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Radiological Habits Survey: Dungeness, 2019

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Radiological Habits Survey: Dungeness, 2019

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KEY POINTS

- The maximum and mean consumption rates of fish decreased significantly in the 2019 Dungeness habits survey compared with the previous survey undertaken in 2010. This was attributed to a retired fisherman who consumed large quantities of fish daily at the time of the 2010 survey, who had since passed away.
- The mean consumption rate of crustaceans increased in 2019 in comparison to 2010. This was attributed to a family, operating a commercial fishing business, that had increased their consumption in 2019.
- The species of mollusc that was mainly consumed changed from scallops in 2010 to whelks in 2019 due to a newly identified fishing family who were consuming large quantities of whelks.
- The consumption of samphire collected from salt marsh at Rye was identified in 2019, but not in 2010.
- Intertidal occupancy rates decreased over mud and sand in 2019 due to the retirement of several commercial bait diggers. Since 2010, water sports, such as kitesurfing, had increased in popularity. This made bait digging more difficult to undertake since the water sports activities limited the space along the shore.
- The number of members of a large angling club in the Dungeness area had reduced significantly since the previous survey due to a reported decrease in fish availability.
- In 2019 there was a significant increase in the consumption rate of honey. Conversely, the consumption rates significantly decreased for poultry and domestic fruit. The consumption of lamb was identified in 2019 for a family who were not consuming lamb at the time of the previous survey.
- EDF Energy Ltd. acquired the Dungeness Estate in 2015 and have improved the estate infrastructure. For example, resurfacing the main road and creating free parking areas has encouraged more visitors to the area.
- The highest indoor, outdoor and total occupancy rates in the direct radiation survey area were similar in 2010 and 2019.

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SUMMARY

This report presents the results of a survey conducted in 2019 to determine the habits and consumption patterns of people living, working and pursuing recreational activities in the vicinity of the Dungeness A and B nuclear power stations. These two separate nuclear power stations are adjacent to each other and for the purposes of this survey they are considered together as a single site. The stations discharge gaseous wastes via stacks to the atmosphere, liquid wastes via outfalls into the English Channel, and contain 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 use of seaweed as a fertiliser or animal feed
- 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 720 individuals are presented and discussed. High rates of consumption, intertidal occupancy and handling are identified using established methods comprising (a) a 'cut off' to define the high-rate group and (b) 97.5th percentiles. The rates identified can be used in dose assessments. Additionally, profiles of integrated habits data are presented specifically for use in *total dose* assessments.

The aquatic survey area

The aquatic survey area (see Figure 1, page 21) covered all tidal waters and intertidal areas from Fairlight (in the west) to Cop Point (in the east), and extended between 6 km to 15 km offshore to the English Channel Traffic Separation Zone (ECTSZ). Also included were the tidal stretches of the rivers Rother and Brede.

The main commercial fisheries in the area were potting for brown crab, common lobster and whelks, dredging for scallops and netting for mixed fish species. Hobby fishing was identified, including setting nets from the shore and push netting. Boat angling and shore angling were popular throughout the survey area.

The mean consumption rates for the adult high-rate groups (as defined in Section 3.4) for the separate aquatic consumption pathways for foods potentially affected by liquid discharges were:

- 49 kg y⁻¹ for fish
- 34 kg y⁻¹ for crustaceans
- 18 kg y⁻¹ for molluscs
- 2.0 kg y⁻¹ for marine plants/algae
- 11 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, plaice, bass, cod, thornback ray and turbot
- For crustaceans: brown crab, brown shrimp and common lobster
- For molluscs: whelk, cockle and winkle
- For marine plants/algae: samphire
- For salt marsh grazed sheep meat: salt marsh grazed lamb

In the aquatic survey area, the main intertidal activities were taking place at Broomhill Sands, Dungeness, Lydd-on-Sea, Greatstone-on-Sea and Hythe. These locations were popular for angling, bait digging and water sports preparation. The main areas for water sports were Camber Sands, Broomhill Sands, Greatstone-on-Sea, Littlestone-on-Sea and Hythe, and the most popular activity was kitesurfing. The activities undertaken by adults in the high-rate groups for intertidal occupancy included angling, bait digging, kite buggying, landboarding, water sports preparation, boat maintenance, playing, rock pooling, working on intertidal areas, litter collecting, lifeguard duties, beach warden duties, dog walking, walking, and collecting seaweed.

