | 7.0 | - | 1.4 | 1.1 | 0.1 | - | 5.6 | 4.9 | - | 0.1 | - | - | - | 0.6 | 1.4 | 2.6 | 7.0 | 0.4 | 1.4 | 33.7 |
| 3543/1/1 | 6.5 | - | 6.5 | - | - | - | - | 1.3 | - | - | - | - | 2.2 | - | 5.4 | 2.3 | - | - | 3.2 | 27.3 |
| 3543/2/1 | 6.5 | - | 6.5 | - | - | - | - | 1.3 | - | - | - | - | 2.2 | - | 5.4 | 2.3 | - | - | 3.2 | 27.3 |
| 3517/1/1 | 25.0 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 25.0 |
| 3517/2/1 | 25.0 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 25.0 |
| 3633/1/1 | 4.0 | 9.5 | 2.0 | - | - | - | - | - | - | - | 1.0 | - | - | 0.8 | 0.2 | 3.7 | 0.8 | - | 2.0 | 24.0 |
| 3633/2/1 | 4.0 | 9.5 | 2.0 | - | - | - | - | - | - | - | 1.0 | - | - | 0.8 | 0.2 | 3.7 | 0.8 | - | 2.0 | 24.0 |
| 3632/1/1 | - | - | 6.3 | - | - | - | - | - | - | - | - | 1.0 | 4.5 | 1.3 | 3.8 | - | 4.0 | - | - | 20.8 |
| 3632/2/1 | - | - | 6.3 | - | - | - | - | - | - | - | - | 1.0 | 4.5 | 1.3 | 3.8 | - | 4.0 | - | - | 20.8 |
| 3590/1/1 | 2.0 | - | 1.2 | - | - | - | - | 0.2 | 5.4 | - | - | 8.0 | - | - | - | 2.8 | 0.8 | - | - | 20.4 |
| 3590/2/1 | 2.0 | - | 1.2 | - | - | - | - | 0.2 | 5.4 | - | - | 8.0 | - | - | - | 2.8 | 0.8 | - | - | 20.4 |
| 3557/1/1 | 6.3 | - | - | - | - | - | - | - | - | - | - | - | 6.3 | - | - | 4.4 | 3.2 | - | - | 20.2 |
| 3557/2/1 | 6.3 | - | - | - | - | - | - | - | - | - | - | - | 6.3 | - | - | 4.4 | 3.2 | - | - | 20.2 |
| 3557/3/1 | 6.3 | - | - | - | - | - | - | - | - | - | - | - | 6.3 | - | - | 4.4 | 3.2 | - | - | 20.2 |
| 3589/1/1 | - | - | 3.2 | - | - | - | - | 4.9 | - | - | - | - | - | 1.6 | - | 3.6 | 2.9 | - | - | 16.2 |
| 3589/2/1 | - | - | 3.2 | - | - | - | - | 4.9 | - | - | - | - | - | 1.6 | - | 3.6 | 2.9 | - | - | 16.2 |
| 3562/1/1 | 13.5 | - | 0.1 | - | - | - | - | 0.3 | - | - | - | - | - | 0.8 | - | - | 1.3 | - | - | 16.0 |
| 3562/2/1 | 13.5 | - | 0.1 | - | - | - | - | 0.3 | - | - | - | - | - | 0.8 | - | - | 1.3 | - | - | 16.0 |

| Person ID number | Apple | Blackberry | Blackcurrant | Blueberry | Cherry | Damson | Fig | Gooseberry | Grapes | Loganberry | Melon | Pear | Plum | Raspberry | Redcurrant | Rhubarb | Strawberry | Tayberry | White currant | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **3562/3/1** | **13.0** | **-** | **0.1** | **-** | **-** | **-** | **-** | **0.3** | **-** | **-** | **-** | **-** | **-** | **0.8** | **-** | **-** | **1.2** | **-** | **-** | **15.4** |
| **3640/1/1** | **5.1** | **0.5** | **0.5** | **0.2** | **0.2** | **-** | **-** | **0.2** | **-** | **-** | **-** | **1.7** | **-** | **4.1** | **0.5** | **0.9** | **1.0** | **-** | **0.5** | **15.3** |
| **3640/2/1** | **5.1** | **0.5** | **0.5** | **0.2** | **0.2** | **-** | **-** | **0.2** | **-** | **-** | **-** | **1.7** | **-** | **4.1** | **0.5** | **0.9** | **1.0** | **-** | **0.5** | **15.3** |
| **3639/1/1** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **0.5** | **-** | **0.5** | **10.0** | **-** | **-** | **0.5** | **-** | **-** | **3.4** | **-** | **-** | **14.9** |
| **3638/1/1** | **9.5** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **1.9** | **1.9** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **13.3** |
| **3638/2/1** | **9.5** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **1.9** | **1.9** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **13.3** |
| 3588/1/1 | - | - | 5.1 | - | - | - | - | 1.8 | - | - | - | - | - | - | - | 6.2 | - | - | - | 13.2 |
| 3588/2/1 | - | - | 5.1 | - | - | - | - | 1.8 | - | - | - | - | - | - | - | 6.2 | - | - | - | 13.2 |
| 3576/2/1 | 12.0 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 12.0 |
| 3637/1/1 | 2.4 | - | 1.9 | - | - | - | - | 2.0 | - | - | - | - | 1.0 | 0.4 | 0.7 | 0.5 | 1.3 | 0.4 | 0.7 | 11.4 |
| 3637/2/1 | 2.4 | - | 1.9 | - | - | - | - | 2.0 | - | - | - | - | 1.0 | 0.4 | 0.7 | 0.5 | 1.3 | 0.4 | 0.7 | 11.4 |
| 3613/1/1 | - | 2.3 | 4.5 | - | - | - | - | - | - | - | - | - | - | 2.3 | - | 2.0 | - | - | - | 11.0 |
| 3613/2/1 | - | 2.3 | 4.5 | - | - | - | - | - | - | - | - | - | - | 2.3 | - | 2.0 | - | - | - | 11.0 |
| 3556/1/1 | 10.0 | - | - | - | - | - | - | 0.4 | - | - | - | - | - | - | - | - | 0.4 | - | - | 10.8 |
| 3526/1/1 | 8.3 | - | - | - | - | 2.0 | - | - | - | - | - | - | - | - | - | - | - | - | - | 10.3 |
| 3526/2/1 | 8.3 | - | - | - | - | 2.0 | - | - | - | - | - | - | - | - | - | - | - | - | - | 10.3 |
| 3526/3/1 | 8.3 | - | - | - | - | 2.0 | - | - | - | - | - | - | - | - | - | - | - | - | - | 10.3 |
| 3526/4/1 | 8.3 | - | - | - | - | 2.0 | - | - | - | - | - | - | - | - | - | - | - | - | - | 10.3 |
| 3526/5/1 | 8.3 | - | - | - | - | 2.0 | - | - | - | - | - | - | - | - | - | - | - | - | - | 10.3 |
| 3526/6/1 | 8.3 | - | - | - | - | 2.0 | - | - | - | - | - | - | - | - | - | - | - | - | - | 10.3 |
| 3640/3/1 | 3.4 | 0.1 | 0.3 | 0.1 | 0.1 | - | - | 0.1 | - | - | - | 1.1 | - | 2.7 | 0.3 | 0.6 | 0.7 | - | 0.3 | 10.0 |
| 3622/1/1 | 8.4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 8.4 |
| 3635/1/1 | - | - | 1.0 | - | - | - | - | 1.0 | - | - | - | - | - | 1.0 | - | 2.6 | 0.5 | - | - | 6.0 |

| Person ID number | Apple | Blackberry | Blackcurrant | Blueberry | Cherry | Damson | Fig | Gooseberry | Grapes | Loganberry | Melon | Pear | Plum | Raspberry | Redcurrant | Rhubarb | Strawberry | Tayberry | White currant | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3635/2/1 | - | - | 1.0 | - | - | - | - | 1.0 | - | - | - | - | - | 1.0 | - | 2.6 | 0.5 | - | - | 6.0 |
| 3633/3/1 | 1.0 | 2.4 | 0.5 | - | - | - | - | - | - | - | 0.3 | - | - | 0.2 | 0.1 | 0.9 | 0.2 | - | 0.5 | 6.0 |
| 3562/4/1 | 5.0 | - | 0.05 | - | - | - | - | 0.1 | - | - | - | - | - | 0.3 | - | - | 0.5 | - | - | 5.9 |
| 3562/5/1 | 5.0 | - | 0.05 | - | - | - | - | 0.1 | - | - | - | - | - | 0.3 | - | - | 0.5 | - | - | 5.9 |
| 3593/1/1 | - | - | 1.4 | - | - | - | - | 1.4 | - | - | - | - | - | 0.9 | - | 1.1 | 1.1 | - | - | 5.9 |
| 3593/2/1 | - | - | 1.4 | - | - | - | - | 1.4 | - | - | - | - | - | 0.9 | - | 1.1 | 1.1 | - | - | 5.9 |
| 3518/1/1 | 2.4 | - | - | - | - | 1.9 | - | - | - | - | - | - | 0.9 | - | - | - | - | - | - | 5.2 |
| 3518/2/1 | 2.4 | - | - | - | - | 1.9 | - | - | - | - | - | - | 0.9 | - | - | - | - | - | - | 5.2 |
| 3518/3/1 | 2.4 | - | - | - | - | 1.9 | - | - | - | - | - | - | 0.9 | - | - | - | - | - | - | 5.2 |
| 3518/7/1 | 2.4 | - | - | - | - | 1.9 | - | - | - | - | - | - | 0.9 | - | - | - | - | - | - | 5.2 |
| 3518/8/1 | 2.4 | - | - | - | - | 1.9 | - | - | - | - | - | - | 0.9 | - | - | - | - | - | - | 5.2 |
| 3518/9/1 | 2.4 | - | - | - | - | 1.9 | - | - | - | - | - | - | 0.9 | - | - | - | - | - | - | 5.2 |
| 3596/1/1 | - | - | 1.1 | - | - | - | - | 2.3 | - | - | - | - | - | 0.2 | 1.1 | - | 0.2 | - | - | 4.9 |
| 3596/2/1 | - | - | 1.1 | - | - | - | - | 2.3 | - | - | - | - | - | 0.2 | 1.1 | - | 0.2 | - | - | 4.9 |
| 3610/1/1 | 3.0 | - | 0.6 | - | - | - | - | - | - | - | - | - | - | 0.6 | 0.6 | - | - | - | - | 4.9 |
| 3610/2/1 | 3.0 | - | 0.6 | - | - | - | - | - | - | - | - | - | - | 0.6 | 0.6 | - | - | - | - | 4.9 |
| 3577/1/1 | - | - | 0.5 | - | - | - | - | - | - | - | - | - | - | 2.0 | - | 2.3 | - | - | - | 4.8 |
| 3564/1/1 | 1.5 | - | - | - | - | - | - | - | - | - | - | - | - | 0.2 | 0.1 | 1.4 | 0.5 | - | 0.1 | 3.7 |
| 3564/2/1 | 1.5 | - | - | - | - | - | - | - | - | - | - | - | - | 0.2 | 0.1 | 1.4 | 0.5 | - | 0.1 | 3.7 |
| 3607/1/1 | 3.0 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 3.0 |
| 3607/2/1 | 3.0 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 3.0 |
| 3607/3/1 | 3.0 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 3.0 |
| 3636/1/1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 2.4 | 0.6 | - | - | 3.0 |

| Person ID number | Apple | Blackberry | Blackcurrant | Blueberry | Cherry | Damson | Fig | Gooseberry | Grapes | Loganberry | Melon | Pear | Plum | Raspberry | Redcurrant | Rhubarb | Strawberry | Tayberry | White currant | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3636/2/1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 2.4 | 0.6 | - | - | 3.0 |
| 3552/1/1 | - | - | 0.3 | 0.3 | - | - | - | - | - | - | 1.8 | - | - | - | 0.3 | - | - | - | - | 2.7 |
| 3559/1/1 | - | - | 0.8 | - | - | - | - | 0.8 | - | - | - | - | - | 0.3 | - | - | 0.8 | - | - | 2.7 |
| 3564/3/1 | 1.0 | - | - | - | - | - | - | - | - | - | - | - | - | 0.1 | 0.1 | 0.9 | 0.3 | - | 0.1 | 2.4 |
| 3564/4/1 | 1.0 | - | - | - | - | - | - | - | - | - | - | - | - | 0.1 | 0.1 | 0.9 | 0.3 | - | 0.1 | 2.4 |
| 3621/1/1 | 1.1 | - | - | - | - | - | - | - | - | - | - | - | 1.1 | - | - | - | - | - | - | 2.3 |
| 3621/2/1 | 1.1 | - | - | - | - | - | - | - | - | - | - | - | 1.1 | - | - | - | - | - | - | 2.3 |
| 3621/3/1 | 1.1 | - | - | - | - | - | - | - | - | - | - | - | 1.1 | - | - | - | - | - | - | 2.3 |
| 3579/1/1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0.1 | 2.0 | - | - | 2.1 |
| 3579/2/1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0.1 | 2.0 | - | - | 2.1 |
| 3578/1/1 | - | - | 0.6 | - | - | - | - | 0.3 | - | - | - | - | - | 0.3 | - | 0.6 | 0.1 | - | - | 1.9 |
| 3578/2/1 | - | - | 0.6 | - | - | - | - | 0.3 | - | - | - | - | - | 0.3 | - | 0.6 | 0.1 | - | - | 1.9 |
| 3577/2/1 | - | - | 0.2 | - | - | - | - | - | - | - | - | - | - | 0.7 | - | 0.8 | - | - | - | 1.6 |
| 3577/3/1 | - | - | 0.2 | - | - | - | - | - | - | - | - | - | - | 0.7 | - | 0.8 | - | - | - | 1.6 |
| 3577/4/1 | - | - | 0.2 | - | - | - | - | - | - | - | - | - | - | 0.7 | - | 0.8 | - | - | - | 1.6 |
| 3603/1/1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1.5 | - | - | 1.5 |
| 3603/2/1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1.5 | - | - | 1.5 |
| 3590/3/1 | 0.1 | - | 0.1 | - | - | - | - | 0.01 | 0.4 | - | - | 0.6 | - | - | - | 0.2 | 0.1 | - | - | 1.5 |
| 3590/4/1 | 0.1 | - | 0.1 | - | - | - | - | 0.01 | 0.4 | - | - | 0.6 | - | - | - | 0.2 | 0.1 | - | - | 1.5 |
| 3590/5/1 | 0.1 | - | 0.1 | - | - | - | - | 0.01 | 0.4 | - | - | 0.6 | - | - | - | 0.2 | 0.1 | - | - | 1.5 |
| 3590/6/1 | 0.1 | - | 0.1 | - | - | - | - | 0.01 | 0.4 | - | - | 0.6 | - | - | - | 0.2 | 0.1 | - | - | 1.5 |
| 3641/1/1 | - | - | 1.3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1.3 |
| 3641/2/1 | - | - | 1.3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1.3 |

| Person ID number | Apple | Blackberry | Blackcurrant | Blueberry | Cherry | Damson | Fig | Gooseberry | Grapes | Loganberry | Melon | Pear | Plum | Raspberry | Redcurrant | Rhubarb | Strawberry | Tayberry | White currant | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3604/1/1 | - | - | - | - | - | - | - | 0.2 | 0.5 | - | - | - | - | 0.1 | - | - | 0.4 | - | - | 1.2 |
| 3604/2/1 | - | - | - | - | - | - | - | 0.2 | 0.5 | - | - | - | - | 0.1 | - | - | 0.4 | - | - | 1.2 |
| 3541/1/1 | 0.8 | - | 0.2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1.0 |
| 3541/2/1 | 0.8 | - | 0.2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1.0 |
| 3542/1/1 | 0.8 | - | 0.2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1.0 |
| 3542/2/1 | 0.8 | - | 0.2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1.0 |
| 3552/2/1 | - | - | 0.1 | 0.1 | - | - | - | - | - | - | 0.6 | - | - | - | 0.1 | - | - | - | - | 0.9 |
| 3552/3/1 | - | - | 0.1 | 0.1 | - | - | - | - | - | - | 0.6 | - | - | - | 0.1 | - | - | - | - | 0.9 |
| 3552/6/1 | - | - | 0.1 | 0.1 | - | - | - | - | - | - | 0.6 | - | - | - | 0.1 | - | - | - | - | 0.9 |
| 3519/1/1 | 0.8 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0.8 |
| 3519/2/1 | 0.8 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0.8 |
| 3519/3/1 | 0.8 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0.8 |
| 3519/4/1 | 0.8 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0.8 |
| 3519/5/1 | 0.8 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0.8 |
| 3609/1/1 | - | - | - | - | - | - | - | - | - | - | - | - | 0.7 | - | - | - | - | - | - | 0.7 |
| 3609/2/1 | - | - | - | - | - | - | - | - | - | - | - | - | 0.7 | - | - | - | - | - | - | 0.7 |
| 3609/3/1 | - | - | - | - | - | - | - | - | - | - | - | - | 0.7 | - | - | - | - | - | - | 0.7 |
| 3586/1/1 | - | - | - | 0.1 | - | - | - | - | - | - | - | - | - | 0.2 | - | 0.3 | - | - | - | 0.6 |
| 3586/2/1 | - | - | - | 0.1 | - | - | - | - | - | - | - | - | - | 0.2 | - | 0.3 | - | - | - | 0.6 |
| 3586/3/1 | - | - | - | 0.1 | - | - | - | - | - | - | - | - | - | 0.2 | - | 0.3 | - | - | - | 0.6 |
| 3586/4/1 | - | - | - | 0.1 | - | - | - | - | - | - | - | - | - | 0.2 | - | 0.3 | - | - | - | 0.6 |
| 3601/1/1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0.6 | - | - | - | 0.6 |
| 3601/2/1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0.6 | - | - | - | 0.6 |

| Person ID number | Apple | Blackberry | Blackcurrant | Blueberry | Cherry | Damson | Fig | Gooseberry | Grapes | Loganberry | Melon | Pear | Plum | Raspberry | Redcurrant | Rhubarb | Strawberry | Tayberry | White currant | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3576/1/1 | 0.5 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0.5 |
| 3560/1/1 | - | - | - | - | - | - | - | - | - | - | - | 0.2 | - | - | - | - | 0.2 | - | - | 0.4 |
| 3560/2/1 | - | - | - | - | - | - | - | - | - | - | - | 0.2 | - | - | - | - | 0.2 | - | - | 0.4 |
| 3559/2/1 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0.1 | - | - | - | - | - | 0.1 |
| 3559/3/1 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0.1 | - | - | - | - | - | 0.1 |

**Notes**

Emboldened observations are the high-rate consumers

The mean consumption rate of domestic fruit for adults based on the 27 high-rate consumers is 22 kg $y^{-1}$

The observed 97.5$^{th}$ percentile rate based on 118 observations is 33.7 kg $y^{-1}$