Individuals were identified collecting shellfish from intertidal areas, including cockles, winkles and razor shells. One individual was identified who used seaweed from the aquatic survey area as a fertiliser on

their allotment plot, which was outside the terrestrial survey area. The use of seaweed as an animal feed was not identified.

Individuals in the child age group were recorded consuming aquatic foods and undertaking activities in the aquatic survey area. No individuals in the infant age group were identified consuming aquatic foods but were identified undertaking activities in the aquatic survey area.

The terrestrial survey area

The terrestrial survey area (see Figure 2, page 22) covered the land within 5 km of the combined Dungeness A and B site centre. The land within the terrestrial survey area is mainly covered with shingle; consequently, there is very little farmland. Interviews were conducted at four working farms with land in the terrestrial survey area, where lamb and arable crops (wheat and rapeseed oil) were produced for human consumption. Grass (for silage and haylage) and barley were grown for livestock feed. A poultry farm was identified but information about the farm could not be obtained. Locally produced lamb was consumed in the survey area.

One allotment site with approximately 100 individual plots was located just outside the survey area near Lydd. The consumption rates for fruit and vegetables grown on the allotment site were included in the survey results because the shingle covered ground in the terrestrial area limited the ability to grow produce in some private gardens. A wide variety of fruit and vegetables were grown on the allotments and a small number of private gardens were identified growing small quantities of produce. The use of seaweed as a fertiliser was not identified in the survey area. Two beekeepers were interviewed who kept hives in the survey area and the consumption and sale of honey was recorded. Game shooting was not identified as taking place on farmland, but the occasional goose was shot and consumed. Wild foods including blackberries, elderberries, sloes and mushrooms were collected and consumed.

Foods from the terrestrial survey area were consumed from the following 11 food groups: green vegetables; other vegetables; root vegetables; potato; domestic fruit; sheep meat; poultry; eggs; wild/free foods; honey; wild fungi. No consumption of rabbits/hares was identified. The mean consumption rates for the adult high-rate groups were above the national adult mean consumption rates that are used for comparison in habits surveys for the following five food groups: green vegetables; other vegetables; root vegetables; eggs; honey.

The human consumption of groundwater was not identified. Livestock were consuming mains water and had access to ditches and streams for drinking water.

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. Routine wildlife control was undertaken on the Dungeness A site. This included managing the pigeon populations on site by

discouraging nesting with netting and culling any pigeons that enter the site's buildings. There is also a reptile fence at the perimeter of the site to prevent access to reptiles. Dungeness B did not undertake any routine controls, since the buildings are enclosed, and it is highly unlikely that wildlife could enter controlled areas.

The direct radiation survey area

The direct radiation survey area (see Figure 2, page 22) covered the land and sea within 1 km of the 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 Dungeness nuclear site is situated on a shingle covered peninsula. The southern part of the direct radiation survey area is taken up by the waters and intertidal areas of the English Channel. The land to the north and east of the site is a private estate (Dungeness Estate) and is open to the public. All the residences and businesses in the estate are located in the survey area. The estate is also a popular tourist attraction and receives approximately 1 million visitors per year. An electricity substation is located to the west of the site.

The occupancy rates were analysed in zones according to the distance from the combined Dungeness nuclear licensed site boundary. The zones were 0 – 0.25 km, >0.25 – 0.5 km and >0.5 – 1.0 km. The highest indoor, outdoor and total occupancy rates were for residents in all three 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 Dungeness site centre. The measurements taken outdoors of the properties were all lower than the background measurements, except one measurement which was higher. However, several of the indoor measurements were notably higher than background. Since gamma dose rates are influenced by the nature of building materials, the ground type (substrate) upon which measurements are taken and many other factors, the measurements taken inside properties are expected to be higher than those taken outdoors.

Comparisons with the previous survey

Comparisons were made with the results from the previous Dungeness habits survey in 2010. The comparisons are for adults. Reasons for changes in the consumption, occupancy and handling rates were identified for certain pathways and these are presented in Section 8 of the report. For the consumption of foods from the aquatic survey area, the main differences in 2019, were that the mean consumption rate increased significantly for crustaceans and decreased significantly for fish (see Figure i, page 13). The consumption of marine plants/algae was identified in 2019.

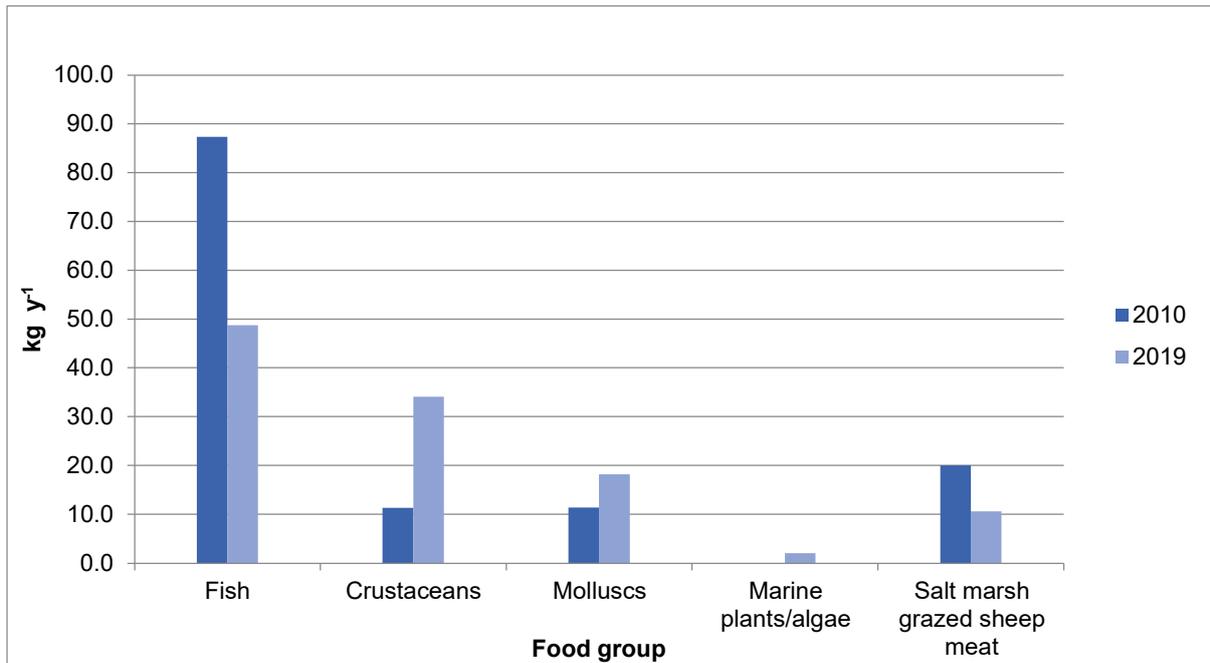


Figure i. Comparison between 2010 and 2019 mean consumption rates for the high-rate groups for aquatic foods

In 2019, the intertidal occupancy rate significantly increased over sand and stones and significantly decreased over mud and sand (see Figure ii, below). Additionally in 2019, occupancy over mud was not recorded and occupancy was identified on salt marsh, in comparison to 2010.