**Table 41. Adults' consumption rates of milk from the Springfields terrestrial survey area (l $y^{-1}$)**

| Person ID number | Cows' milk |
|---|---|
| **3517/1/1** | **414.6** |
| **3517/2/1** | **414.6** |
| **3517/3/1** | **414.6** |
| **3517/4/1** | **414.6** |
| **3649/1/1** | **257.8** |
| **3649/1/2** | **257.8** |
| **3649/2/1** | **257.8** |
| **3649/2/2** | **257.8** |
| **3525/1/1** | **228.1** |
| **3525/2/1** | **228.1** |
| **3525/3/1** | **228.1** |
| **3525/4/1** | **228.1** |
| **3621/1/1** | **219.2** |
| **3518/1/1** | **184.0** |
| **3518/2/1** | **184.0** |
| **3518/3/1** | **184.0** |
| **3518/7/1** | **184.0** |
| **3518/8/1** | **184.0** |
| **3518/9/1** | **184.0** |
| 3649/3/1 | 97.3 |
| 3649/4/1 | 97.3 |
| 3581/1/1 | 88.8 |
| 3581/2/1 | 88.8 |
| 3621/3/1 | 11.8 |
| 3621/4/1 | 11.8 |
| 3621/4/2 | 11.8 |
| 3621/5/1 | 11.8 |

**Notes**

Emboldened observations are the high-rate consumers

The mean consumption rate of milk for adults based on the 19 high-rate consumers is 259.2 l $y^{-1}$

The observed 97.5$^{th}$ percentile rate based on 27 observations is 414.6 kg $y^{-1}$

**Table 42. Adults' consumption rates of cattle meat from the Springfields terrestrial survey area (kg $y^{-1}$)**

| Person ID number | Beef |
|---|---|
| **3649/1/1** | **41.6** |
| **3649/1/2** | **41.6** |
| **3649/2/1** | **41.6** |
| **3649/2/2** | **41.6** |
| **3649/3/1** | **41.6** |
| **3649/4/1** | **41.6** |
| **3648/1/1** | **31.1** |
| **3648/2/1** | **31.1** |
| **3648/3/1** | **31.1** |
| **3648/4/1** | **31.1** |
| **3525/1/1** | **25.0** |
| **3525/2/1** | **25.0** |
| **3525/3/1** | **25.0** |
| **3525/4/1** | **25.0** |
| **3518/1/1** | **17.6** |
| **3518/2/1** | **17.6** |
| **3518/3/1** | **17.6** |
| **3518/7/1** | **17.6** |
| **3518/8/1** | **17.6** |
| **3518/9/1** | **17.6** |
| **3522/1/1** | **15.6** |
| **3522/2/1** | **15.6** |
| **3522/3/1** | **15.6** |
| **3522/4/1** | **15.6** |
| **3580/1/1** | **14.3** |
| **3580/2/1** | **14.3** |
| **3580/3/1** | **14.3** |
| 3642/1/1 | 6.5 |
| 3642/2/1 | 6.5 |
| 3609/1/1 | 4.0 |
| 3609/2/1 | 4.0 |
| 3609/3/1 | 4.0 |
| 3582/1/1 | 3.0 |
| 3582/2/1 | 3.0 |
| 3643/1/1 | 1.1 |
| 3643/2/1 | 1.1 |
| 3643/3/1 | 1.1 |
| 3643/4/1 | 1.1 |
| 3584/1/1 | 0.3 |
| 3584/2/1 | 0.3 |

**Notes**

Emboldened observations are the high-rate consumers

The mean consumption rate of cattle meat for adults based on the 27 high-rate consumers is 25.4 kg $y^{-1}$

The observed 97.5$^{th}$ percentile rate based on 40 observations is 41.6 kg $y^{-1}$

**Table 43. Adults' consumption rates of pig meat from the Springfields terrestrial survey area (kg $y^{-1}$)**

| Person ID number | Pork |
|---|---|
| **3520/1/1** | **18.0** |
| **3520/2/1** | **18.0** |
| **3522/1/1** | **15.6** |
| **3522/2/1** | **15.6** |
| **3522/3/1** | **15.6** |
| **3522/4/1** | **15.6** |
| **3520/3/1** | **12.0** |
| **3569/1/1** | **6.5** |
| **3569/2/1** | **6.5** |
| **3642/1/1** | **6.5** |
| **3642/2/1** | **6.5** |
| 3570/1/1 | 3.0 |
| 3570/2/1 | 3.0 |
| 3584/1/1 | 0.3 |
| 3584/2/1 | 0.3 |

**Notes**

Emboldened observations are the high-rate consumers

The mean consumption rate of pig meat for adults based on the 11 high-rate consumers is 12.4 kg $y^{-1}$

The observed 97.5$^{th}$ percentile rate based on 15 observations is 18.0 kg $y^{-1}$

**Table 44. Adults' consumption rates of sheep meat from the Springfields terrestrial survey area (kg $y^{-1}$)**

| Person ID number | Lamb |
|---|---|
| **3522/1/1** | **15.6** |
| **3522/2/1** | **15.6** |
| **3522/3/1** | **15.6** |
| **3522/4/1** | **15.6** |
| **3607/1/1** | **12.0** |
| **3607/2/1** | **12.0** |
| **3607/3/1** | **12.0** |
| **3518/1/1** | **10.6** |
| **3518/2/1** | **10.6** |
| **3518/3/1** | **10.6** |
| **3518/7/1** | **10.6** |
| **3518/8/1** | **10.6** |
| **3518/9/1** | **10.6** |
| **3609/1/1** | **10.0** |

| Person ID number | Lamb |
|---|---|
| **3609/2/1** | **10.0** |
| **3609/3/1** | **10.0** |
| 3523/2/1 | 5.0 |
| 3523/3/1 | 5.0 |
| 3517/1/1 | 4.7 |
| 3517/2/1 | 4.7 |
| 3517/3/1 | 4.7 |
| 3517/4/1 | 4.7 |
| 3517/5/1 | 4.7 |
| 3517/6/1 | 4.7 |
| 3570/1/1 | 3.0 |
| 3570/2/1 | 3.0 |
| 3643/1/1 | 1.1 |
| 3643/2/1 | 1.1 |
| 3643/3/1 | 1.1 |
| 3643/4/1 | 1.1 |

**Notes**

Emboldened observations are the high-rate consumers

The mean consumption rate of sheep meat for adults based on the 16 high-rate consumers is 12 kg $y^{-1}$

The observed 97.5$^{th}$ percentile rate based on 30 observations is 15.6 kg $y^{-1}$

**Table 45. Adults' consumption rates of poultry from the Springfields terrestrial survey area (kg $y^{-1}$)**

| Person ID number | Chicken | Duck | Mallard | Pheasant | Turkey | Total |
|---|---|---|---|---|---|---|
| **3603/1/1** | **7.0** | **-** | **-** | **-** | **-** | **7.0** |
| **3603/2/1** | **7.0** | **-** | **-** | **-** | **-** | **7.0** |
| **3580/1/1** | **-** | **-** | **-** | **-** | **5.0** | **5.0** |
| **3580/2/1** | **-** | **-** | **-** | **-** | **5.0** | **5.0** |
| **3580/3/1** | **-** | **-** | **-** | **-** | **5.0** | **5.0** |
| **3607/1/1** | **-** | **1.5** | **1.5** | **-** | **-** | **3.0** |
| **3607/2/1** | **-** | **1.5** | **1.5** | **-** | **-** | **3.0** |
| **3607/3/1** | **-** | **1.5** | **1.5** | **-** | **-** | **3.0** |
| 3621/1/1 | - | - | 0.6 | 0.6 | - | 1.2 |
| 3621/2/1 | - | - | 0.6 | 0.6 | - | 1.2 |
| 3621/3/1 | - | - | 0.6 | 0.6 | - | 1.2 |

**Notes**

Emboldened observations are the high-rate consumers

The mean consumption rate of poultry for adults based on the 8 high-rate consumers is 4.8 kg $y^{-1}$

The observed 97.5$^{th}$ percentile rate based on 11 observations is 7.0 kg $y^{-1}$

**Table 46. Adults' consumption rates of eggs from the Springfields terrestrial survey area (kg $y^{-1}$)**

| Person ID number | Chicken egg |
|---|---|
| **3613/1/1** | **34.2** |
| **3613/2/1** | **34.2** |
| **3569/1/1** | **31.2** |
| **3569/2/1** | **31.2** |
| **3562/2/1** | **17.8** |
| **3600/1/1** | **17.8** |
| **3639/1/1** | **17.8** |
| **3523/1/1** | **13.9** |
| **3523/2/1** | **13.9** |
| **3523/3/1** | **13.9** |
| **3603/1/1** | **13.4** |
| **3603/2/1** | **13.4** |
| 3558/1/1 | 6.8 |
| 3637/1/1 | 6.3 |
| 3637/2/1 | 6.3 |
| 3522/1/1 | 5.9 |
| 3522/2/1 | 5.9 |
| 3522/3/1 | 5.9 |
| 3522/4/1 | 5.9 |
| 3573/1/1 | 5.2 |
| 3573/2/1 | 5.2 |
| 3573/3/1 | 5.2 |
| 3573/4/1 | 5.2 |
| 3643/1/1 | 1.5 |
| 3643/2/1 | 1.5 |
| 3643/3/1 | 1.5 |
| 3643/4/1 | 1.5 |
| 3526/1/1 | 1.4 |
| 3526/2/1 | 1.4 |
| 3526/3/1 | 1.4 |
| 3526/4/1 | 1.4 |
| 3526/5/1 | 1.4 |
| 3526/6/1 | 1.4 |

**Notes**

Emboldened observations are the high-rate consumers

The mean consumption rate of eggs for adults based on the 12 high-rate consumers is 21.1 kg $y^{-1}$

The observed 97.5$^{th}$ percentile rate based on 33 observations is 34.2 kg $y^{-1}$

**Table 47. Adults' consumption rates of wild/free foods from the Springfields terrestrial survey area (kg $y^{-1}$)**

| Person ID number | Blackberry | Sloe | Total |
|---|---|---|---|
| **3632/1/1** | **6.3** | **-** | **6.3** |
| **3632/2/1** | **6.3** | **-** | **6.3** |
| **3597/1/1** | **2.2** | **-** | **2.2** |
| **3597/2/1** | **2.2** | **-** | **2.2** |
| 3634/1/1 | 1.7 | - | 1.7 |
| 3634/2/1 | 1.7 | - | 1.7 |
| 3623/1/1 | 0.7 | 0.7 | 1.3 |
| 3623/2/1 | 0.7 | 0.7 | 1.3 |
| 3623/3/1 | 0.7 | 0.7 | 1.3 |
| 3596/1/1 | 1.0 | - | 1.0 |
| 3596/2/1 | 1.0 | - | 1.0 |
| 3635/1/1 | 1.0 | - | 1.0 |
| 3635/2/1 | 1.0 | - | 1.0 |
| 3586/1/1 | 0.9 | - | 0.9 |
| 3586/2/1 | 0.9 | - | 0.9 |
| 3586/3/1 | 0.9 | - | 0.9 |
| 3586/4/1 | 0.9 | - | 0.9 |
| 3642/2/1 | 0.8 | - | 0.8 |
| 3621/1/1 | 0.8 | - | 0.8 |
| 3621/2/1 | 0.8 | - | 0.8 |
| 3621/3/1 | 0.8 | - | 0.8 |
| 3518/1/1 | 0.7 | - | 0.7 |
| 3518/2/1 | 0.7 | - | 0.7 |
| 3518/3/1 | 0.7 | - | 0.7 |
| 3518/7/1 | 0.7 | - | 0.7 |
| 3518/8/1 | 0.7 | - | 0.7 |
| 3518/9/1 | 0.7 | - | 0.7 |
| 3610/1/1 | 0.6 | - | 0.6 |
| 3610/2/1 | 0.6 | - | 0.6 |
| 3550/1/1 | 0.5 | - | 0.5 |
| 3550/2/1 | 0.5 | - | 0.5 |
| 3638/1/1 | 0.5 | - | 0.5 |
| 3638/2/1 | 0.5 | - | 0.5 |
| 3576/1/1 | 0.5 | - | 0.5 |
| 3576/2/1 | 0.5 | - | 0.5 |
| 3609/1/1 | 0.3 | - | 0.3 |
| 3609/2/1 | 0.3 | - | 0.3 |
| 3609/3/1 | 0.3 | - | 0.3 |
| 3609/4/1 | 0.3 | - | 0.3 |

| Person ID number | Blackberry | Sloe | Total |
|---|---|---|---|
| 3580/1/1 | 0.2 | - | 0.2 |
| 3580/2/1 | 0.2 | - | 0.2 |
| 3580/3/1 | 0.2 | - | 0.2 |
| 3637/1/1 | 0.2 | - | 0.2 |
| 3637/2/1 | 0.2 | - | 0.2 |
| 3519/1/1 | 0.1 | - | 0.1 |
| 3519/2/1 | 0.1 | - | 0.1 |
| 3519/3/1 | 0.1 | - | 0.1 |
| 3519/4/1 | 0.1 | - | 0.1 |
| 3519/5/1 | 0.1 | - | 0.1 |
| 3569/1/1 | 0.01 | - | 0.01 |
| 3569/2/1 | 0.01 | - | 0.01 |

**Notes**

Emboldened observations are the high-rate consumers

The mean consumption rate of wild/free foods for adults based on the 4 high-rate consumers is 4.2 kg $y^{-1}$

The observed 97.5$^{th}$ percentile rate based on 51 observations is 5.2 kg $y^{-1}$

**Table 48. Adults' consumption rates of honey from the Springfields terrestrial survey area (kg $y^{-1}$)**

| Person ID number | Honey |
|---|---|
| **3640/4/1** | **9.1** |
| 3640/1/1 | 0.9 |
| 3621/1/1 | 0.3 |
| 3621/2/1 | 0.3 |
| 3621/3/1 | 0.3 |
| 3550/1/1 | 0.2 |
| 3550/2/1 | 0.2 |

**Notes**

The emboldened observation is the high-rate consumer

The mean consumption rate of honey for adults based on the 1 high-rate consumers is 9.1 kg $y^{-1}$

The observed 97.5$^{th}$ percentile rate based on 7 observations is 7.8 kg $y^{-1}$

**Table 49. Adults' consumption rates of wild fungi from the Springfields terrestrial survey area (kg $y^{-1}$)**

| Person ID number | Mushrooms |
|---|---|
| **3607/1/1** | **0.8** |
| **3607/2/1** | **0.8** |
| **3607/3/1** | **0.8** |
| 3519/1/1 | 0.2 |
| 3519/2/1 | 0.2 |
| 3519/3/1 | 0.2 |
| 3519/4/1 | 0.2 |
| 3519/5/1 | 0.2 |
| 3518/1/1 | 0.1 |
| 3518/2/1 | 0.1 |
| 3518/3/1 | 0.1 |
| 3518/7/1 | 0.1 |
| 3518/8/1 | 0.1 |
| 3518/9/1 | 0.1 |

**Notes**

Emboldened observations are the high-rate consumers

The mean consumption rate of wild fungi for adults based on the 3 high-rate consumers is 0.8 kg $y^{-1}$

The observed 97.5$^{th}$ percentile rate based on 14 observations is 0.8 kg $y^{-1}$

**Table 50. Children's consumption rates of green vegetables from the Springfields terrestrial survey area (kg $y^{-1}$)**

| Person ID number | Age | Asparagus | Broccoli | Brussel sprout | Cabbage | Cauliflower | Courgette | Gherkin | Kale | Lettuce | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **3552/5/1** | **8** | **0.4** | **-** | **1.0** | **2.1** | **-** | **-** | **0.2** | **-** | **0.2** | **4.0** |
| **3552/7/1** | **8** | **0.4** | **-** | **1.0** | **2.1** | **-** | **-** | **0.2** | **-** | **0.2** | **4.0** |
| **3568/6/1** | **14** | **-** | **-** | **-** | **0.5** | **0.2** | **0.4** | **-** | **1.1** | **-** | **2.3** |
| **3568/7/1** | **7** | **-** | **-** | **-** | **0.4** | **0.2** | **0.3** | **-** | **0.8** | **-** | **1.7** |
| **3568/8/1** | **8** | **-** | **-** | **-** | **0.4** | **0.2** | **0.3** | **-** | **0.8** | **-** | **1.7** |
| 3590/10/1 | 10 | - | 0.1 | 0.2 | - | 0.3 | 0.4 | - | - | - | 1.0 |
| 3590/8/1 | 7 | - | 0.1 | 0.1 | - | 0.3 | 0.3 | - | - | - | 0.8 |
| 3590/9/1 | 9 | - | 0.1 | 0.1 | - | 0.3 | 0.3 | - | - | - | 0.8 |
| 3519/6/1 | 6 | - | - | - | - | - | - | - | - | 0.1 | 0.1 |

**Notes**

Emboldened observations are the high-rate consumers

The mean consumption rate of green vegetables for the child age group based on the 5 high-rate consumers is 2.7 kg $y^{-1}$

The observed 97.5$^{th}$ percentile rate based on 9 observations is 4.0 kg $y^{-1}$

**Table 51. Infants' consumption rates of green vegetables from the Springfields terrestrial survey area (kg $y^{-1}$)**

| Person ID number | Age | Asparagus | Broccoli | Brussel sprout | Cabbage | Cauliflower | Courgette | Gherkin | Kale | Lettuce | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **3552/4/1** | **1** | **0.1** | **-** | **0.3** | **0.7** | **-** | **-** | **0.1** | **-** | **0.1** | **1.3** |
| **3590/7/1** | **5** | **-** | **0.05** | **0.1** | **-** | **0.2** | **0.2** | **-** | **-** | **-** | **0.5** |
| 3519/7/1 | 4 | - | - | - | - | - | - | - | - | 0.1 | 0.1 |

**Notes**

Emboldened observations are the high-rate consumers

The mean consumption rate of green vegetables for the infant age group based on the 2 high-rate consumers is 0.9 kg $y^{-1}$

The observed 97.5$^{th}$ percentile rate based on 3 observations is 1.3 kg $y^{-1}$

**Table 52. Children's consumption rates of other vegetables from the Springfields terrestrial survey area (kg $y^{-1}$)**

| Person ID number | Age | Aubergine | Chilli pepper | Mangetout | Pea | Pepper | Pumpkin | Runner bean | Sweetcorn | Tomato | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **3552/5/1** | **8** | **0.1** | **0.1** | **-** | **-** | **0.4** | **-** | **-** | **-** | **2.1** | **2.8** |
| **3552/7/1** | **8** | **0.1** | **0.1** | **-** | **-** | **0.4** | **-** | **-** | **-** | **2.1** | **2.8** |
| **3590/10/1** | **10** | **-** | **-** | **0.01** | **0.01** | **-** | **0.7** | **-** | **0.1** | **1.7** | **2.5** |
| **3590/8/1** | **7** | **-** | **-** | **0.00** | **0.01** | **-** | **0.5** | **-** | **0.1** | **1.3** | **1.9** |
| **3590/9/1** | **9** | **-** | **-** | **0.00** | **0.01** | **-** | **0.5** | **-** | **0.1** | **1.3** | **1.9** |
| **3568/6/1** | **14** | **-** | **-** | **-** | **0.5** | **-** | **-** | **0.4** | **0.2** | **0.7** | **1.8** |
| **3568/7/1** | **7** | **-** | **-** | **-** | **0.4** | **-** | **-** | **0.3** | **0.1** | **0.5** | **1.3** |
| **3568/8/1** | **8** | **-** | **-** | **-** | **0.4** | **-** | **-** | **0.3** | **0.1** | **0.5** | **1.3** |
| **3519/6/1** | **6** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **1.2** | **1.2** |