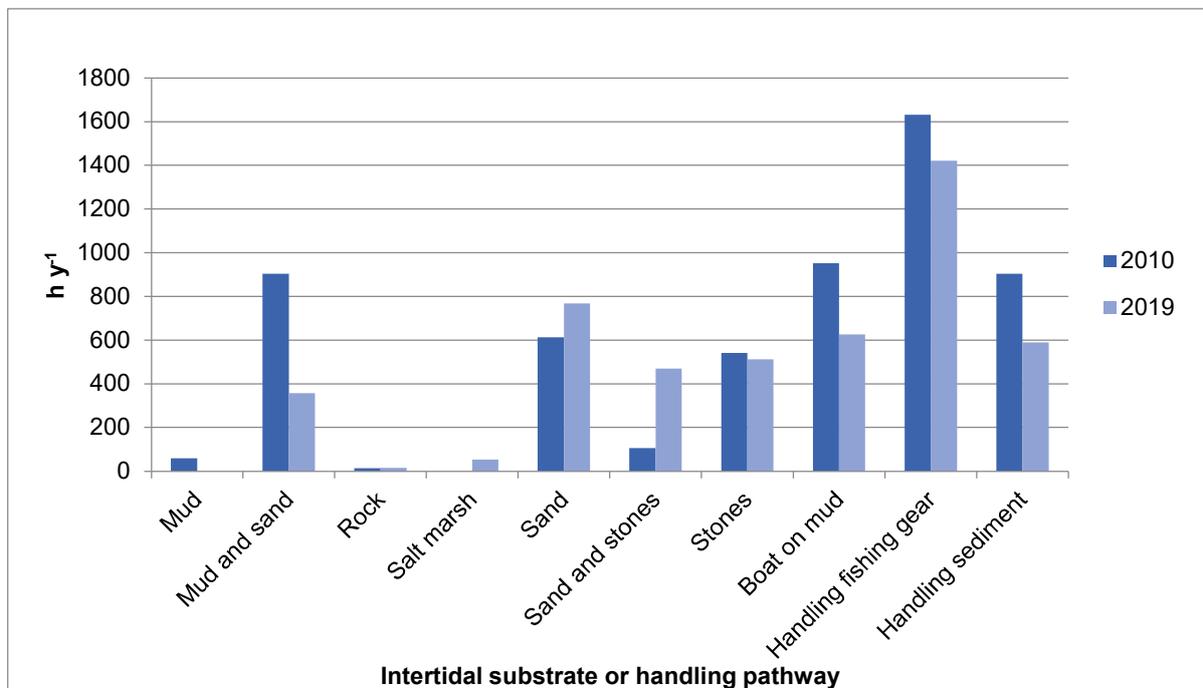


Figure ii. Comparison between 2010 and 2019 mean rates for the high-rate groups for intertidal occupancy and handling of fishing gear and sediment

The most notable changes in the terrestrial foods in 2019 were the significant increase in the consumption rate of honey and the significant decrease in domestic fruit and poultry, compared with 2010. The consumption of rabbits/hares was not identified in 2019 and the consumption of sheep meat was identified (see Figure iii, below).

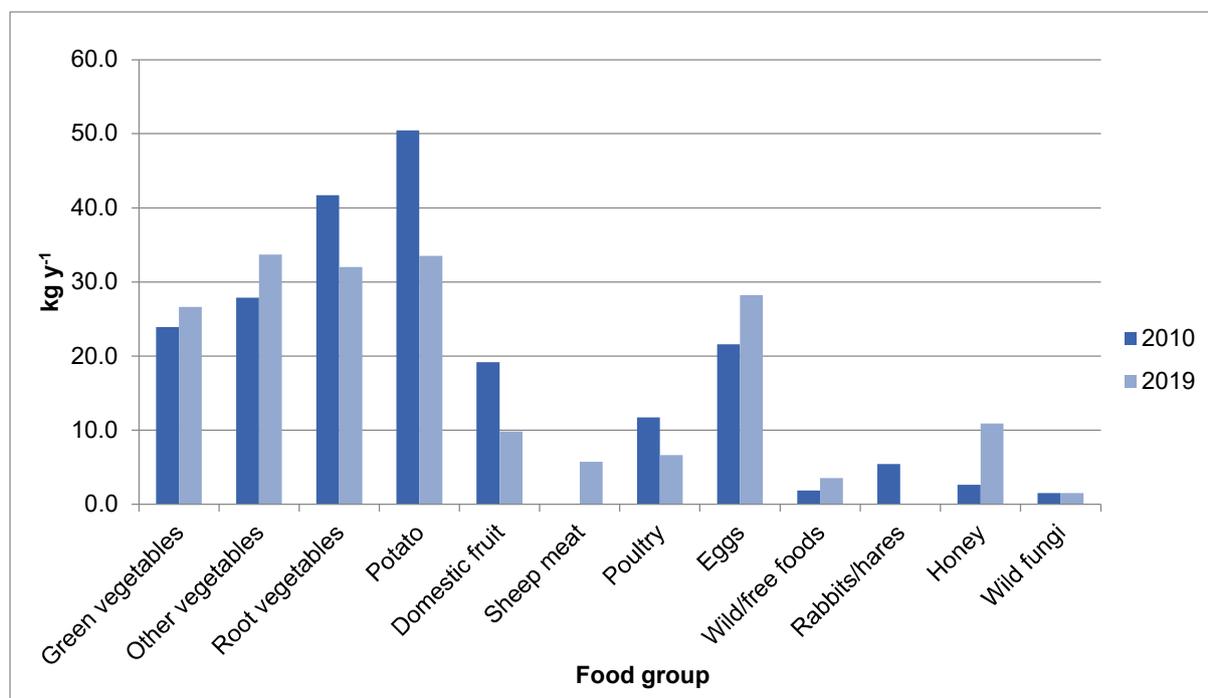


Figure iii. Comparison between 2010 and 2019 mean consumption rates for the high-rate groups for terrestrial foods

The occupancy rates in the direct radiation survey area in 2019 were broadly similar to those in 2010 (see Figure iv, below). The highest indoor, outdoor and total occupancy rates in all three zones were for residents.

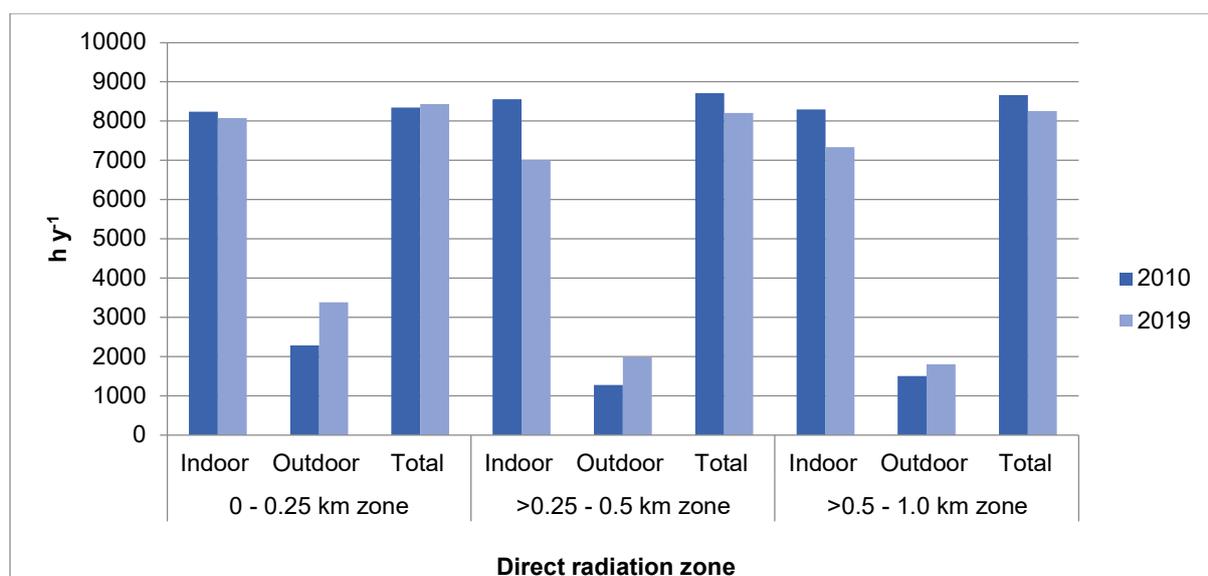


Figure iv. Comparison between 2010 and 2019 maximum direct radiation occupancy rates

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 2019 Dungeness 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 10.2 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 Dungeness area and no changes are suggested.

1 INTRODUCTION

Members of the public might be exposed to radiation as a result of the operations of the Dungeness A and B nuclear power stations, 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 Dungeness A and B nuclear power stations, 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'.

1.1 Regulatory framework

In England, the EA regulates the discharges of radioactive waste under the Environmental Permitting (England and Wales) (Amendment) (EU Exit) Regulations 2019 (UK Parliament, 2019). These new 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 (Environmental and Public Protection) (Miscellaneous Amendments) (EU Exit) Regulations 2019 (IRR 19) (UK Parliament, 2019), 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.