**Notes**

Emboldened observations are the high-rate consumers

The mean consumption rate of other vegetables for the child age group based on the 9 high-rate consumers is 1.9 kg $y^{-1}$

The observed 97.5$^{th}$ percentile rate based on 9 observations is 2.8 kg $y^{-1}$

**Table 53. Infants' consumption rates of other vegetables from the Springfields terrestrial survey area (kg $y^{-1}$)**

| Person ID number | Age | Aubergine | Chilli pepper | Mangetout | Pea | Pepper | Pumpkin | Runner bean | Sweetcorn | Tomato | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **3590/7/1** | **5** | **-** | **-** | **0.00** | **0.01** | **-** | **0.3** | **-** | **0.1** | **0.9** | **1.3** |
| **3552/4/1** | **1** | **0.03** | **0.03** | **-** | **-** | **0.1** | **-** | **-** | **-** | **0.7** | **0.9** |
| **3519/7/1** | **4** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **0.8** | **0.8** |
| **3560/3/1** | **5** | **-** | **0.04** | **-** | **0.03** | **-** | **-** | **-** | **-** | **0.6** | **0.7** |

**Notes**

Emboldened observations are the high-rate consumers

The mean consumption rate of other vegetables for the infant age group based on the 4 high-rate consumers is 0.9 kg $y^{-1}$

The observed 97.5$^{th}$ percentile rate based on 4 observations is 1.2 kg $y^{-1}$

**Table 54. Children's consumption rates of root vegetables from the Springfields terrestrial survey area (kg $y^{-1}$)**

| Person ID number | Age | Beetroot | Carrot | Celeriac | Celery | Leek | Onion | Parsnip | Swede | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| **3552/5/1** | **8** | **0.3** | **2.4** | **0.1** | **-** | **-** | **2.1** | **1.9** | **-** | **6.8** |
| **3552/7/1** | **8** | **0.3** | **2.4** | **0.1** | **-** | **-** | **2.1** | **1.9** | **-** | **6.8** |
| **3519/6/1** | **6** | **-** | **-** | **-** | **-** | **-** | **5.3** | **-** | **-** | **5.3** |
| 3568/6/1 | 14 | 0.3 | - | - | - | - | 0.5 | - | 0.4 | 1.3 |
| 3590/10/1 | 10 | 0.2 | 0.1 | - | 0.4 | 0.1 | 0.1 | - | 0.3 | 1.3 |
| 3568/7/1 | 7 | 0.2 | - | - | - | - | 0.4 | - | 0.3 | 1.0 |
| 3568/8/1 | 8 | 0.2 | - | - | - | - | 0.4 | - | 0.3 | 1.0 |
| 3590/8/1 | 7 | 0.1 | 0.1 | - | 0.3 | 0.1 | 0.1 | - | 0.2 | 1.0 |
| 3590/9/1 | 9 | 0.1 | 0.1 | - | 0.3 | 0.1 | 0.1 | - | 0.2 | 1.0 |

**Notes**

Emboldened observations are the high-rate consumers

The mean consumption rate of root vegetables for the child age group based on the 3 high-rate consumers is 6.3 kg $y^{-1}$

The observed 97.5$^{th}$ percentile rate based on 9 observations is 6.8 kg $y^{-1}$

**Table 55. Infants' consumption rates of root vegetables from the Springfields terrestrial survey area (kg $y^{-1}$)**

| Person ID number | Age | Beetroot | Carrot | Celeriac | Celery | Leek | Onion | Parsnip | Swede | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| **3519/7/1** | **4** | **-** | **-** | **-** | **-** | **-** | **3.5** | **-** | **-** | **3.5** |
| **3552/4/1** | **1** | **0.1** | **0.8** | **0.02** | **-** | **-** | **0.7** | **0.6** | **-** | **2.3** |
| 3590/7/1 | 5 | 0.1 | 0.1 | - | 0.2 | 0.1 | 0.1 | - | 0.2 | 0.6 |

**Notes**

Emboldened observations are the high-rate consumers

The mean consumption rate of root vegetables for the infant age group based on the 2 high-rate consumers is 2.9 kg $y^{-1}$

The observed 97.5$^{th}$ percentile rate based on 3 observations is 3.5 kg $y^{-1}$

**Table 56. Children's consumption rates of potato from the Springfields terrestrial survey area (kg $y^{-1}$)**

| Person ID number | Age | Potato |
|---|---|---|
| **3552/5/1** | **8** | **18.9** |
| **3552/7/1** | **8** | **18.9** |
| **3519/6/1** | **6** | **7.2** |
| **3569/3/1** | **11** | **6.5** |
| **3569/4/1** | **10** | **6.5** |
| 3590/10/1 | 10 | 0.9 |
| 3590/8/1 | 7 | 0.6 |
| 3590/9/1 | 9 | 0.6 |
| 3568/6/1 | 14 | 0.2 |
| 3568/7/1 | 7 | 0.2 |
| 3568/8/1 | 8 | 0.2 |

**Notes**

Emboldened observations are the high-rate consumers

The mean consumption rate of potato for the child age group based on the 5 high-rate consumers is 11.6 kg $y^{-1}$

The observed 97.5$^{th}$ percentile rate based on 11 observations is 18.9 kg $y^{-1}$

**Table 57. Infants' consumption rates of potato from the Springfields terrestrial survey area (kg $y^{-1}$)**

| Person ID number | Age | Potato |
|---|---|---|
| **3552/4/1** | **1** | **6.3** |
| **3519/7/1** | **4** | **4.8** |
| 3560/3/1 | 5 | 0.5 |
| 3590/7/1 | 5 | 0.4 |

**Notes**

Emboldened observations are the high-rate consumers

The mean consumption rate of potato for the infant age group based on the 2 high-rate consumers is 5.5 kg $y^{-1}$

The observed 97.5$^{th}$ percentile rate based on 4 observations is 6.2 kg $y^{-1}$

**Table 58. Children's consumption rates of domestic fruit from the Springfields terrestrial survey area (kg $y^{-1}$)**

| Person ID number | Age | Apple | Blackcurrant | Blueberry | Damson | Gooseberry | Grapes | Melon | Pear | Plum | Redcurrant | Rhubarb | Strawberry | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **3518/4/1** | **15** | **2.4** | **-** | **-** | **1.9** | **-** | **-** | **-** | **-** | **0.9** | **-** | **-** | **-** | **5.2** |
| **3518/5/1** | **13** | **1.8** | **-** | **-** | **1.4** | **-** | **-** | **-** | **-** | **0.7** | **-** | **-** | **-** | **3.9** |
| **3518/6/1** | **9** | **1.8** | **-** | **-** | **1.4** | **-** | **-** | **-** | **-** | **0.7** | **-** | **-** | **-** | **3.9** |
| **3635/3/1** | **10** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **2.6** | **2.6** |
| 3590/10/1 | 10 | 0.1 | 0.1 | - | - | 0.01 | 0.4 | - | 0.6 | - | - | 0.2 | 0.1 | 1.5 |
| 3590/8/1 | 7 | 0.1 | 0.1 | - | - | 0.01 | 0.3 | - | 0.4 | - | - | 0.1 | 0.04 | 1.1 |
| 3590/9/1 | 9 | 0.1 | 0.1 | - | - | 0.01 | 0.3 | - | 0.4 | - | - | 0.1 | 0.04 | 1.1 |
| 3552/5/1 | 8 | - | 0.1 | 0.1 | - | - | - | 0.4 | - | - | 0.1 | - | - | 0.6 |
| 3552/7/1 | 8 | - | 0.1 | 0.1 | - | - | - | 0.4 | - | - | 0.1 | - | - | 0.6 |
| 3519/6/1 | 6 | 0.6 | - | - | - | - | - | - | - | - | - | - | - | 0.6 |

**Notes**

Emboldened observations are the high-rate consumers

The mean consumption rate of domestic fruit for the child age group based on the 4 high-rate consumers is 3.9 kg $y^{-1}$

The observed 97.5$^{th}$ percentile rate based on 10 observations is 4.9 kg $y^{-1}$

**Table 59. Infants' consumption rates of domestic fruit from the Springfields terrestrial survey area (kg $y^{-1}$)**

| Person ID number | Age | Apple | Blackcurrant | Blueberry | Damson | Gooseberry | Grapes | Melon | Pear | Plum | Redcurrant | Rhubarb | Strawberry | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **3590/7/1** | **5** | **0.1** | **0.04** | **-** | **-** | **0.01** | **0.2** | **-** | **0.3** | **-** | **-** | **0.1** | **0.03** | **0.7** |
| **3519/7/1** | **4** | **0.4** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **0.4** |
| 3552/4/1 | 1 | - | 0.02 | 0.02 | - | - | - | 0.1 | - | - | 0.02 | - | - | 0.2 |
| 3560/3/1 | 5 | - | - | - | - | - | - | - | 0.1 | - | - | - | 0.1 | 0.2 |

**Notes**

Emboldened observations are the high-rate consumers

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

The observed 97.5$^{th}$ percentile rate based on 4 observations is 0.7 kg $y^{-1}$

**Table 60. Children's consumption rates of milk from the Springfields terrestrial survey area (l $y^{-1}$)**

| Person ID number | Age | Cows' milk |
|---|---|---|
| 3649/7/1 | 6 | 193.3 |
| 3649/7/2 | 6 | 193.3 |
| 3649/8/1 | 7 | 193.3 |
| 3518/4/1 | 15 | 184.0 |
| 3518/5/1 | 13 | 138.0 |
| 3518/6/1 | 9 | 138.0 |
| 3649/9/1 | 10 | 97.3 |
| 3649/10/1 | 8 | 73.0 |

**Notes**

Emboldened observations are the high-rate consumers

The mean consumption rate of milk for the child age group based on the 8 high-rate consumers is 151.3 l $y^{-1}$

The observed 97.5$^{th}$ percentile rate based on 8 observations is 193.3 kg $y^{-1}$

**Table 61. Infants' consumption rates of milk from the Springfields terrestrial survey area (l $y^{-1}$)**

| Person ID number | Age | Cows' milk |
|---|---|---|
| 3649/6/1 | 5 | 128.9 |
| 3649/5/1 | 2 | 85.1 |

**Notes**

Emboldened observations are the high-rate consumers

The mean consumption rate of milk for the infant age group based on the 2 high-rate consumers is 107 l $y^{-1}$

The observed 97.5$^{th}$ percentile rate based on 2 observations is 127.8 kg $y^{-1}$

**Table 62. Children's consumption rates of cattle meat from the Springfields terrestrial survey area (kg $y^{-1}$)**

| Person ID number | Age | Beef |
|---|---|---|
| **3647/9/1** | **10** | **20.8** |
| **3518/4/1** | **15** | **17.6** |
| **3518/5/1** | **13** | **13.2** |
| **3518/6/1** | **9** | **13.2** |
| **3649/7/1** | **6** | **11.7** |
| **3649/7/2** | **6** | **11.7** |
| **3649/8/1** | **7** | **11.7** |
| **3649/10/1** | **8** | **11.7** |

**Notes**

Emboldened observations are the high-rate consumers

The mean consumption rate of cattle meat for the child age group based on the 8 high-rate consumers is 14 kg $y^{-1}$

The observed 97.5$^{th}$ percentile rate based on 8 observations is 20.2 kg $y^{-1}$

**Table 63. Infants' consumption rates of cattle meat from the Springfields terrestrial survey area (kg $y^{-1}$)**

| Person ID number | Age | Beef |
|---|---|---|
| **3580/4/1** | **5** | **7.1** |
| **3649/6/1** | **5** | **5.2** |
| **3648/5/1** | **4** | **3.9** |
| 3649/5/1 | 2 | 2.2 |
| 3648/6/1 | 2 | 1.7 |

**Notes**

Emboldened observations are the high-rate consumers

The mean consumption rate of cattle meat for the infant age group based on the 3 high-rate consumers is 5.4 kg $y^{-1}$

The observed 97.5$^{th}$ percentile rate based on 5 observations is 6.9 kg $y^{-1}$

**Table 64. Children's consumption rates of pig meat from the Springfields terrestrial survey area (kg $y^{-1}$)**

| Person ID number | Age | Pork |
|---|---|---|
| **3569/3/1** | **11** | **6.5** |
| **3569/4/1** | **10** | **6.5** |

**Notes**

Emboldened observations are the high-rate consumers

The mean consumption rate of pig meat for the child age group based on the 2 high-rate consumers is 6.5 kg $y^{-1}$

The observed 97.5$^{th}$ percentile rate based on 2 observations is 6.5 kg $y^{-1}$

**Table 65. Children's consumption rates of sheep meat from the Springfields terrestrial survey area (kg $y^{-1}$)**

| Person ID number | Age | Lamb |
|---|---|---|
| **3518/4/1** | **15** | **10.6** |
| **3518/5/1** | **13** | **7.9** |
| **3518/6/1** | **9** | **7.9** |
| **3517/7/1** | **11** | **4.7** |
| 3517/8/1 | 9 | 3.5 |
| 3517/9/1 | 6 | 3.5 |

**Notes**

Emboldened observations are the high-rate consumers

The mean consumption rate of sheep meat for the child age group based on the 4 high-rate consumers is 7.8 kg $y^{-1}$

The observed 97.5$^{th}$ percentile rate based on 6 observations is 10.3 kg $y^{-1}$

**Table 66. Infants' consumption rates of poultry from the Springfields terrestrial survey area (kg $y^{-1}$)**

| Person ID number | Age | Turkey |
|---|---|---|
| **3580/4/1** | **5** | **2.5** |

**Notes**

The emboldened observations is the high-rate consumer

The mean consumption rate of poultry for the infant age group based on the 1 high-rate consumer is 2.5 kg $y^{-1}$

The observed 97.5$^{th}$ percentile is not applicable for 1 observation

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

| Person ID number | Age | Chicken egg |
|---|---|---|
| **3569/3/1** | **11** | **31.2** |
| **3569/4/1** | **10** | **31.2** |
| 3573/5/1 | 11 | 5.2 |
| 3573/6/1 | 8 | 3.9 |

**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 31.2 kg $y^{-1}$

The observed 97.5$^{th}$ percentile rate based on 4 observations is 31.2 kg $y^{-1}$

**Table 68. Children's consumption rates of wild/free foods from the Springfields terrestrial survey area (kg $y^{-1}$)**

| Person ID number | Age | Blackberry |
|---|---|---|
| **3518/4/1** | **15** | **0.7** |
| **3518/5/1** | **13** | **0.5** |
| **3518/6/1** | **9** | **0.5** |
| **3550/3/1** | **13** | **0.5** |
| **3550/4/1** | **11** | **0.5** |
| 3519/6/1 | 6 | 0.1 |
| 3569/3/1 | 11 | 0.01 |
| 3569/4/1 | 10 | 0.01 |

**Notes**

Emboldened observations are the high-rate consumers

The mean consumption rate of wild/free foods for the child age group based on the 5 high-rate consumers is 0.6 kg $y^{-1}$

The observed 97.5$^{th}$ percentile rate based on 8 observations is 0.7 kg $y^{-1}$

**Table 69. Infants' consumption rates of wild/free foods from the Springfields terrestrial survey area (kg $y^{-1}$)**

| Person ID number | Age | Blackberry |
|---|---|---|
| 3580/4/1 | 5 | 0.1 |
| 3519/7/1 | 4 | 0.04 |

**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 0.1 kg $y^{-1}$

The observed 97.5$^{th}$ percentile rate based on 2 observations is 0.1 kg $y^{-1}$

**Table 70. Children's consumption rates of honey from the Springfields terrestrial survey area (kg $y^{-1}$)**

| Person ID number | Age | Honey |
|---|---|---|
| 3550/3/1 | 13 | 0.2 |
| 3550/4/1 | 11 | 0.2 |

**Notes**

Emboldened observations are the high-rate consumers

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

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

**Table 71. Children's consumption rates of wild fungi from the Springfields terrestrial survey area (kg $y^{-1}$)**

| Person ID number | Age | Mushrooms |
|---|---|---|
| 3519/6/1 | 6 | 0.1 |
| 3518/4/1 | 15 | 0.1 |
| 3518/5/1 | 13 | 0.04 |
| 3518/6/1 | 9 | 0.04 |

**Notes**

Emboldened observations are the high-rate consumers

The mean consumption rate of wild fungi for the child age group based on the 4 high-rate consumers is 0.1 kg $y^{-1}$

The observed 97.5$^{th}$ percentile rate based on 4 observations is 0.1 kg $y^{-1}$

**Table 72. Infants' consumption rates of wild fungi from the Springfields terrestrial survey area (kg $y^{-1}$)**

| Person ID number | Age | Mushrooms |
|---|---|---|
| **3519/7/1** | **4** | **0.1** |

Notes
The emboldened observation is the high-rate consumer
The mean consumption rate of wild fungi for the infant age group based on the 1 high-rate consumer is 0.1 kg $y^{-1}$
The observed 97.5$^{th}$ percentile is not applicable for 1 observation

**Table 73. Percentage contribution each food type makes to its terrestrial food group for adults**

| Green vegetables | | Other vegetables | | Root vegetables | | Domestic fruit | | Cattle meat | |
|---|---|---|---|---|---|---|---|---|---|
| Courgette | 20.3% | Tomato | 52.8% | Onion | 32.8% | Apple | 36.3% | Beef | 100.0% |
| Cucumber | 17.9% | French bean | 7.6% | Leek | 22.1% | Rhubarb | 9.4% | **Pig meat** | |
| Cabbage | 17.0% | Broad bean | 7.1% | Beetroot | 12.4% | Blackcurrant | 8.8% | Pork | 100.0% |
| Kale | 12.0% | Pumpkin | 6.6% | Parsnip | 7.8% | Strawberry | 8.7% | **Sheep meat** | |
| Broccoli | 9.7% | Squash | 6.0% | Swede | 6.0% | Pear | 5.4% | Lamb | 100.0% |
| Brussel sprout | 6.0% | Pea | 5.3% | Carrot | 4.9% | Plum | 5.2% | **Poultry** | |
| Cauliflower | 5.3% | Sweetcorn | 4.4% | Jerusalem artichoke | 3.0% | Raspberry | 4.8% | Turkey | 36.0% |
| Lettuce | 4.5% | Runner bean | 4.2% | Turnip | 3.0% | Gooseberry | 4.7% | Chicken | 33.8% |
| Chard | 2.2% | Pepper | 3.3% | Shallot | 2.8% | Redcurrant | 3.2% | Mallard | 15.1% |
| Asparagus | 1.9% | Aubergine | 1.7% | Celery | 2.5% | Blackberry | 2.9% | Duck | 10.8% |
| Spinach | 1.1% | Butter bean | 0.5% | Garlic | 1.4% | Damson | 2.5% | Pheasant | 4.3% |
| Globe artichoke | 0.9% | Chilli pepper | 0.3% | Spring onion | 0.6% | Melon | 2.1% | **Eggs** | |
| Calabrese | 0.8% | Mangetout | 0.01% | Fennel | 0.4% | Grape | 2.1% | Chicken egg | 100.0% |
| Marrow | 0.3% | | | Radish | 0.2% | White currant | 1.8% | **Wild/free foods** | |
| Gherkin | 0.2% | | | Celeriac | 0.2% | Fig | 1.3% | Blackberry | 95.6% |
| Rocket | 0.1% | | | Kohl rabi | 0.05% | Blueberry | 0.4% | Sloe | 4.4% |
| | | | | **Potato** | | Loganberry | 0.2% | **Honey** | |
| | | | | Potato | 100.0% | Tayberry | 0.2% | Honey | 100.0% |
| | | | | | | Cherry | 0.1% | **Wild fungi** | |
| | | | | | | **Milk** | | Mushrooms | 100.0% |
| | | | | | | Cows' milk | 100.0% | | |

**Notes**

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

**Table 74. Direct radiation occupancy rates for adults, children and infants in the Springfields area (h $y^{-1}$)**

| Person ID number | Main activity | Indoor occupancy | Outdoor occupancy | Total occupancy |
|---|---|---|---|---|
| **0 to 0.25 km zone** | | | | |
| 3605/1/1 | Residing | 7363 | 1006 | 8369 |
| 3603/1/1 | Residing | 8108 | 131 | 8239 |
| 3603/2/1 | Residing | 6411 | 1828 | 8239 |
| 3556/1/1 | Residing | 7648 | 548 | 8196 |
| 3638/1/1 | Residing | 6124 | 2010 | 8134 |
| 3638/2/1 | Residing | 7455 | 679 | 8134 |
| 3522/1/1 | Residing | 6470 | 1611 | 8081 |
| 3522/2/1 | Residing | 6470 | 1611 | 8081 |
| 3522/3/1 | Residing | 6470 | 1611 | 8081 |
| 3630/1/1 | Residing | 7144 | 902 | 8046 |
| 3555/1/1 | Residing | 7655 | 193 | 7847 |
| 3607/2/1 | Residing | 4104 | 3440 | 7544 |
| 3650/1/1 | Residing | 7342 | 169 | 7510 |
| 3599/1/1 | Residing | 6687 | 533 | 7221 |
| 3604/2/1 | Residing | 6637 | 470 | 7107 |
| 3581/2/1 | Residing | 6873 | 52 | 6925 |
| 3630/2/1 | Residing | 6843 | - | 6843 |
| 3522/4/1 | Residing | 4865 | 1611 | 6476 |
| 3582/1/1 | Residing | 5592 | 822 | 6414 |
| 3582/2/1 | Residing | 5592 | 822 | 6414 |
| 3604/1/1 | Residing | 4713 | 1644 | 6357 |
| 3581/1/1 | Residing | 6134 | 52 | 6186 |
| 3607/1/1 | Residing | 6168 | - | 6168 |

| Person ID number | Main activity | Indoor occupancy | Outdoor occupancy | Total occupancy |
|---|---|---|---|---|
| **0 to 0.25 km zone** | | | | |
| 3599/2/1 | Residing | 5451 | 416 | 5867 |
| 3599/4/1 | Residing | 5046 | 351 | 5397 |
| 3574/1/1 | Working | 1935 | 129 | 2064 |
| 3574/1/2 | Working | 1935 | 129 | 2064 |
| 3574/1/3 | Working | 1935 | 129 | 2064 |
| 3574/1/4 | Working | 1935 | 129 | 2064 |
| 3574/1/5 | Working | 1935 | 129 | 2064 |
| 3574/1/6 | Working | 1935 | 129 | 2064 |
| 3574/1/7 | Working | 1935 | 129 | 2064 |
| 3574/1/8 | Working | 1935 | 129 | 2064 |
| 3574/1/9 | Working | 1935 | 129 | 2064 |
| 3574/1/10 | Working | 1935 | 129 | 2064 |
| 3599/3/1 | Residing | 1841 | 13 | 1854 |
| 3517/1/1 | Working | - | 1055 | 1055 |
| 3517/3/1 | Working | - | 1055 | 1055 |
| 3650/2/1 | Working | 611 | 105 | 716 |
| 3650/6/1 | Working | 611 | 105 | 716 |
| 3650/3/1 | Working | 206 | 81 | 286 |
| 3650/4/1 | Working | 206 | 81 | 286 |
| 3650/5/1 | Working | 15 | 81 | 95 |
| **>0.25 to 0.5 km zone** | | | | |
| 3621/1/1 | Residing | 4563 | 3861 | 8424 |
| 3569/2/1 | Residing | 6966 | 869 | 7835 |
| 3643/2/1 | Residing | 7635 | 117 | 7752 |

| Person ID number | Main activity | Indoor occupancy | Outdoor occupancy | Total occupancy |
|---|---|---|---|---|
| **>0.25 to 0.5 km zone** | | | | |
| 3621/2/1 | Residing | 6845 | 702 | 7547 |
| 3643/1/1 | Residing | 7207 | 209 | 7416 |
| 3643/3/1 | Residing | 7207 | 209 | 7416 |
| 3607/3/1 | Residing | 3784 | 3440 | 7224 |
| 3643/4/1 | Residing | 6627 | 117 | 6744 |
| 3569/3/1 | Residing | 6146 | 562 | 6708 |
| 3569/4/1 | Residing | 6146 | 562 | 6708 |
| 3569/1/1 | Residing | 5320 | 869 | 6189 |
| 3621/3/1 | Working | 521 | 2086 | 2607 |
| 3621/4/1 | Working | 521 | 2086 | 2607 |
| 3621/4/2 | Working | 521 | 2086 | 2607 |
| 3606/1/1 | Working | 2346 | 40 | 2386 |
| 3606/1/2 | Working | 2346 | 40 | 2386 |
| 3606/1/3 | Working | 2346 | 40 | 2386 |
| 3606/1/4 | Working | 2346 | 40 | 2386 |
| 3606/1/5 | Working | 2346 | 40 | 2386 |
| 3606/1/6 | Working | 2346 | 40 | 2386 |
| 3606/1/7 | Working | 2346 | 40 | 2386 |
| 3606/1/8 | Working | 2346 | 40 | 2386 |
| 3606/1/9 | Working | 2346 | 40 | 2386 |
| 3606/2/1 | Working | 1392 | 40 | 1431 |
| 3621/5/1 | Working | - | 417 | 417 |
| 3518/1/1 | Working | - | 183 | 183 |
| 3518/9/1 | Working | - | 92 | 92 |

| Person ID number | Main activity | Indoor occupancy | Outdoor occupancy | Total occupancy |
|---|---|---|---|---|
| **>0.5 to 1.0 km zone** | | | | |
| 3610/1/1 | Residing | 7912 | 717 | 8630 |
| 3610/2/1 | Residing | 8317 | 313 | 8630 |
| 3541/1/1 | Residing | 7297 | 1254 | 8551 |
| 3541/2/1 | Residing | 8111 | 440 | 8551 |
| 3520/3/1 | Residing | 8447 | 26 | 8473 |
| 3639/1/1 | Residing | 6515 | 1828 | 8343 |
| 3601/1/1 | Residing | 6988 | 1096 | 8084 |
| 3601/2/1 | Residing | 6988 | 1096 | 8084 |
| 3520/1/1 | Residing | 5792 | 2192 | 7984 |
| 3520/2/1 | Residing | 7122 | 862 | 7984 |
| 3602/1/1 | Residing | 7614 | 235 | 7848 |
| 3602/2/1 | Residing | 7614 | 235 | 7848 |
| 3600/1/1 | Residing | 7305 | 418 | 7723 |
| 3584/1/1 | Residing | 7260 | 444 | 7705 |
| 3584/2/1 | Residing | 7642 | 63 | 7705 |
| 3519/1/1 | Residing | 5215 | 2457 | 7672 |
| 3519/3/1 | Residing | 5215 | 2457 | 7672 |
| 3543/2/1 | Residing | 7399 | 144 | 7543 |
| 3642/1/1 | Residing | 6334 | 1136 | 7470 |
| 3576/1/1 | Residing | 7022 | 438 | 7460 |
| 3613/1/1 | Residing | 6125 | 1281 | 7406 |
| 3613/2/1 | Residing | 6584 | 822 | 7406 |
| 3642/2/1 | Residing | 6424 | 947 | 7371 |
| 3576/2/1 | Residing | 6678 | 653 | 7332 |

| Person ID number | Main activity | Indoor occupancy | Outdoor occupancy | Total occupancy |
|---|---|---|---|---|
| **>0.5 to 1.0 km zone** | | | | |
| 3543/1/1 | Residing | 6452 | 842 | 7294 |
| 3519/2/1 | Residing | 6117 | 1053 | 7170 |
| 3542/1/1 | Residing | 6868 | 65 | 6933 |
| 3609/2/1 | Residing | 5916 | 1005 | 6921 |
| 3609/3/1 | Residing | 5916 | 1005 | 6921 |
| 3557/1/1 | Residing | 5218 | 1554 | 6772 |
| 3542/2/1 | Residing | 6644 | 25 | 6669 |
| 3570/1/1 | Residing | 5711 | 730 | 6441 |
| 3570/2/1 | Residing | 6267 | 78 | 6345 |
| 3575/2/1 | Residing | 6086 | 169 | 6255 |
| 3557/2/1 | Residing | 4630 | 1617 | 6248 |
| 3557/3/1 | Residing | 5753 | 169 | 5922 |
| 3609/1/1 | Residing | 4822 | 914 | 5736 |
| 3602/3/1 | Residing | 5563 | 117 | 5681 |
| 3575/1/1 | Residing | 5131 | 331 | 5463 |
| 3540/1/1 | Residing | 3494 | 601 | 4095 |
| 3540/2/1 | Residing | 3311 | 784 | 4095 |
| 3609/4/1 | Residing | 1904 | 209 | 2113 |

**Table 75. Analysis of direct radiation occupancy rates for adults, children and infants in the Springfields area (h $y^{-1}$)**

| 0 to 0.25 km zone | |
|---|---|
| **Number of hours** | **Number of observations** |
| >8000 to 8760 | 10 |
| >7000 to 8000 | 5 |
| >6000 to 7000 | 8 |
| >5000 to 6000 | 2 |
| >4000 to 5000 | 0 |
| >3000 to 4000 | 0 |
| >2000 to 3000 | 10 |
| >1000 to 2000 | 3 |
| 0 to 1000 | 5 |
| 0 to 8760 | 43 |
| **>0.25 to 0.5 km zone** | |
| **Number of hours** | **Number of observations** |
| >8000 to 8760 | 1 |
| >7000 to 8000 | 6 |
| >6000 to 7000 | 4 |
| >5000 to 6000 | 0 |
| >4000 to 5000 | 0 |
| >3000 to 4000 | 0 |
| >2000 to 3000 | 12 |
| >1000 to 2000 | 1 |
| 0 to 1000 | 3 |
| 0 to 8760 | 27 |
| **>0.5 to 1.0 km zone** | |
| **Number of hours** | **Number of observations** |
| >8000 to 8760 | 8 |
| >7000 to 8000 | 18 |
| >6000 to 7000 | 9 |
| >5000 to 6000 | 4 |
| >4000 to 5000 | 2 |
| >3000 to 4000 | 0 |
| >2000 to 3000 | 1 |
| >1000 to 2000 | 0 |
| 0 to 1000 | 0 |
| 0 to 8760 | 42 |

**Table 76. Gamma dose rate measurements (μGyh$^{-1}$) for the Springfields 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 | Concrete | 0.093 | Grass | 0.071 |
| Residence 2 | Not recorded | Not recorded | Grass | 0.092 |
| Residence 3 | Concrete | 0.081 | Grass | 0.087 |
| Residence 4 | Concrete | 0.100 | Not recorded | Not recorded |
| Residence 5 | Concrete | 0.096 | Grass | 0.086 |
| Residence 6 | Concrete | 0.097 | Grass | 0.081 |
| Residence 7 | Concrete | 0.085 | Grass | 0.083 |
| Residence 8 | Concrete | 0.087 | Grass | 0.079 |
| Residence 9 | Concrete | 0.088 | Not recorded | Not recorded |
| Residence 10 | Concrete | 0.091 | Grass | 0.077 |
| Residence 11 | Concrete | 0.080 | Grass | 0.079 |
| Residence 12 | Concrete | 0.086 | Grass | 0.081 |
| Residence 13 | Concrete | 0.080 | Grass | 0.080 |
| Residence 14 | Concrete | 0.078 | Grass | 0.076 |
| Residence 15 | Concrete | 0.094 | Not recorded | Not recorded |
| Residence 16 | Concrete | 0.080 | Grass | 0.087 |
| Residence 17 | Concrete | 0.100 | Grass | 0.081 |
| Residence 18 | Wood | 0.100 | Grass | 0.085 |
| Residence 19 | Concrete | 0.109 | Grass | 0.092 |
| Residence 20 | Concrete | 0.108 | Grass | 0.084 |
| Residence 21 | Concrete | 0.085 | Grass | 0.089 |
| **Businesses** | | | | |
| Business 1 | Wood | 0.068 | Grass | 0.068 |
| Business 2 | Not recorded | Not recorded | Concrete | 0.067 |
| Business 3 | Not recorded | Not recorded | Grass | 0.076 |
| **Allotments** | | | | |
| Allotment 1 | Not applicable | Not applicable | Grass | 0.084 |

**Notes**

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

**Table 77. Background gamma dose rate measurements for the Springfields survey area (μGy $h^{-1}$)**

| | Location | National Grid Reference | Substrate | Gamma dose rate at 1 metre |
|---|---|---|---|---|
| Background 1 | South-east | SD 511 281 | Grass | 0.082 |
| Background 2 | South-west | SD 429 236 | Grass | 0.078 |
| Background 3 | North-west | SD 417 342 | Grass | 0.078 |
| Background 4 | North-east | SD 517 346 | Grass | 0.080 |

**Table 78. Combinations of adult pathways for consideration in dose assessments in the Springfields area**

| Combination number | Fish | Crustaceans | Wildfowl | Marine plants/algae | Salt marsh grazed cattle | Salt marsh grazed sheep | Green vegetables | Other vegetables | Root vegetables | Potato | Domestic fruit | Milk | Cattle meat | Pig meat | Sheep meat | Poultry | Eggs | Wild/free foods | Honey | Wild fungi | Intertidal occupancy over mud | Intertidal occupancy over mud and sand | Intertidal occupancy over mud, sand and stones | Intertidal occupancy over salt marsh | Intertidal occupancy over stones | Handling fishing gear | Handling sediment | Occupancy on water | Indoor occupancy within 1 km of the licensed site boundary | Outdoor occupancy within 1 km of the licensed site boundary |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | | | | | X | X | | | | | | | |
| 2 | X | X | | | | | | | | | | | | | | | | | | | | | | | | X | | X | | |
| 3 | X | | | X | | | | | | | | | | | | | | | | | | | | | | X | | X | | |
| 4 | | | | | | | X | X | X | X | X | | | | | | | | X | | | | | | | | | | | |
| 5 | | | | | | | X | X | X | X | X | | | | | | X | | | | | | | | | | | | X | X |
| 6 | | | | | | | X | X | X | | X | | | | | X | X | | | | | | | | | | | | X | X |
| 7 | X | X | | | | | | | | | | | | | | | | | | | | | X | X | | | | | | |
| 8 | | | | | X | | | | | | | | | | | | X | | | | | | | X | | | | | | |
| 9 | | | | | | X | | | | | X | | | | | | | | | | | | | X | | | | | | |
| 10 | | | | | | | | | | | | | X | X | X | | X | | | | | | | | | | | | X | X |
| 11 | | | | | | | X | X | X | | | | | | X | | X | | | | | | | | | | | | | |
| 12 | X | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | |
| 13 | | | | | | | | X | | | X | | | | X | X | | | | X | | | | | | | | | X | X |
| 14 | | | | | | | | X | | | | | X | X | | | | X | | | | | | | | | | | X | X |
| 15 | | | | | | | | | | X | | | | X | | | X | X | | | | | | | | | | | X | X |
| 16 | | | | | | | | | | | | | X | | | X | | X | | | | | | | | | | | | |
| 17 | | | | | | | | | | | X | X | | | | X | | X | X | | | | | | | | | | X | X |

| Combination number | Fish | Crustaceans | Wildfowl | Marine plants/algae | Salt marsh grazed cattle | Salt marsh grazed sheep | Green vegetables | Other vegetables | Root vegetables | Potato | Domestic fruit | Milk | Cattle meat | Pig meat | Sheep meat | Poultry | Eggs | Wild/free foods | Honey | Wild fungi | Intertidal occupancy over mud | Intertidal occupancy over mud and sand | Intertidal occupancy over mud, sand and stones | Intertidal occupancy over salt marsh | Intertidal occupancy over stones | Handling fishing gear | Handling sediment | Occupancy on water | Indoor occupancy within 1 km of the licensed site boundary | Outdoor occupancy within 1 km of the licensed site boundary |
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| **18** | | | | | | | X | X | X | X | X | | | | | | X | X | | | | | | | | | | | | |
| **19** | | | | | | | X | X | X | X | X | | | | | | | X | | X | | | | | | | | | X | X |
| **20** | | | | | | | | | | | X | X | X | | X | | | X | | X | | | | | | | | | X | X |
| **21** | X | X | X | X | | | | | | | | | | | | | | | | | X | | | 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: intertidal occupancy over mud and sand, intertidal occupancy over mud, sand and stones.