1.2 Radiological protection framework

Dose standards for the public are embodied in the national policy (UK Parliament, 2009; 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 19. The requirement to observe the conditions laid down in the Basic Safety Standards (BSS) in England and Wales is incorporated in the Environmental Permitting (England and Wales) (Amendment) (EU Exit) Regulations 2019 (UK Parliament, 2019). 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 (i.e. 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 (i.e. assessment of doses already received from past discharges) (Allott, 2005) and possible methods of carrying out these assessments using the data from combined habits surveys (Camplin *et al.*, 2005). NDAWG agreed that the optimal method for performing retrospective dose assessments would be to use habits profiles (profiling method) as described in Camplin *et al.* (2005). This approach was adopted in Radioactivity in Food and the Environment (RIFE) publications, (e.g. EA, FSA, FSS, NRW, NIEA and SEPA, 2019). NDAWG published reports on the collection and use of habits survey data in retrospective and prospective dose assessments (NDAWG, 2005; NDAWG 2009); the principles described in these reports are consistent with those used here. The UK environment agencies, Public Health England (formerly, Health Protection Agency) 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).

2 THE SURVEY

2.1 Site activity

The Dungeness nuclear site is located on the Kent coast, approximately 24 km south-west of the town of Folkestone. There are two separate nuclear power stations, Dungeness A and Dungeness B, which are adjacent to each other. For the purpose of this survey, both sites will be considered together as a single site. Dungeness A has two Magnox reactors that ceased generating electricity in 2006. This station is undergoing decommissioning. The final site clearance is expected to commence in 2087 and be achieved by 2097 (EA, FSA, FSS, NRW, NIEA and SEPA, 2019). Dungeness B has two Advanced Gas Cooled Reactors and is expected to continue generating electricity until 2028.

Dungeness A is owned by the Nuclear Decommissioning Authority (NDA) and the management and operations contractor responsible for decommissioning the station under contract to the NDA is Magnox Ltd. Dungeness B is owned and operated by EDF Energy Ltd. Under the radioactive substances provisions of the Environmental Permitting (England and Wales) (Amendment) (EU Exit) Regulations 2019, Magnox Ltd. and EDF Energy Ltd. are permitted to undertake radioactive substances activities at the Dungeness A and Dungeness B sites, respectively. This includes permission to discharge gaseous radioactive wastes via stacks to the atmosphere and liquid radioactive wastes via outfalls into the English Channel. The sites are licensed for the purposes of operating certain activities prescribed under the Nuclear Installations Act, 1965. Both sites contain sources of direct radiation. Details of the amounts of gaseous and liquid radioactive waste discharged are published in the RIFE reports (e.g. EA, FSA, FSS, NRW, NIEA and SEPA, 2019).

2.2 Survey objectives

The Centre for Environment, Fisheries & Aquaculture Science (Cefas) undertook the Dungeness habits survey in 2019 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 Dungeness power stations.

Specifically, investigations were conducted into the following:

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

2.3 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 Dungeness power stations.

The aquatic survey area (shown in Figure 1, page 21) covered all tidal waters and intertidal areas from Fairlight (in the west) to Cop Point (in the east), and extended between 6 km to 15 km offshore to the English Channel Traffic Separation Zone. Also included were the tidal stretches of the rivers Brede and Rother. This area was taken to represent the predominant area of mixing of radionuclides discharged into seawater.

The terrestrial survey area (see Figure 2, page 22) covered the land within 5 km of the site centre (National Grid Reference: TR 082 168), to encompass the main areas of potential deposition from gaseous discharges.

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

Identical aquatic, terrestrial and direct radiation survey areas were used in the previous habits survey conducted by Cefas in the Dungeness area, in 2010 (Clyne *et al.*, 2011).



Note: The south-western offshore sea area that extends to the ECTSZ is not included on the map.

Figure 1. The Dungeness aquatic survey area

2.4 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 Dungeness nuclear site. People with local knowledge of the survey area were contacted for information relevant to the various exposure pathways. These included the Dungeness Angling Association who provided information on fishing permits and restrictions in the Dungeness area, Harbour Masters who provided information on fishing boats that use Rye and Folkestone Harbour, and Lydd Parish Council who provided information about the local allotment site.

A proposed programme for fieldwork was distributed to the EA, the FSA, and the ONR before the fieldwork commenced, for their comment.