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

| Person ID number | Fish | Crustaceans | Wildfowl | Marine plants/algae | Salt marsh grazed cattle | Salt marsh grazed sheep | Green vegetables | Other vegetables | Root vegetables | Potato | Domestic fruit | Milk | Cattle meat | Pig meat | Sheep meat | Poultry | Eggs | Wild/free foods | Honey | Wild fungi | Intertidal occupancy over mud | Intertidal occupancy over mud and sand | Intertidal occupancy over mud, sand and stones | Intertidal occupancy over salt marsh | Intertidal occupancy over stones | Handling fishing gear | Handling sediment | Occupancy on water | Indoor occupancy within 1 km of the licensed site boundary | Outdoor occupancy within 1 km of the licensed site boundary |
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| **3516/1/1** | - | - | **27.0** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 80 | - | - | 40 | - | - | 120 | - | - | - |
| **3517/1/1** | - | - | - | - | - | - | - | - | - | - | **25.0** | **414.6** | - | - | 4.7 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1055 |
| **3517/2/1** | - | - | - | - | - | - | - | - | - | - | **25.0** | **414.6** | - | - | 4.7 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3517/3/1** | - | - | - | - | - | - | - | - | - | - | - | **414.6** | - | - | 4.7 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1055 |
| **3517/4/1** | - | - | - | - | - | - | - | - | - | - | - | **414.6** | - | - | 4.7 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3517/5/1** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4.7 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3517/6/1** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4.7 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3518/1/1** | - | - | - | - | - | - | - | - | - | - | 5.2 | **184.0** | **17.6** | - | **10.6** | - | - | 0.7 | - | 0.1 | - | - | - | - | - | - | - | - | - | 183 |
| **3518/2/1** | - | - | - | - | - | - | - | - | - | - | 5.2 | **184.0** | **17.6** | - | **10.6** | - | - | 0.7 | - | 0.1 | - | - | - | - | - | - | - | - | - | - |
| **3518/3/1** | - | - | - | - | - | - | - | - | - | - | 5.2 | **184.0** | **17.6** | - | **10.6** | - | - | 0.7 | - | 0.1 | - | - | - | - | - | - | - | - | - | - |
| **3518/7/1** | - | - | - | - | - | - | - | - | - | - | 5.2 | **184.0** | **17.6** | - | **10.6** | - | - | 0.7 | - | 0.1 | - | - | - | - | - | - | - | - | - | - |
| **3518/8/1** | - | - | - | - | - | - | - | - | - | - | 5.2 | **184.0** | **17.6** | - | **10.6** | - | - | 0.7 | - | 0.1 | - | - | - | - | - | - | - | - | - | - |
| **3518/9/1** | - | - | - | - | - | - | - | - | - | - | 5.2 | **184.0** | **17.6** | - | **10.6** | - | - | 0.7 | - | 0.1 | - | - | - | - | - | - | - | - | - | 92 |
| **3519/1/1** | - | - | - | - | - | - | 0.2 | 1.6 | 7.0 | 9.6 | 0.8 | - | - | - | - | - | - | 0.1 | - | 0.2 | - | - | - | - | - | - | - | - | 5215 | 2457 |
| **3519/2/1** | - | - | - | - | - | - | 0.2 | 1.6 | 7.0 | 9.6 | 0.8 | - | - | - | - | - | - | 0.1 | - | 0.2 | - | - | - | - | - | - | - | - | 6117 | 1053 |
| **3519/3/1** | - | - | - | - | - | - | 0.2 | 1.6 | 7.0 | 9.6 | 0.8 | - | - | - | - | - | - | 0.1 | - | 0.2 | - | - | - | - | - | - | - | - | 5215 | 2457 |
| **3519/4/1** | - | - | - | - | - | - | 0.2 | 1.6 | 7.0 | 9.6 | 0.8 | - | - | - | - | - | - | 0.1 | - | 0.2 | - | - | - | - | - | - | - | - | - | - |
| **3519/5/1** | - | - | - | - | - | - | 0.2 | 1.6 | 7.0 | 9.6 | 0.8 | - | - | - | - | - | - | 0.1 | - | 0.2 | - | - | - | - | - | - | - | - | - | - |
| **3520/1/1** | - | - | - | - | - | - | - | - | - | - | - | - | - | **18.0** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 5792 | 2192 |
| **3520/2/1** | - | - | - | - | - | - | - | - | - | - | - | - | - | **18.0** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 7122 | 862 |
| **3520/3/1** | - | - | - | - | - | - | - | - | - | - | - | - | - | **12.0** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 8447 | 26 |
| **3521/1/1** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3522/1/1** | - | - | - | - | - | - | - | - | - | - | - | - | **15.6** | **15.6** | **15.6** | - | 5.9 | - | - | - | - | - | - | - | - | - | - | - | 6470 | 1611 |
| **3522/2/1** | - | - | - | - | - | - | - | - | - | - | - | - | **15.6** | **15.6** | **15.6** | - | 5.9 | - | - | - | - | - | - | - | - | - | - | - | 6470 | 1611 |
| **3522/3/1** | - | - | - | - | - | - | - | - | - | - | - | - | **15.6** | **15.6** | **15.6** | - | 5.9 | - | - | - | - | - | - | - | - | - | - | - | 6470 | 1611 |

| Person ID number | Fish | Crustaceans | Wildfowl | Marine plants/algae | Salt marsh grazed cattle | Salt marsh grazed sheep | Green vegetables | Other vegetables | Root vegetables | Potato | Domestic fruit | Milk | Cattle meat | Pig meat | Sheep meat | Poultry | Eggs | Wild/free foods | Honey | Wild fungi | Intertidal occupancy over mud | Intertidal occupancy over mud and sand | Intertidal occupancy over mud, sand and stones | Intertidal occupancy over salt marsh | Intertidal occupancy over stones | Handling fishing gear | Handling sediment | Occupancy on water | Indoor occupancy within 1 km of the licensed site boundary | Outdoor occupancy within 1 km of the licensed site boundary |
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| **3522/4/1** | - | - | - | - | - | - | - | - | - | - | - | - | **15.6** | **15.6** | **15.6** | - | 5.9 | - | - | - | - | - | - | - | - | - | - | - | 4865 | 1611 |
| **3523/1/1** | - | - | - | - | - | - | 9.8 | 14.0 | 1.8 | - | - | - | - | - | - | - | **13.9** | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3523/2/1** | - | - | - | - | - | - | 4.9 | 7.0 | 0.9 | - | - | - | - | - | 5.0 | - | **13.9** | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3523/3/1** | - | - | - | - | - | - | 4.9 | 7.0 | 0.9 | - | - | - | - | - | 5.0 | - | **13.9** | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3525/1/1** | - | - | - | - | - | - | - | - | - | - | - | **228.1** | **25.0** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3525/2/1** | - | - | - | - | - | - | - | - | - | - | - | **228.1** | **25.0** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3525/3/1** | - | - | - | - | - | - | - | - | - | - | - | **228.1** | **25.0** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3525/4/1** | - | - | - | - | - | - | - | - | - | - | - | **228.1** | **25.0** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3526/1/1** | - | - | - | - | - | - | - | - | - | - | 10.3 | - | - | - | - | - | 1.4 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3526/2/1** | - | - | - | - | - | - | - | - | - | - | 10.3 | - | - | - | - | - | 1.4 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3526/3/1** | - | - | - | - | - | - | - | - | - | - | 10.3 | - | - | - | - | - | 1.4 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3526/4/1** | - | - | - | - | - | - | - | - | - | - | 10.3 | - | - | - | - | - | 1.4 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3526/5/1** | - | - | - | - | - | - | - | - | - | - | 10.3 | - | - | - | - | - | 1.4 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3526/6/1** | - | - | - | - | - | - | - | - | - | - | 10.3 | - | - | - | - | - | 1.4 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3527/1/1** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3528/1/1** | - | - | - | - | - | **8.6** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3528/2/1** | - | - | - | - | - | **8.6** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3528/3/1** | - | - | - | - | - | **8.6** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3528/4/1** | - | - | - | - | - | **8.6** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3528/5/1** | - | - | - | - | - | **8.6** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3531/1/1** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | **78** | 78 | - | - | - | - | - | - | - |
| **3531/2/1** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | **78** | 78 | - | - | - | - | - | - | - |
| **3533/1/1** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3534/1/1** | - | - | 8.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 47 | - | - | **442** | - | - | **185** | - | - | - |
| **3534/2/1** | - | - | 8.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3534/3/1** | - | - | 8.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3534/4/1** | - | - | 8.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

| Person ID number | Fish | Crustaceans | Wildfowl | Marine plants/algae | Salt marsh grazed cattle | Salt marsh grazed sheep | Green vegetables | Other vegetables | Root vegetables | Potato | Domestic fruit | Milk | Cattle meat | Pig meat | Sheep meat | Poultry | Eggs | Wild/free foods | Honey | Wild fungi | Intertidal occupancy over mud | Intertidal occupancy over mud and sand | Intertidal occupancy over mud, sand and stones | Intertidal occupancy over salt marsh | Intertidal occupancy over stones | Handling fishing gear | Handling sediment | Occupancy on water | Indoor occupancy within 1 km of the licensed site boundary | Outdoor occupancy within 1 km of the licensed site boundary |
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| **3534/5/1** | - | - | 8.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | - | - | 11 | - | - | 15 | - | - | - |
| **3534/6/1** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 47 | - | - | 138 | - | - | **185** | - | - | - |
| **3534/6/2** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 47 | - | - | 138 | - | - | **185** | - | - | - |
| **3534/6/3** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 47 | - | - | 138 | - | - | **185** | - | - | - |
| **3534/6/4** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 47 | - | - | 138 | - | - | **185** | - | - | - |
| **3534/6/5** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 47 | - | - | 138 | - | - | **185** | - | - | - |
| **3534/6/6** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 47 | - | - | 138 | - | - | **185** | - | - | - |
| **3534/6/7** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 47 | - | - | 138 | - | - | **185** | - | - | - |
| **3534/6/8** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 47 | - | - | 138 | - | - | **185** | - | - | - |
| **3534/6/9** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 47 | - | - | 138 | - | - | **185** | - | - | - |
| **3534/6/10** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 47 | - | - | 138 | - | - | **185** | - | - | - |
| **3537/1/1** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | **78** | 156 | - | - | - | - | - | - | - |
| **3537/2/1** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | **52** | 104 | - | - | - | - | - | - | - |
| **3538/1/1** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 156 | - | - | - | - | - | - | - |
| **3540/1/1** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 3494 | 601 |
| **3540/2/1** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 3311 | 784 |
| **3541/1/1** | - | - | - | - | - | - | - | 1.0 | - | - | 1.0 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 7297 | 1254 |
| **3541/2/1** | - | - | - | - | - | - | - | 1.0 | - | - | 1.0 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 8111 | 440 |
| **3542/1/1** | - | - | - | - | - | - | - | 1.0 | - | - | 1.0 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 6868 | 65 |
| **3542/2/1** | - | - | - | - | - | - | - | 1.0 | - | - | 1.0 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 6644 | 25 |
| **3543/1/1** | - | - | - | - | - | - | **22.0** | 14.2 | **22.6** | 35.6 | **27.3** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 6452 | 842 |
| **3543/2/1** | - | - | - | - | - | - | **22.0** | 14.2 | **22.6** | 35.6 | **27.3** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 7399 | 144 |
| **3544/1/1** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | **730** | - | - | - | - | - | - | - |
| **3545/1/1** | 4.6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | **469** | - | - | - | - | - |
| **3545/2/1** | 4.6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3546/1/1** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 209 | - | - | - | - | - | - | - |
| **3546/2/1** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 209 | - | - | - | - | - | - | - |

| Person ID number | Fish | Crustaceans | Wildfowl | Marine plants/algae | Salt marsh grazed cattle | Salt marsh grazed sheep | Green vegetables | Other vegetables | Root vegetables | Potato | Domestic fruit | Milk | Cattle meat | Pig meat | Sheep meat | Poultry | Eggs | Wild/free foods | Honey | Wild fungi | Intertidal occupancy over mud | Intertidal occupancy over mud and sand | Intertidal occupancy over mud, sand and stones | Intertidal occupancy over salt marsh | Intertidal occupancy over stones | Handling fishing gear | Handling sediment | Occupancy on water | Indoor occupancy within 1 km of the licensed site boundary | Outdoor occupancy within 1 km of the licensed site boundary |
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| **3547/1/1** | **17.8** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 182 | - | - | - | - | - | - | - |
| **3547/2/1** | **17.8** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 182 | - | - | - | - | - | - | - |
| **3550/1/1** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0.5 | 0.2 | - | - | - | - | - | - | - | - | - | - | - |
| **3550/2/1** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0.5 | 0.2 | - | - | - | - | - | - | - | - | - | - | - |
| **3551/1/1** | 0.4 | 1.0 | **49.7** | 0.2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | **415** | - | - | 104 | - | - | **519** | - | - | - |
| **3551/2/1** | - | 1.0 | **49.7** | 0.2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | **415** | - | - | 104 | - | - | **519** | - | - | - |
| **3551/3/1** | - | 1.0 | **49.7** | 0.2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | **415** | - | - | 104 | - | - | **519** | - | - | - |
| **3551/4/1** | - | 1.0 | **49.7** | 0.2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3551/5/1** | - | 1.0 | **49.7** | 0.2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3552/1/1** | - | - | - | - | - | - | **17.1** | 11.6 | **28.8** | **80.0** | 2.7 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3552/2/1** | - | - | - | - | - | - | 5.3 | 3.7 | 9.0 | 25.3 | 0.9 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3552/3/1** | - | - | - | - | - | - | 5.3 | 3.7 | 9.0 | 25.3 | 0.9 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3552/6/1** | - | - | - | - | - | - | 5.3 | 3.7 | 9.0 | 25.3 | 0.9 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3555/1/1** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 7655 | 193 |
| **3556/1/1** | - | - | - | - | - | - | 3.1 | - | 0.4 | - | 10.8 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 7648 | 548 |
| **3557/1/1** | - | - | - | - | - | - | 8.5 | **42.8** | 14.7 | 12.7 | **20.2** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 5218 | 1554 |
| **3557/2/1** | - | - | - | - | - | - | 8.5 | **42.8** | 14.7 | 12.7 | **20.2** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4630 | 1617 |
| **3557/3/1** | - | - | - | - | - | - | 8.5 | **42.8** | 14.7 | 12.7 | **20.2** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 5753 | 169 |
| **3558/1/1** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 6.8 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3559/1/1** | - | - | - | - | - | - | 2.4 | - | 1.0 | 15.0 | 2.7 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3559/2/1** | - | - | - | - | - | - | - | - | - | 5.0 | 0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3559/3/1** | - | - | - | - | - | - | - | - | - | 5.0 | 0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3560/1/1** | - | - | - | - | - | - | - | 1.4 | - | 0.9 | 0.4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3560/2/1** | - | - | - | - | - | - | - | 1.4 | - | 0.9 | 0.4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3562/1/1** | - | - | - | - | - | - | 7.9 | 1.8 | 6.2 | 13.5 | **16.0** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3562/2/1** | - | - | - | - | - | - | 7.9 | 1.8 | 6.2 | 13.5 | **16.0** | - | - | - | - | - | **17.8** | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3562/3/1** | - | - | - | - | - | - | 7.6 | 1.8 | 5.9 | 13.0 | **15.4** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

| Person ID number | Fish | Crustaceans | Wildfowl | Marine plants/algae | Salt marsh grazed cattle | Salt marsh grazed sheep | Green vegetables | Other vegetables | Root vegetables | Potato | Domestic fruit | Milk | Cattle meat | Pig meat | Sheep meat | Poultry | Eggs | Wild/free foods | Honey | Wild fungi | Intertidal occupancy over mud | Intertidal occupancy over mud and sand | Intertidal occupancy over mud, sand and stones | Intertidal occupancy over salt marsh | Intertidal occupancy over stones | Handling fishing gear | Handling sediment | Occupancy on water | Indoor occupancy within 1 km of the licensed site boundary | Outdoor occupancy within 1 km of the licensed site boundary |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **3562/4/1** | - | - | - | - | - | - | 2.9 | 0.7 | 2.3 | 5.0 | 5.9 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3562/5/1** | - | - | - | - | - | - | 2.9 | 0.7 | 2.3 | 5.0 | 5.9 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3564/1/1** | - | - | - | - | - | - | **18.6** | 21.0 | 0.9 | - | 3.7 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3564/2/1** | - | - | - | - | - | - | **18.6** | 21.0 | 0.9 | - | 3.7 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3564/3/1** | - | - | - | - | - | - | 12.4 | 14.0 | 0.6 | - | 2.4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3564/4/1** | - | - | - | - | - | - | 12.4 | 14.0 | 0.6 | - | 2.4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3568/1/1** | - | - | - | - | - | - | **17.0** | 13.3 | 9.7 | 1.8 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3568/2/1** | - | - | - | - | - | - | **17.0** | 13.3 | 9.7 | 1.8 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3568/3/1** | - | - | - | - | - | - | 2.8 | 2.2 | 1.6 | 0.3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3568/4/1** | - | - | - | - | - | - | 2.8 | 2.2 | 1.6 | 0.3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3568/5/1** | - | - | - | - | - | - | 2.8 | 2.2 | 1.6 | 0.3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3569/1/1** | - | - | - | - | - | - | - | - | - | 6.5 | - | - | - | **6.5** | - | - | **31.2** | 0.01 | - | - | - | - | - | - | - | - | - | - | 5320 | 869 |
| **3569/2/1** | - | - | - | - | - | - | - | - | - | 6.5 | - | - | - | **6.5** | - | - | **31.2** | 0.01 | - | - | - | - | - | - | - | - | - | - | 6966 | 869 |
| **3570/1/1** | - | - | - | - | - | - | - | - | - | - | - | - | - | 3.0 | 3.0 | - | - | - | - | - | - | - | - | - | - | - | - | - | 5711 | 730 |
| **3570/2/1** | - | - | - | - | - | - | - | - | - | - | - | - | - | 3.0 | 3.0 | - | - | - | - | - | - | - | - | - | - | - | - | - | 6267 | 78 |
| **3573/1/1** | - | - | - | - | **8.7** | - | - | - | - | - | - | - | - | - | - | - | 5.2 | - | - | - | - | - | - | 107 | - | - | - | - | - | - |
| **3573/2/1** | - | - | - | - | **8.7** | - | - | - | - | - | - | - | - | - | - | - | 5.2 | - | - | - | - | - | - | 107 | - | - | - | - | - | - |
| **3573/3/1** | - | - | - | - | **8.7** | - | - | - | - | - | - | - | - | - | - | - | 5.2 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3573/4/1** | - | - | - | - | **8.7** | - | - | - | - | - | - | - | - | - | - | - | 5.2 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3574/1/1** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1935 | 129 |
| **3574/1/2** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1935 | 129 |
| **3574/1/3** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1935 | 129 |
| **3574/1/4** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1935 | 129 |
| **3574/1/5** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1935 | 129 |
| **3574/1/6** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1935 | 129 |
| **3574/1/7** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1935 | 129 |
| **3574/1/8** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1935 | 129 |

| Person ID number | Fish | Crustaceans | Wildfowl | Marine plants/algae | Salt marsh grazed cattle | Salt marsh grazed sheep | Green vegetables | Other vegetables | Root vegetables | Potato | Domestic fruit | Milk | Cattle meat | Pig meat | Sheep meat | Poultry | Eggs | Wild/free foods | Honey | Wild fungi | Intertidal occupancy over mud | Intertidal occupancy over mud and sand | Intertidal occupancy over mud, sand and stones | Intertidal occupancy over salt marsh | Intertidal occupancy over stones | Handling fishing gear | Handling sediment | Occupancy on water | Indoor occupancy within 1 km of the licensed site boundary | Outdoor occupancy within 1 km of the licensed site boundary |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **3574/1/9** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1935 | 129 |
| **3574/1/10** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1935 | 129 |
| **3575/1/1** | - | - | - | - | - | - | - | 0.3 | - | 1.0 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 5131 | 331 |
| **3575/2/1** | - | - | - | - | - | - | - | 0.3 | - | 1.0 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 6086 | 169 |
| **3576/1/1** | - | - | - | - | - | - | - | - | - | - | 0.5 | - | - | - | - | - | - | 0.5 | - | - | - | - | - | - | - | - | - | - | 7022 | 438 |
| **3576/2/1** | - | - | - | - | - | - | - | - | - | - | 12.0 | - | - | - | - | - | - | 0.5 | - | - | - | - | - | - | - | - | - | - | 6678 | 653 |
| **3577/1/1** | - | - | - | - | - | - | - | 13.0 | **26.6** | 10.1 | 4.8 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3577/2/1** | - | - | - | - | - | - | - | 4.3 | 8.9 | 3.4 | 1.6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3577/3/1** | - | - | - | - | - | - | - | 4.3 | 8.9 | 3.4 | 1.6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3577/4/1** | - | - | - | - | - | - | - | 4.3 | 8.9 | 3.4 | 1.6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3578/1/1** | - | - | - | - | - | - | 5.4 | 1.1 | 13.5 | 38.1 | 1.9 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3578/2/1** | - | - | - | - | - | - | 5.4 | 1.1 | 13.5 | 38.1 | 1.9 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3579/1/1** | - | - | - | - | - | - | **27.8** | 18.1 | **21.4** | 8.1 | 2.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3579/2/1** | - | - | - | - | - | - | **27.8** | 18.1 | **21.4** | 8.1 | 2.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3580/1/1** | - | - | - | - | - | - | - | - | - | - | - | - | **14.3** | - | - | **5.0** | - | 0.2 | - | - | - | - | - | - | - | - | - | - | - | - |
| **3580/2/1** | - | - | - | - | - | - | - | - | - | - | - | - | **14.3** | - | - | **5.0** | - | 0.2 | - | - | - | - | - | - | - | - | - | - | - | - |
| **3580/3/1** | - | - | - | - | - | - | - | - | - | - | - | - | **14.3** | - | - | **5.0** | - | 0.2 | - | - | - | - | - | - | - | - | - | - | - | - |
| **3581/1/1** | - | - | - | - | - | - | - | - | - | - | - | 88.8 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 6134 | 52 |
| **3581/2/1** | - | - | - | - | - | - | - | - | - | - | - | 88.8 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 6873 | 52 |
| **3582/1/1** | - | - | - | - | - | - | - | - | - | - | - | - | 3.0 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 5592 | 822 |
| **3582/2/1** | - | - | - | - | - | - | - | - | - | - | - | - | 3.0 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 5592 | 822 |
| **3584/1/1** | - | - | - | - | - | - | - | - | - | - | - | - | 0.3 | 0.3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 7260 | 444 |
| **3584/2/1** | - | - | - | - | - | - | - | - | - | - | - | - | 0.3 | 0.3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 7642 | 63 |
| **3586/1/1** | - | - | - | - | - | - | 2.1 | 4.5 | 2.0 | 5.6 | 0.6 | - | - | - | - | - | - | 0.9 | - | - | - | - | - | - | - | - | - | - | - | - |
| **3586/2/1** | - | - | - | - | - | - | 2.1 | 4.5 | 2.0 | 5.6 | 0.6 | - | - | - | - | - | - | 0.9 | - | - | - | - | - | - | - | - | - | - | - | - |
| **3586/3/1** | - | - | - | - | - | - | 2.1 | 4.5 | 2.0 | 5.6 | 0.6 | - | - | - | - | - | - | 0.9 | - | - | - | - | - | - | - | - | - | - | - | - |
| **3586/4/1** | - | - | - | - | - | - | 2.1 | 4.5 | 2.0 | 5.6 | 0.6 | - | - | - | - | - | - | 0.9 | - | - | - | - | - | - | - | - | - | - | - | - |

| Person ID number | Fish | Crustaceans | Wildfowl | Marine plants/algae | Salt marsh grazed cattle | Salt marsh grazed sheep | Green vegetables | Other vegetables | Root vegetables | Potato | Domestic fruit | Milk | Cattle meat | Pig meat | Sheep meat | Poultry | Eggs | Wild/free foods | Honey | Wild fungi | Intertidal occupancy over mud | Intertidal occupancy over mud and sand | Intertidal occupancy over mud, sand and stones | Intertidal occupancy over salt marsh | Intertidal occupancy over stones | Handling fishing gear | Handling sediment | Occupancy on water | Indoor occupancy within 1 km of the licensed site boundary | Outdoor occupancy within 1 km of the licensed site boundary |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **3588/1/1** | - | - | - | - | - | - | **28.2** | **40.9** | **36.8** | 13.5 | 13.2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3588/2/1** | - | - | - | - | - | - | **28.2** | **40.9** | **36.8** | 13.5 | 13.2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3589/1/1** | - | - | - | - | - | - | **19.3** | 19.3 | **20.4** | 30.0 | **16.2** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3589/2/1** | - | - | - | - | - | - | **19.3** | 19.3 | **20.4** | 30.0 | **16.2** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3590/1/1** | - | - | - | - | - | - | **14.3** | **36.0** | 17.9 | 12.0 | **20.4** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3590/2/1** | - | - | - | - | - | - | **14.3** | **36.0** | 17.9 | 12.0 | **20.4** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3590/3/1** | - | - | - | - | - | - | 1.0 | 2.5 | 1.3 | 0.9 | 1.5 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3590/4/1** | - | - | - | - | - | - | 1.0 | 2.5 | 1.3 | 0.9 | 1.5 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3590/5/1** | - | - | - | - | - | - | 1.0 | 2.5 | 1.3 | 0.9 | 1.5 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3590/6/1** | - | - | - | - | - | - | 1.0 | 2.5 | 1.3 | 0.9 | 1.5 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3593/1/1** | - | - | - | - | - | - | **19.1** | 22.5 | **40.0** | 25.4 | 5.9 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3593/2/1** | - | - | - | - | - | - | **19.1** | 22.5 | **40.0** | 25.4 | 5.9 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3596/1/1** | - | - | - | - | - | - | 11.0 | 0.9 | 9.1 | **40.4** | 4.9 | - | - | - | - | - | - | 1.0 | - | - | - | - | - | - | - | - | - | - | - | - |
| **3596/2/1** | - | - | - | - | - | - | 11.0 | 0.9 | 9.1 | **40.4** | 4.9 | - | - | - | - | - | - | 1.0 | - | - | - | - | - | - | - | - | - | - | - | - |
| **3597/1/1** | - | - | - | - | - | - | **37.4** | **52.8** | **43.8** | 31.8 | **33.7** | - | - | - | - | - | - | **2.2** | - | - | - | - | - | - | - | - | - | - | - | - |
| **3597/2/1** | - | - | - | - | - | - | **37.4** | **52.8** | **43.8** | 31.8 | **33.7** | - | - | - | - | - | - | **2.2** | - | - | - | - | - | - | - | - | - | - | - | - |
| **3599/1/1** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 6687 | 533 |
| **3599/2/1** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 5451 | 416 |
| **3599/3/1** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1841 | 13 |
| **3599/4/1** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 5046 | 351 |
| **3600/1/1** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | **17.8** | - | - | - | - | - | - | - | - | - | - | - | 7305 | 418 |
| **3601/1/1** | - | - | - | - | - | - | 1.0 | 3.6 | - | - | 0.6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 6988 | 1096 |
| **3601/2/1** | - | - | - | - | - | - | 1.0 | 3.6 | - | - | 0.6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 6988 | 1096 |
| **3602/1/1** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 7614 | 235 |
| **3602/3/1** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 5563 | 117 |
| **3603/1/1** | - | - | - | - | - | - | 6.2 | **37.0** | 7.6 | - | 1.5 | - | - | - | - | **7.0** | **13.4** | - | - | - | - | - | - | - | - | - | - | - | 8108 | 131 |
| **3603/2/1** | - | - | - | - | - | - | 6.2 | **37.0** | 7.6 | - | 1.5 | - | - | - | - | **7.0** | **13.4** | - | - | - | - | - | - | - | - | - | - | - | 6411 | 1828 |

| Person ID number | Fish | Crustaceans | Wildfowl | Marine plants/algae | Salt marsh grazed cattle | Salt marsh grazed sheep | Green vegetables | Other vegetables | Root vegetables | Potato | Domestic fruit | Milk | Cattle meat | Pig meat | Sheep meat | Poultry | Eggs | Wild/free foods | Honey | Wild fungi | Intertidal occupancy over mud | Intertidal occupancy over mud and sand | Intertidal occupancy over mud, sand and stones | Intertidal occupancy over salt marsh | Intertidal occupancy over stones | Handling fishing gear | Handling sediment | Occupancy on water | Indoor occupancy within 1 km of the licensed site boundary | Outdoor occupancy within 1 km of the licensed site boundary |
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| **3604/1/1** | - | - | - | - | - | - | 0.7 | 1.5 | - | 2.3 | 1.2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4713 | 1644 |
| **3604/2/1** | - | - | - | - | - | - | 0.7 | 1.5 | - | 2.3 | 1.2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 6637 | 470 |
| **3605/1/1** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 7363 | 1006 |
| **3606/1/1** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 2346 | 40 |
| **3606/1/2** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 2346 | 40 |
| **3606/1/3** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 2346 | 40 |
| **3606/1/4** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 2346 | 40 |
| **3606/1/5** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 2346 | 40 |
| **3606/1/6** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 2346 | 40 |
| **3606/1/7** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 2346 | 40 |
| **3606/1/8** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 2346 | 40 |
| **3606/1/9** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 2346 | 40 |
| **3606/2/1** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1392 | 40 |
| **3607/1/1** | - | - | - | - | - | - | - | 3.0 | - | - | 3.0 | - | - | - | **12.0** | **3.0** | - | - | - | **0.8** | - | - | - | - | - | - | - | - | 6168 | - |
| **3607/2/1** | - | - | - | - | - | - | - | 3.0 | - | - | 3.0 | - | - | - | **12.0** | **3.0** | - | - | - | **0.8** | - | - | - | - | - | - | - | - | 4104 | 3440 |
| **3607/3/1** | - | - | - | - | - | - | - | 3.0 | - | - | 3.0 | - | - | - | **12.0** | **3.0** | - | - | - | **0.8** | - | - | - | - | - | - | - | - | 3784 | 3440 |
| **3609/1/1** | - | - | - | - | - | - | - | - | - | - | 0.7 | - | 4.0 | - | **10.0** | - | - | 0.3 | - | - | - | - | - | - | - | - | - | - | 4822 | 914 |
| **3609/2/1** | - | - | - | - | - | - | - | - | - | - | 0.7 | - | 4.0 | - | **10.0** | - | - | 0.3 | - | - | - | - | - | - | - | - | - | - | 5916 | 1005 |
| **3609/3/1** | - | - | - | - | - | - | - | - | - | - | 0.7 | - | 4.0 | - | **10.0** | - | - | 0.3 | - | - | - | - | - | - | - | - | - | - | 5916 | 1005 |
| **3609/4/1** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0.3 | - | - | - | - | - | - | - | - | - | - | 1904 | 209 |
| **3610/1/1** | - | - | - | - | - | - | - | - | - | - | 4.9 | - | - | - | - | - | - | 0.6 | - | - | - | - | - | - | - | - | - | - | 7912 | 717 |
| **3610/2/1** | - | - | - | - | - | - | - | - | - | - | 4.9 | - | - | - | - | - | - | 0.6 | - | - | - | - | - | - | - | - | - | - | 8317 | 313 |
| **3613/1/1** | - | - | - | - | - | - | **20.8** | 28.6 | **35.7** | 27.3 | 11.0 | - | - | - | - | - | **34.2** | - | - | - | - | - | - | - | - | - | - | - | 6125 | 1281 |
| **3613/2/1** | - | - | - | - | - | - | **20.8** | 28.6 | **35.7** | 27.3 | 11.0 | - | - | - | - | - | **34.2** | - | - | - | - | - | - | - | - | - | - | - | 6584 | 822 |
| **3615/1/1** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | **168** | - | - | - | - | - | - |
| **3615/2/1** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | **382** | - | - | - | - | - | - |
| **3615/3/1** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 24 | - | - | - | - | - | - |

| Person ID number | Fish | Crustaceans | Wildfowl | Marine plants/algae | Salt marsh grazed cattle | Salt marsh grazed sheep | Green vegetables | Other vegetables | Root vegetables | Potato | Domestic fruit | Milk | Cattle meat | Pig meat | Sheep meat | Poultry | Eggs | Wild/free foods | Honey | Wild fungi | Intertidal occupancy over mud | Intertidal occupancy over mud and sand | Intertidal occupancy over mud, sand and stones | Intertidal occupancy over salt marsh | Intertidal occupancy over stones | Handling fishing gear | Handling sediment | Occupancy on water | Indoor occupancy within 1 km of the licensed site boundary | Outdoor occupancy within 1 km of the licensed site boundary |
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| **3615/3/2** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 24 | - | - | - | - | - | - |
| **3615/3/3** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 24 | - | - | - | - | - | - |
| **3615/3/4** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 24 | - | - | - | - | - | - |
| **3615/3/5** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 24 | - | - | - | - | - | - |
| **3619/1/1** | **40.7** | - | - | **1.2** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | - | **549** | - | 1098 | - | - |
| **3619/2/1** | **40.7** | - | - | **1.2** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3620/1/1** | 2.3 | **2.9** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 182 | - | 818 | - | - |
| **3621/1/1** | - | - | - | - | - | - | - | - | - | - | 2.3 | **219.2** | - | - | - | 1.2 | - | 0.8 | 0.3 | - | - | - | - | - | - | - | - | - | 4563 | 3861 |
| **3621/2/1** | - | - | - | - | - | - | - | - | - | - | 2.3 | - | - | - | - | 1.2 | - | 0.8 | 0.3 | - | - | - | - | - | - | - | - | - | 6845 | 702 |
| **3621/3/1** | - | - | - | - | - | - | - | - | - | - | 2.3 | 11.8 | - | - | - | 1.2 | - | 0.8 | 0.3 | - | - | - | - | - | - | - | - | - | 521 | 2086 |
| **3621/4/1** | - | - | - | - | - | - | - | - | - | - | - | 11.8 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 521 | 2086 |
| **3621/4/2** | - | - | - | - | - | - | - | - | - | - | - | 11.8 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 521 | 2086 |
| **3621/5/1** | - | - | - | - | - | - | - | - | - | - | - | 11.8 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 417 |
| **3622/1/1** | - | - | - | - | - | 2.0 | - | - | - | - | 8.4 | - | - | - | - | - | - | - | - | - | - | - | - | 79 | - | - | - | - | - | - |
| **3622/2/1** | - | - | - | - | - | 2.0 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3622/2/2** | - | - | - | - | - | 2.0 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3622/2/3** | - | - | - | - | - | 2.0 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3622/2/4** | - | - | - | - | - | 2.0 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3622/2/5** | - | - | - | - | - | 2.0 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3622/2/6** | - | - | - | - | - | 2.0 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3622/2/7** | - | - | - | - | - | 2.0 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3622/2/8** | - | - | - | - | - | 2.0 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3622/2/9** | - | - | - | - | - | 2.0 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3623/1/1** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1.3 | - | - | - | - | - | - | - | - | - | - | - | - |
| **3623/2/1** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1.3 | - | - | - | - | - | - | - | - | - | - | - | - |
| **3623/3/1** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1.3 | - | - | - | - | - | - | - | - | - | - | - | - |
| **3627/1/1** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 78 | - | - | - | - | - | - | - | - | - |

| Person ID number | Fish | Crustaceans | Wildfowl | Marine plants/algae | Salt marsh grazed cattle | Salt marsh grazed sheep | Green vegetables | Other vegetables | Root vegetables | Potato | Domestic fruit | Milk | Cattle meat | Pig meat | Sheep meat | Poultry | Eggs | Wild/free foods | Honey | Wild fungi | Intertidal occupancy over mud | Intertidal occupancy over mud and sand | Intertidal occupancy over mud, sand and stones | Intertidal occupancy over salt marsh | Intertidal occupancy over stones | Handling fishing gear | Handling sediment | Occupancy on water | Indoor occupancy within 1 km of the licensed site boundary | Outdoor occupancy within 1 km of the licensed site boundary |
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| **3628/1/1** | 1.5 | **5.2** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 32 | - | - | 98 | - | - | 130 | - | - | - |
| **3628/2/1** | - | **4.2** | **30.3** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 20 | - | - | 60 | - | - | 80 | - | - | - |
| **3630/1/1** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 7144 | 902 |
| **3630/2/1** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 6843 | - |
| **3631/1/1** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 7342 | 169 |
| **3631/2/1** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 611 | 105 |
| **3631/4/1** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 206 | 81 |
| **3631/6/1** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 611 | 105 |
| **3632/1/1** | - | - | - | - | - | - | **14.6** | **60.8** | 1.1 | 10.0 | **20.8** | - | - | - | - | - | - | **6.3** | - | - | - | - | - | - | - | - | - | - | - | - |
| **3632/2/1** | - | - | - | - | - | - | **14.6** | **60.8** | 1.1 | 10.0 | **20.8** | - | - | - | - | - | - | **6.3** | - | - | - | - | - | - | - | - | - | - | - | - |
| **3633/1/1** | - | - | - | - | - | - | **30.8** | 24.6 | **21.1** | 23.9 | **24.0** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3633/2/1** | - | - | - | - | - | - | **30.8** | 24.6 | **21.1** | 23.9 | **24.0** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3633/3/1** | - | - | - | - | - | - | 7.7 | 6.1 | 5.3 | 6.0 | 6.0 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3634/1/1** | - | - | - | - | - | - | 5.0 | **31.3** | 4.9 | - | **39.7** | - | - | - | - | - | - | 1.7 | - | - | - | - | - | - | - | - | - | - | - | - |
| **3634/2/1** | - | - | - | - | - | - | 5.0 | **31.3** | 4.9 | - | **39.7** | - | - | - | - | - | - | 1.7 | - | - | - | - | - | - | - | - | - | - | - | - |
| **3635/1/1** | - | - | - | - | - | - | **33.9** | 13.2 | 12.9 | 10.1 | 6.0 | - | - | - | - | - | - | 1.0 | - | - | - | - | - | - | - | - | - | - | - | - |
| **3635/2/1** | - | - | - | - | - | - | **33.9** | 13.2 | 12.9 | 10.1 | 6.0 | - | - | - | - | - | - | 1.0 | - | - | - | - | - | - | - | - | - | - | - | - |
| **3636/1/1** | - | - | - | - | - | - | 7.0 | 14.0 | **20.3** | 20.0 | 3.0 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3636/2/1** | - | - | - | - | - | - | 7.0 | 14.0 | **20.3** | 20.0 | 3.0 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3637/1/1** | - | - | - | - | - | - | **31.2** | 22.2 | **35.1** | 33.3 | 11.4 | - | - | - | - | - | 6.3 | 0.2 | - | - | - | - | - | - | - | - | - | - | - | - |
| **3637/2/1** | - | - | - | - | - | - | **31.2** | 22.2 | **35.1** | 33.3 | 11.4 | - | - | - | - | - | 6.3 | 0.2 | - | - | - | - | - | - | - | - | - | - | - | - |
| **3638/1/1** | - | - | - | - | - | - | 5.5 | **62.9** | **23.6** | - | **13.3** | - | - | - | - | - | - | 0.5 | - | - | - | - | - | - | - | - | - | - | 6124 | 2010 |
| **3638/2/1** | - | - | - | - | - | - | 5.5 | **62.9** | **23.6** | - | **13.3** | - | - | - | - | - | - | 0.5 | - | - | - | - | - | - | - | - | - | - | 7455 | 679 |
| **3639/1/1** | - | - | - | - | - | - | 11.4 | **45.6** | **58.1** | **58.5** | **14.9** | - | - | - | - | - | **17.8** | - | - | - | - | - | - | - | - | - | - | - | 6515 | 1828 |
| **3640/1/1** | - | - | - | - | - | - | 7.6 | **90.7** | **49.5** | **61.9** | **15.3** | - | - | - | - | - | - | - | 0.9 | - | - | - | - | - | - | - | - | - | - | - |
| **3640/2/1** | - | - | - | - | - | - | 7.6 | **90.7** | **49.5** | **61.9** | **15.3** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3640/3/1** | - | - | - | - | - | - | 6.1 | **68.2** | **33.2** | **41.3** | 10.0 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

| Person ID number | Fish | Crustaceans | Wildfowl | Marine plants/algae | Salt marsh grazed cattle | Salt marsh grazed sheep | Green vegetables | Other vegetables | Root vegetables | Potato | Domestic fruit | Milk | Cattle meat | Pig meat | Sheep meat | Poultry | Eggs | Wild/free foods | Honey | Wild fungi | Intertidal occupancy over mud | Intertidal occupancy over mud and sand | Intertidal occupancy over mud, sand and stones | Intertidal occupancy over salt marsh | Intertidal occupancy over stones | Handling fishing gear | Handling sediment | Occupancy on water | Indoor occupancy within 1 km of the licensed site boundary | Outdoor occupancy within 1 km of the licensed site boundary |
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| **3640/4/1** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | **9.1** | - | - | - | - | - | - | - | - | - | - | - |
| **3641/1/1** | - | - | - | - | - | - | **33.3** | **33.0** | 13.0 | **118.8** | 1.3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3641/2/1** | - | - | - | - | - | - | **33.3** | **33.0** | 13.0 | **118.8** | 1.3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3642/1/1** | - | - | - | - | - | - | - | - | - | - | - | - | 6.5 | **6.5** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 6334 | 1136 |
| **3642/2/1** | - | - | - | - | - | - | - | 0.4 | - | - | - | - | 6.5 | **6.5** | - | - | - | 0.8 | - | - | - | - | - | - | - | - | - | - | 6424 | 947 |
| **3643/1/1** | - | - | - | - | - | - | - | - | - | - | - | - | 1.1 | - | 1.1 | - | 1.5 | - | - | - | - | - | - | - | - | - | - | - | 7207 | 209 |
| **3643/2/1** | - | - | - | - | - | - | - | - | - | - | - | - | 1.1 | - | 1.1 | - | 1.5 | - | - | - | - | - | - | - | - | - | - | - | 7635 | 117 |
| **3643/3/1** | - | - | - | - | - | - | - | - | - | - | - | - | 1.1 | - | 1.1 | - | 1.5 | - | - | - | - | - | - | - | - | - | - | - | 7207 | 209 |
| **3643/4/1** | - | - | - | - | - | - | - | - | - | - | - | - | 1.1 | - | 1.1 | - | 1.5 | - | - | - | - | - | - | - | - | - | - | - | 6627 | 117 |
| **3644/1/1** | 5.9 | **3.9** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | **730** | 26 | - | - | - | - | - | - |
| **3644/2/1** | 5.9 | **3.9** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | **730** | 26 | - | - | - | - | - | - |
| **3644/3/1** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 78 | 26 | - | - | - | - | - | - |
| **3644/3/2** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 78 | 26 | - | - | - | - | - | - |
| **3644/3/3** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 78 | 26 | - | - | - | - | - | - |
| **3644/3/4** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 78 | 26 | - | - | - | - | - | - |
| **3644/3/5** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 78 | 26 | - | - | - | - | - | - |
| **3644/4/1** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 78 | 26 | - | - | - | - | - | - |
| **3644/4/2** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 78 | 26 | - | - | - | - | - | - |
| **3644/4/3** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 78 | 26 | - | - | - | - | - | - |
| **3644/4/4** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 78 | 26 | - | - | - | - | - | - |
| **3644/4/5** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 78 | 26 | - | - | - | - | - | - |
| **3648/1/1** | - | - | - | - | - | - | - | - | - | - | - | - | **31.1** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3648/2/1** | - | - | - | - | - | - | - | - | - | - | - | - | **31.1** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3648/3/1** | - | - | - | - | - | - | - | - | - | - | - | - | **31.1** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3648/4/1** | - | - | - | - | - | - | - | - | - | - | - | - | **31.1** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3649/1/1** | - | - | - | - | - | - | - | - | - | - | - | **257.8** | **41.6** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3649/1/2** | - | - | - | - | - | - | - | - | - | - | - | **257.8** | **41.6** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

| Person ID number | Fish | Crustaceans | Wildfowl | Marine plants/algae | Salt marsh grazed cattle | Salt marsh grazed sheep | Green vegetables | Other vegetables | Root vegetables | Potato | Domestic fruit | Milk | Cattle meat | Pig meat | Sheep meat | Poultry | Eggs | Wild/free foods | Honey | Wild fungi | Intertidal occupancy over mud | Intertidal occupancy over mud and sand | Intertidal occupancy over mud, sand and stones | Intertidal occupancy over salt marsh | Intertidal occupancy over stones | Handling fishing gear | Handling sediment | Occupancy on water | Indoor occupancy within 1 km of the licensed site boundary | Outdoor occupancy within 1 km of the licensed site boundary |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **3649/2/1** | - | - | - | - | - | - | - | - | - | - | - | **257.8** | **41.6** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3649/2/2** | - | - | - | - | - | - | - | - | - | - | - | **257.8** | **41.6** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3649/3/1** | - | - | - | - | - | - | - | - | - | - | - | 97.3 | **41.6** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3649/4/1** | - | - | - | - | - | - | - | - | - | - | - | 97.3 | **41.6** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Notes**

Emboldened observations are the high-rate individuals

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

| Person ID number | Salt marsh grazed cattle | Salt marsh grazed sheep | Green vegetables | Other vegetables | Root vegetables | Potato | Domestic fruit | Milk | Cattle meat | Pig meat | Sheep meat | Eggs | Wild/free foods | Honey | Wild fungi | Intertidal occupancy over mud | Indoor occupancy within 1 km of the licensed site boundary | Outdoor occupancy within 1 km of the licensed site boundary |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **3517/7/1** | - | - | - | - | - | - | - | - | - | - | **4.7** | - | - | - | - | - | - | - |
| 3517/8/1 | - | - | - | - | - | - | - | - | - | - | 3.5 | - | - | - | - | - | - | - |
| 3517/9/1 | - | - | - | - | - | - | - | - | - | - | 3.5 | - | - | - | - | - | - | - |
| **3518/4/1** | - | - | - | - | - | - | **5.2** | **184.0** | **17.6** | - | **10.6** | - | **0.7** | - | **0.1** | - | - | - |
| **3518/5/1** | - | - | - | - | - | - | **3.9** | **138.0** | **13.2** | - | **7.9** | - | **0.5** | - | **0.04** | - | - | - |
| **3518/6/1** | - | - | - | - | - | - | **3.9** | **138.0** | **13.2** | - | **7.9** | - | **0.5** | - | **0.04** | - | - | - |
| **3519/6/1** | - | - | 0.1 | **1.2** | **5.3** | **7.2** | 0.6 | - | - | - | - | - | 0.1 | - | **0.1** | - | - | - |
| **3528/6/1** | - | **8.6** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3528/7/1** | - | **8.6** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3550/3/1** | - | - | - | - | - | - | - | - | - | - | - | - | **0.5** | **0.2** | - | - | - | - |
| **3550/4/1** | - | - | - | - | - | - | - | - | - | - | - | - | **0.5** | **0.2** | - | - | - | - |
| **3552/5/1** | - | - | **4.0** | **2.8** | **6.8** | **18.9** | 0.6 | - | - | - | - | - | - | - | - | - | - | - |
| **3552/7/1** | - | - | **4.0** | **2.8** | **6.8** | **18.9** | 0.6 | - | - | - | - | - | - | - | - | - | - | - |
| **3568/6/1** | - | - | **2.3** | **1.8** | 1.3 | 0.2 | - | - | - | - | - | - | - | - | - | - | - | - |
| **3568/7/1** | - | - | **1.7** | **1.3** | 1.0 | 0.2 | - | - | - | - | - | - | - | - | - | - | - | - |
| **3568/8/1** | - | - | **1.7** | **1.3** | 1.0 | 0.2 | - | - | - | - | - | - | - | - | - | - | - | - |

| Person ID number | Salt marsh grazed cattle | Salt marsh grazed sheep | Green vegetables | Other vegetables | Root vegetables | Potato | Domestic fruit | Milk | Cattle meat | Pig meat | Sheep meat | Eggs | Wild/free foods | Honey | Wild fungi | Intertidal occupancy over mud | Indoor occupancy within 1 km of the licensed site boundary | Outdoor occupancy within 1 km of the licensed site boundary |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **3569/3/1** | - | - | - | - | - | **6.5** | - | - | - | **6.5** | - | **31.2** | 0.01 | - | - | - | 6146 | 562 |
| **3569/4/1** | - | - | - | - | - | **6.5** | - | - | - | **6.5** | - | **31.2** | 0.01 | - | - | - | 6146 | 562 |
| **3573/5/1** | **8.7** | - | - | - | - | - | - | - | - | - | - | 5.2 | - | - | - | - | - | - |
| **3573/6/1** | **6.5** | - | - | - | - | - | - | - | - | - | - | 3.9 | - | - | - | - | - | - |
| **3590/8/1** | - | - | 0.8 | **1.9** | 1.0 | 0.6 | 1.1 | - | - | - | - | - | - | - | - | - | - | - |
| **3590/9/1** | - | - | 0.8 | **1.9** | 1.0 | 0.6 | 1.1 | - | - | - | - | - | - | - | - | - | - | - |
| **3590/10/1** | - | - | 1.0 | **2.5** | 1.3 | 0.9 | 1.5 | - | - | - | - | - | - | - | - | - | - | - |
| **3627/2/1** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | **78** | - | - |
| 3650/3/1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 206 | 81 |
| 3650/5/1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 15 | 81 |
| **3635/3/1** | - | - | - | - | - | - | **2.6** | - | - | - | - | - | - | - | - | - | - | - |
| **3649/7/1** | - | - | - | - | - | - | - | **193.3** | **11.7** | - | - | - | - | - | - | - | - | - |
| **3649/7/2** | - | - | - | - | - | - | - | **193.3** | **11.7** | - | - | - | - | - | - | - | - | - |
| **3649/8/1** | - | - | - | - | - | - | - | **193.3** | **11.7** | - | - | - | - | - | - | - | - | - |
| **3649/9/1** | - | - | - | - | - | - | - | **97.3** | **20.8** | - | - | - | - | - | - | - | - | - |
| **3649/10/1** | - | - | - | - | - | - | - | **73.0** | **11.7** | - | - | - | - | - | - | - | - | - |

**Notes**

Emboldened observations are the high-rate individuals

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

| Person ID number | Green vegetables | Other vegetables | Root vegetables | Potato | Domestic fruit | Milk | Cattle meat | Poultry | Wild/free foods | Wild fungi | Indoor occupancy within 1 km of the licensed site boundary | Outdoor occupancy within 1 km of the licensed site boundary |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **3519/7/1** | 0.1 | **0.8** | **3.5** | **4.8** | **0.4** | - | - | - | **0.04** | **0.1** | - | - |
| **3552/4/1** | **1.3** | **0.9** | **2.3** | **6.3** | 0.2 | - | - | - | - | - | - | - |
| **3560/3/1** | - | **0.7** | - | 0.5 | 0.2 | - | - | - | - | - | - | - |
| **3580/4/1** | - | - | - | - | - | - | **7.1** | **2.5** | **0.1** | - | - | - |
| **3590/7/1** | **0.5** | **1.3** | 0.6 | 0.4 | **0.7** | - | - | - | - | - | - | - |
| 3602/2/1 | - | - | - | - | - | - | - | - | - | - | 7614 | 235 |
| **3648/5/1** | - | - | - | - | - | - | **3.9** | - | - | - | - | - |
| 3648/6/1 | - | - | - | - | - | - | 1.7 | - | - | - | - | - |
| **3649/5/1** | - | - | - | - | - | **85.1** | 2.2 | - | - | - | - | - |
| **3649/6/1** | - | - | - | - | - | **128.9** | **5.2** | - | - | - | - | - |

**Notes**

Emboldened observations are the high-rate individuals

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

| Person ID number | Crustaceans | Wildfowl | Marine plants/algae | Salt marsh grazed cattle | Salt marsh grazed sheep | Green vegetables | Other vegetables | Root vegetables | Potato | Domestic fruit | Milk | Cattle meat | Pig meat | Sheep meat | Poultry | Eggs | Wild/free foods | Honey | Wild fungi | Intertidal occupancy over mud and sand | Intertidal occupancy over mud, sand and stones | Intertidal occupancy over salt marsh | Indoor occupancy within 1 km of the licensed site boundary | Outdoor occupancy within 1 km of the licensed site boundary |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3517/5/1 | - | - | - | - | - | - | - | - | - | - | - | - | - | 4.7 | - | - | - | - | - | - | - | - | - | - |
| 3518/2/1 | - | - | - | - | - | - | - | - | - | 5.2 | 184.0 | 17.6 | - | 10.6 | - | - | 0.7 | - | 0.1 | - | - | - | - | - |
| 3519/5/1 | - | - | - | - | - | 0.2 | 1.6 | 7.0 | 9.6 | 0.8 | - | - | - | - | - | - | 0.1 | - | 0.2 | - | - | - | - | - |
| 3523/1/1 | - | - | - | - | - | 9.8 | 14.0 | 1.8 | - | - | - | - | - | - | - | 13.9 | - | - | - | - | - | - | - | - |
| 3525/3/1 | - | - | - | - | - | - | - | - | - | - | 228.1 | 25.0 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3526/3/1 | - | - | - | - | - | - | - | - | - | 10.3 | - | - | - | - | - | 1.4 | - | - | - | - | - | - | - | - |
| 3526/6/1 | - | - | - | - | - | - | - | - | - | 10.3 | - | - | - | - | - | 1.4 | - | - | - | - | - | - | - | - |
| 3528/4/1 | - | - | - | - | 8.6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 3528/6/1 | - | - | - | - | 8.6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 3531/2/1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 78 | 78 | - | - | - |
| 3538/1/1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 156 | - | - | - |
| 3550/2/1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0.5 | 0.2 | - | - | - | - | - | - |
| 3551/5/1 | 1.0 | 49.7 | 0.2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 3552/3/1 | - | - | - | - | - | 5.3 | 3.7 | 9.0 | 25.3 | 0.9 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 3557/3/1 | - | - | - | - | - | 8.5 | 42.8 | 14.7 | 12.7 | 20.2 | - | - | - | - | - | - | - | - | - | - | - | - | 5753 | 169 |
| 3560/2/1 | - | - | - | - | - | - | 1.4 | - | 0.9 | 0.4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 3564/1/1 | - | - | - | - | - | 18.6 | 21.0 | 0.9 | - | 3.7 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 3568/4/1 | - | - | - | - | - | 2.8 | 2.2 | 1.6 | 0.3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 3569/2/1 | - | - | - | - | - | - | - | - | 6.5 | - | - | - | 6.5 | - | - | 31.2 | - | - | - | - | - | - | 6966 | 869 |
| 3573/3/1 | - | - | - | 8.7 | - | - | - | - | - | - | - | - | - | - | - | 5.2 | - | - | - | - | - | - | - | - |
| 3580/2/1 | - | - | - | - | - | - | - | - | - | - | - | 14.3 | - | - | 5.0 | - | 0.2 | - | - | - | - | - | - | - |

| Person ID number | Crustaceans | Wildfowl | Marine plants/algae | Salt marsh grazed cattle | Salt marsh grazed sheep | Green vegetables | Other vegetables | Root vegetables | Potato | Domestic fruit | Milk | Cattle meat | Pig meat | Sheep meat | Poultry | Eggs | Wild/free foods | Honey | Wild fungi | Intertidal occupancy over mud and sand | Intertidal occupancy over mud, sand and stones | Intertidal occupancy over salt marsh | Indoor occupancy within 1 km of the licensed site boundary | Outdoor occupancy within 1 km of the licensed site boundary |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3590/3/1 | - | - | - | - | - | 1.0 | 2.5 | 1.3 | 0.9 | 1.5 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **3590/4/1** | - | - | - | - | - | 1.0 | 2.5 | 1.3 | 0.9 | 1.5 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 3599/2/1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 5451 | 416 |
| 3599/3/1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1841 | 13 |
| 3599/4/1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 5046 | 351 |
| 3602/1/1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 7614 | 235 |
| 3609/3/1 | - | - | - | - | - | - | - | - | - | 0.7 | - | 4.0 | - | 10.0 | - | - | 0.3 | - | - | - | - | - | 5916 | 1005 |
| 3631/3/1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 206 | 81 |
| 3631/4/1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 206 | 81 |
| 3633/2/1 | - | - | - | - | - | 30.8 | 24.6 | 21.1 | 23.9 | 24.0 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 3643/4/1 | - | - | - | - | - | - | - | - | - | - | - | 1.1 | - | 1.1 | - | 1.5 | - | - | - | - | - | - | 6627 | 117 |
| 3644/3/1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 78 | 26 | - | - |
| 3644/3/2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 78 | 26 | - | - |
| 3644/3/3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 78 | 26 | - | - |
| 3644/3/4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 78 | 26 | - | - |
| 3644/3/5 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 78 | 26 | - | - |
| 3648/4/1 | - | - | - | - | - | - | - | - | - | - | - | 31.1 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3649/2/1 | - | - | - | - | - | - | - | - | - | - | 257.8 | 41.6 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3649/2/2 | - | - | - | - | - | - | - | - | - | - | 257.8 | 41.6 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3649/3/1 | - | - | - | - | - | - | - | - | - | - | 97.3 | 41.6 | - | - | - | - | - | - | - | - | - | - | - | - |

[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 Springfields area for use in the assessment of total dose

| Profile Name | Pathway Name | Number of Individuals | Notes | Crustacea | Direct | Eggs | Fish - Sea | Fruit - Domestic | Fruit and nuts - Wild | Gamma ext – Salt Marsh | Gamma ext - Sediments | Honey | Marine plants/algae | Meat - Cow | Meat - Pig | Meat - Poultry | Meat - Salt Marsh Grazed Cow | Meat - Salt Marsh Grazed Sheep | Meat - Sheep | Meat - Wildfowl | Milk | Mushrooms | 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 | h | kg | kg | kg | kg | kg | kg | kg | kg | kg | l | kg | h | h | h | h | kg | kg | kg | kg |
| Crustacean Consumers | | 5 | | **4.0** | - | - | 3.1 | - | - | 42 | 300 | - | - | - | - | - | - | - | - | 6.1 | - | - | 160 | - | - | - | - | - | - | - |
| Occupants for Direct Radiation | | 107 | | - | **1.00** | 2.1 | - | 2.6 | 0.08 | - | - | <0.01 | - | 1.3 | 1.3 | 0.25 | - | - | 1.6 | - | 15.3 | 0.03 | - | 1950 | 920 | 2700 | 1.4 | 4.6 | 2.5 | 2.8 |
| Egg Consumers | | 12 | | - | 0.67 | **21.1** | - | 4.7 | <0.01 | - | - | - | - | - | 1.1 | 1.2 | - | - | 0.83 | - | - | - | - | 1370 | 1170 | 2570 | 7.7 | 17.2 | 11.6 | 12.9 |
| Sea Fish Consumers | | 4 | | - | - | - | **29.2** | - | - | 1 | 91 | - | 0.60 | - | - | - | - | - | - | - | - | - | 270 | - | - | - | - | - | - | - |
| Domestic Fruit Consumers | | 27 | | - | 0.33 | 1.3 | - | **22.0** | 0.78 | - | - | 0.03 | - | - | - | - | - | - | 0.35 | - | 30.7 | - | - | 640 | - | 1560 | 13.8 | 35.7 | 20.3 | 19.6 |
| Wild Fruit and Nut Consumers | | 4 | | - | - | - | - | 27.2 | **4.2** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 26.0 | 56.8 | 20.9 | 22.5 |
| Occupants over Salt Marsh | | 3 | | - | - | - | - | - | - | **330** | 16 | - | - | - | - | - | - | - | - | 2.7 | - | - | - | - | - | - | - | - | - | - |
| Occupants over Sediment | | 7 | | 1.5 | - | - | 2.4 | - | - | 52 | **560** | - | 0.09 | - | - | - | - | - | - | 21.3 | - | - | - | - | - | - | - | - | - | - |
| Honey Consumers | | 1 | | - | - | - | - | - | - | - | - | **9.1** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Consumers of Marine Plants and Algae | | 2 | | - | - | - | 40.7 | - | - | 2 | - | - | **1.2** | - | - | - | - | - | - | - | - | - | 550 | - | - | - | - | - | - | - |
| Cattle Meat Consumers | | 27 | | - | 0.22 | 0.88 | - | 1.2 | 0.18 | - | - | - | - | **25.4** | 2.3 | 0.56 | - | - | 4.7 | - | 120.1 | 0.01 | - | 1140 | 10 | - | - | - | - | - |
| Pig Meat Consumers | | 11 | | - | 1.00 | 7.8 | - | - | 0.07 | - | - | - | - | 6.9 | **12.4** | - | - | - | 5.7 | - | - | - | - | 2790 | 1270 | 3570 | - | 0.04 | 1.2 | - |
| Poultry Meat Consumers | | 8 | | - | 0.63 | 3.3 | - | 1.5 | 0.09 | - | - | - | - | 5.4 | - | **4.8** | - | - | 4.5 | - | - | 0.28 | - | 3770 | 900 | - | 1.5 | 10.4 | - | 1.9 |
| Consumers of Meat From Salt Marsh Grazed Cattle | | 4 | | - | - | 5.2 | - | - | - | 54 | - | - | - | - | - | - | **8.7** | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Consumers of Salt Marsh Grazed Sheep | | 5 | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | **8.6** | - | - | - | - | - | - | - | - | - | - | - | - |
| Sheep Meat Consumers | | 16 | | - | 0.75 | 1.5 | - | 2.6 | 0.31 | - | - | - | - | 11.3 | 3.9 | 0.56 | - | - | **12.0** | - | 69.0 | 0.16 | - | 2780 | 470 | 1220 | - | 0.57 | - | - |
| Wildfowl Consumers | | 7 | | 1.3 | - | - | 0.06 | - | - | 59 | 190 | - | 0.14 | - | - | - | - | - | - | **43.7** | - | - | - | - | - | - | - | - | - | - |
| Milk Consumers | | 19 | | - | 0.26 | - | - | 4.4 | 0.26 | - | - | 0.02 | - | 19.6 | - | 0.06 | - | - | 4.3 | - | **259.2** | 0.02 | - | 110 | 460 | - | - | - | - | - |
| Mushroom Consumers | | 3 | | - | 1.00 | - | - | 3.0 | - | - | - | - | - | - | - | 3.0 | - | - | 12.0 | - | - | **0.76** | - | 4570 | 2410 | - | - | 3.0 | - | - |
| Occupants On Water | | 2 | | 1.5 | - | - | 21.5 | - | - | 2 | - | - | 0.60 | - | - | - | - | - | - | - | - | - | **960** | - | - | - | - | - | - | - |
| Local Inhabitants (0 - 0.25 km) | | 25 | | - | 1.00 | 2.0 | - | 2.0 | 0.04 | - | - | - | - | 2.7 | 2.5 | 0.80 | - | - | 3.5 | - | 7.1 | 0.06 | - | **7280** | - | - | 1.1 | 8.4 | 0.18 | 2.5 |
| Local Inhabitants (0.25 - 0.5 km) | | 9 | | - | 1.00 | 7.6 | - | 0.84 | 0.17 | - | - | 0.07 | - | 0.50 | 1.4 | 0.60 | - | - | 1.8 | - | 24.4 | 0.08 | - | - | **7390** | - | - | - | 0.34 | 1.4 | - |
| Local Inhabitants (0.5 - 1 km) | | 40 | | - | 1.00 | 2.6 | - | 4.6 | 0.10 | - | - | - | - | 0.64 | 1.7 | - | - | - | 0.90 | - | - | 0.01 | - | - | - | **7160** | 3.1 | 6.9 | 6.3 | 6.0 |
| Green Vegetable Consumers | | 31 | | - | 0.13 | 2.6 | - | 12.8 | 0.62 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 960 | **24.3** | 27.5 | 27.2 | 22.4 |
| Other Domestic Vegetable Consumers | | 23 | | - | 0.35 | 1.9 | - | 17.6 | 0.92 | - | - | 0.04 | - | - | - | 0.61 | - | - | - | - | - | - | - | 1420 | - | 1190 | 15.1 | **49.3** | 27.6 | 23.1 |
| Potato Consumers | | 9 | | - | 0.11 | 2.0 | - | 7.9 | 0.23 | - | - | 0.10 | - | - | - | - | - | - | - | - | - | - | - | - | - | 930 | 15.4 | 41.6 | **69.1** | 29.3 |
| Root Vegetable Consumers | | 28 | | - | 0.25 | 3.5 | - | 13.8 | 0.20 | - | - | 0.03 | - | - | - | - | - | - | - | - | - | - | - | 580 | - | 1360 | 19.6 | 34.3 | 29.0 | **31.7** |

**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
3) Marine plants/algae represents consumption of samphire
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

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

| Profile Name | Pathway Name | Number of Individuals | Notes | Direct | Eggs | Fruit - Domestic | Fruit and nuts - Wild | Gamma ext - Sediments | Honey | Meat - Cow | Meat - Pig | Meat - Salt Marsh Grazed Cow | Meat - Salt Marsh Grazed Sheep | Meat - Sheep | Milk | Mushrooms | Plume (IN; 0-0.25 km) | Plume (MID; 0.25-0.5 km) | Vegetables - Green | Vegetables - Other Domestic | Vegetables - Potatoes | Vegetables - Root |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Notes | 1 | | | | 2 | | | | | | | | | 3 | 3 | | | | |
| | | | Units | - | kg | kg | kg | h | kg | kg | kg | kg | kg | kg | l | kg | h | h | kg | kg | kg | kg |
| Occupants for Direct Radiation | | 4 | | **1.00** | 15.6 | - | <0.01 | - | - | - | 3.3 | - | - | - | - | - | 96 | 3350 | - | - | 3.3 | - |
| Egg Consumers | | 2 | | 1.00 | **31.2** | - | <0.01 | - | - | - | 6.5 | - | - | - | - | - | - | 6710 | - | - | 6.5 | - |
| Domestic Fruit Consumers | | 4 | | - | - | **3.9** | 0.44 | - | - | 11.0 | - | - | - | 6.6 | 115.0 | 0.04 | - | - | - | - | - | - |
| Wild Fruit and Nut Consumers | | 5 | | - | - | 2.6 | **0.55** | - | 0.09 | 8.8 | - | - | - | 5.3 | 92.0 | 0.03 | - | - | - | - | - | - |
| Occupants over Sediment | | 1 | | - | - | - | - | **78** | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Honey Consumers | | 2 | | - | - | - | 0.50 | - | **0.23** | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Cattle Meat Consumers | | 8 | | - | - | 1.6 | 0.22 | - | - | **14.0** | - | - | - | 3.3 | 151.3 | 0.02 | - | - | - | - | - | - |
| Pig Meat Consumers | | 2 | | 1.00 | 31.2 | - | <0.01 | - | - | - | **6.5** | - | - | - | - | - | - | 6710 | - | - | 6.5 | - |
| Consumers of Meat From Salt Marsh Grazed | | 2 | | - | 4.5 | - | - | - | - | - | - | **7.6** | - | - | - | - | - | - | - | - | - | - |
| Consumers of Salt Marsh Grazed Sheep | | 2 | | - | - | - | - | - | - | - | - | - | **8.6** | - | - | - | - | - | - | - | - | - |
| Sheep Meat Consumers | | 6 | | - | - | 2.2 | 0.29 | - | - | 7.4 | - | - | - | **6.4** | 76.7 | 0.02 | - | - | - | - | - | - |
| Milk Consumers | | 8 | | - | - | 1.6 | 0.22 | - | - | 14.0 | - | - | - | 3.3 | **151.3** | 0.02 | - | - | - | - | - | - |
| Mushroom Consumers | | 4 | | - | - | 3.4 | 0.46 | - | - | 11.0 | - | - | - | 6.6 | 115.0 | **0.07** | - | - | 0.0 | 0.3 | 1.8 | 1.3 |
| Local Inhabitants (0 - 0.25 km) | | 2 | | 1.00 | - | - | - | - | - | - | - | - | - | - | - | - | **190** | - | - | - | - | - |
| Local Inhabitants (0.25 - 0.5 km) | | 2 | | 1.00 | 31.2 | - | <0.01 | - | - | - | 6.5 | - | - | - | - | - | - | **6710** | - | - | 6.5 | - |
| Green Vegetable Consumers | | 5 | | - | - | 0.26 | - | - | - | - | - | - | - | - | - | - | - | - | **2.7** | 2.0 | 7.7 | 3.4 |
| Other Domestic Vegetable Consumers | | 9 | | - | - | 0.61 | <0.01 | - | - | - | - | - | - | - | - | 0.01 | - | - | 1.8 | **1.9** | 5.3 | 2.8 |
| Potato Consumers | | 5 | | 0.40 | 12.5 | 0.38 | 0.01 | - | - | - | 2.6 | - | - | - | - | 0.02 | - | 2680 | 1.6 | 1.3 | **11.6** | 3.8 |
| Root Vegetable Consumers | | 3 | | - | - | 0.63 | 0.02 | - | - | - | - | - | - | - | - | 0.04 | - | - | 2.7 | 2.2 | 15.0 | **6.3** |

**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
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

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

| Profile Name | Pathway Name | Number of Individuals | Notes | Direct | Fruit - Domestic | Fruit and nuts - Wild | Meat - Cow | Meat - Poultry | Milk | Mushrooms | Plume (OUT; 0.5-1 km) | Vegetables - Green | Vegetables - Other Domestic | Vegetables - Potatoes | Vegetables - Root |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Notes | 1 | | | | | | | 2 | | | | |
| | | | Units | - | kg | kg | kg | kg | l | kg | h | kg | kg | kg | kg |
| Occupants for Direct Radiation | | 1 | | **1.00** | - | - | - | - | - | - | 7850 | - | - | - | - |
| Domestic Fruit Consumers | | 2 | | - | **0.56** | 0.02 | - | - | - | 0.04 | - | 0.30 | 1.0 | 2.6 | 2.1 |
| Wild Fruit and Nut Consumers | | 2 | | - | 0.20 | **0.08** | 3.6 | 1.3 | - | 0.04 | - | 0.05 | 0.40 | 2.4 | 1.8 |
| Cattle Meat Consumers | | 3 | | - | - | 0.04 | **5.4** | 0.83 | 43.0 | - | - | - | - | - | - |
| Poultry Meat Consumers | | 1 | | - | - | 0.11 | 7.1 | **2.5** | - | - | - | - | - | - | - |
| Milk Consumers | | 2 | | - | - | - | 3.7 | - | **107.0** | - | - | - | - | - | - |
| Mushroom Consumers | | 1 | | - | 0.40 | 0.04 | - | - | - | **0.08** | - | 0.10 | 0.80 | 4.8 | 3.5 |
| Local Inhabitants (0.5 - 1 km) | | 1 | | 1.00 | - | - | - | - | - | - | **7850** | - | - | - | - |
| Green Vegetable Consumers | | 2 | | - | 0.47 | - | - | - | - | - | - | **0.91** | 1.1 | 3.4 | 1.5 |
| Other Domestic Vegetable Consumers | | 4 | | - | 0.39 | 0.01 | - | - | - | 0.02 | - | 0.48 | **0.93** | 3.0 | 1.6 |
| Potato Consumers | | 2 | | - | 0.31 | 0.02 | - | - | - | 0.04 | - | 0.71 | 0.86 | **5.5** | 2.9 |
| Root Vegetable Consumers | | 2 | | - | 0.31 | 0.02 | - | - | - | 0.04 | - | 0.71 | 0.86 | 5.5 | **2.9** |

**Notes**

1) Direct radiation is expressed as proportion of group who are present within 1 km of site perimeter
2) 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

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

| Profile Name | Pathway Name | Number of Individuals | Notes | Crustacea | Direct | Eggs | Fruit - Domestic | Fruit and nuts - Wild | Gamma ext – Salt Marsh | Gamma ext - Sediments | Honey | Marine plants/algae | Meat - Cow | Meat - Pig | Meat - Poultry | Meat - Salt Marsh Grazed Cow | Meat - Salt Marsh Grazed Sheep | Meat - Sheep | Meat - Wildfowl | Milk | Mushrooms | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 1 | | | | | 2 | | 3 | | | | | | | | | | | 4 | 4 | 4 | | | | |
| | | | Units | kg | - | kg | kg | kg | h | h | kg | kg | kg | kg | kg | kg | kg | kg | kg | l | kg | h | h | h | kg | kg | kg | kg |
| Crustacean Consumers | | 1 | | **1.0** | - | - | - | - | - | - | - | 0.20 | - | - | - | - | - | - | 49.7 | - | - | - | - | - | - | - | - | - |
| Occupants for Direct Radiation | | 10 | | - | **1.00** | 3.3 | 2.1 | 0.03 | - | - | - | - | 0.51 | 0.65 | - | - | - | 1.1 | - | - | - | 1370 | 1460 | 2070 | 0.85 | 4.3 | 1.9 | 1.5 |
| Egg Consumers | | 2 | | - | 0.50 | **22.5** | - | <0.01 | - | - | - | - | - | 3.3 | - | - | - | - | - | - | - | - | 3920 | - | 4.9 | 7.0 | 3.3 | 0.90 |
| Domestic Fruit Consumers | | 4 | | - | 0.25 | 0.68 | **16.2** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1480 | 9.8 | 16.8 | 9.1 | 8.9 |
| Wild Fruit and Nut Consumers | | 3 | | - | 0.33 | - | 1.9 | **0.49** | - | - | 0.08 | - | 7.2 | - | - | - | - | 6.9 | - | 61.3 | 0.02 | - | - | 2310 | - | - | - | - |
| Occupants over Salt Marsh | | 5 | | - | - | - | - | - | **26** | 78 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Occupants over Sediment | | 7 | | - | - | - | - | - | 19 | **100** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Honey Consumers | | 1 | | - | - | - | - | 0.50 | - | - | **0.23** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Consumers of Marine Plants and Algae | | 1 | | 1.0 | - | - | - | - | - | - | - | **0.20** | - | - | - | - | - | - | 49.7 | - | - | - | - | - | - | - | - | - |
| Cattle Meat Consumers | | 7 | | - | - | - | 0.74 | 0.13 | - | - | - | - | **30.4** | - | 0.71 | - | - | 1.5 | - | 146.4 | <0.01 | - | - | - | - | - | - | - |
| Pig Meat Consumers | | 1 | | - | 1.00 | 31.2 | - | <0.01 | - | - | - | - | - | **6.5** | - | - | - | - | - | - | - | - | 7840 | - | - | - | 6.5 | - |
| Poultry Meat Consumers | | 1 | | - | - | - | - | 0.23 | - | - | - | - | 14.3 | - | **5.0** | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Consumers of Meat From Salt Marsh Grazed Cattle | | 1 | | - | - | 5.2 | - | - | - | - | - | - | - | - | - | **8.7** | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Consumers of Salt Marsh Grazed Sheep | | 2 | | - | - | - | - | - | - | - | - | - | - | - | - | - | **8.6** | - | - | - | - | - | - | - | - | - | - | - | - |
| Sheep Meat Consumers | | 3 | | - | 0.33 | - | 1.9 | 0.32 | - | - | - | - | 7.2 | - | - | - | - | **8.4** | - | 61.3 | 0.02 | - | - | 2310 | - | - | - | - |
| Wildfowl Consumers | | 1 | | 1.0 | - | - | - | - | - | - | - | 0.20 | - | - | - | - | - | - | **49.7** | - | - | - | - | - | - | - | - | - |
| Milk Consumers | | 5 | | - | - | - | 1.0 | 0.14 | - | - | - | - | 33.5 | - | - | - | - | 2.1 | - | **205.0** | 0.01 | - | - | - | - | - | - | - | - |
| Mushroom Consumers | | 2 | | - | - | - | 3.0 | 0.39 | - | - | - | - | 8.8 | - | - | - | - | 5.3 | - | 92.0 | **0.11** | - | - | - | 0.10 | 0.80 | 4.8 | 3.5 |
| Local Inhabitants (0 - 0.25 km) | | 2 | | - | 1.00 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | **5630** | - | - | - | - | - | - | - |
| Local Inhabitants (0.25 - 0.5 km) | | 2 | | - | 1.00 | 16.4 | - | <0.01 | - | - | - | - | 0.56 | 3.3 | - | - | - | 0.56 | - | - | - | - | **7290** | - | - | - | - | 3.3 | - |
| Local Inhabitants (0.5 - 1 km) | | 3 | | - | 1.00 | - | 7.0 | 0.08 | - | - | - | - | 1.3 | - | - | - | - | 3.3 | - | - | - | - | - | **6900** | 2.8 | 14.3 | 4.2 | 4.9 |
| Green Vegetable Consumers | | 2 | | - | - | - | 13.8 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | **24.7** | 22.8 | 11.9 | 11.0 |
| Other Domestic Vegetable Consumers | | 3 | | - | 0.33 | - | 16.0 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1970 | 19.3 | **29.4** | 12.2 | 12.2 |
| Potato Consumers | | 4 | | - | 0.25 | - | 11.5 | 0.02 | - | - | - | - | - | - | - | - | - | - | - | - | 0.04 | - | - | 1480 | 11.2 | 18.1 | **17.8** | 13.0 |
| Root Vegetable Consumers | | 4 | | - | 0.25 | - | 11.5 | 0.02 | - | - | - | - | - | - | - | - | - | - | - | - | 0.04 | - | - | 1480 | 11.2 | 18.1 | 17.8 | **13.0** |

**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

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, sand and stones
3) Marine plants/algae represents consumption of samphire
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

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Centre for Environment Fisheries & Aquaculture Science

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**Pakefield Road, Lowestoft, Suffolk, NR33 0HT**
**The Nothe, Barrack Road, Weymouth DT4 8UB**
**www.cefas.co.uk | +44 (0) 1502 562244**