The fieldwork was carried out from the 25th June to the 5th July 2019 using methods consistent with the previous Dungeness habits survey report (Clyne *et al.*, 2011). During the fieldwork, meetings were held between members of the survey team and representatives from Dungeness A and Dungeness B. The discussions 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 meetings:

- Routine decommissioning operations were being undertaken at the Dungeness A site at the time of the habits survey, including draining the ponds to sea via the outfall.
- The Dungeness B reactors had been offline since August 2018 and were expected to be operational by October 2019.
- No changes had been made to the Dungeness A and B site outfalls since 2010.
- Three additional stacks have been included on the Dungeness A permit, two of which have been installed and are awaiting commissioning, and one is yet to be installed.
- The EDF Energy Ltd. Visitor Centre at Dungeness B has recently opened and site tours are provided for members of the public.
- EDF Energy Ltd. acquired the Dungeness Estate (adjacent to the site) in 2015. The estate is managed by the Romney Marsh Countryside Partnership.
- Control measures to limit the possibility of contamination being transferred off-site by wildlife at Dungeness A included restricting access with nets to discourage the nesting of pigeons on the site and culling of any pigeons which have entered the site's buildings. A reptile fence was also erected around the site. Dungeness B have no control measures because wildlife cannot access restricted areas.
- An Intermediate Level Waste store has been installed on the Dungeness A site, which is adjacent to the Dungeness B site.

- Information about potential exposure pathways and activities in the area included popular angling locations and activities in the direct radiation survey area.

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, commercial fishermen, anglers, 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 Dungeness 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 1. 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 UK Office of National Statistics residential data for electoral wards (www.ons.gov.uk) there were approximately 1646 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.

3 METHODS FOR DATA ANALYSIS

3.1 Data recording and presentation

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

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

The results of the individuals' consumption, occupancy and handling rates collected during the survey were grouped and presented in tables with the high-rate group members indicated in bold and with the calculated mean rates for the high-rate group and 97.5th percentile rates. The consumption rates, occupancy rates and handling rates for all groups are presented in Annex 1 for adults and Annex 2 for children and 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 3. It was not necessary to estimate data for the Dungeness survey, but Annex 3 is included in this report to maintain consistency of presentation through the series of reports.

3.2 Data conversion

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

3.3 Rounding and grouping of data

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

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

Data were structured into age groups because different dose coefficients (i.e. the factors which convert intakes of radioactivity into dose) can apply to different ages. The International Commission on Radiological Protection (ICRP) revised its recommendations for the age groupings to be used in radiological assessments and these recommendations were adopted in the 2010 habits survey reports and thereafter. Consequently, the age ranges used in the habits survey reports prior to 2010 differ from those used currently. The age ranges used in this report and the names used for the age groups, based on the recommendations in ICRP 103 (ICRP, 2007), are shown in Table A below, together with those used in reports prior to 2010, for comparison.

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

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

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

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

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

3.4 Approaches for the identification of high rates

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

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

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

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

The mean rates for the high-rate groups for children and infants for consumption, intertidal occupancy 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 intertidal occupancy pathways, based on generic 97.5th percentile rates, are provided in Annex 4. The age ranges within the age groups in Annex 4 do not correspond exactly with the age ranges within the age groups used throughout the rest of this report, but these ratios are the best available data for estimating

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

For use in assessments of prenatal dose, consumption and occupancy rates are provided in Annex 5 for women of childbearing age. The age range used in this report for women of childbearing age is 15 – 44 years old, which is based on the classification used by the Office of National Statistics (www.ons.gov.uk).

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

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

The survey data have been analysed to produce profiles of consumption and occupancy rates according to the method described by Camplin *et. al.*, 2005. The profiles for adults are used to assess *total dose* integrated across all pathways of exposure in the RIFE reports (e.g. EA, FSA, FSS, NRW, NIEA, and SEPA, 2019).

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

3.6 Data quality

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

- Experienced scientific staff were used for the fieldwork and data analysis. They had been trained in the techniques of interviewing and obtaining data for all pathways that were relevant to the survey being conducted. Where individuals offered information during interview that was considered unusual, they were questioned further in order to double-check the validity of their claims.
- Where possible, interviewees were contacted again to confirm the results of the initial interview if, when final consumption or occupancy rates were calculated, observations were found to be high in relation to our experience of other surveys. Local factors were 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.

4 AQUATIC RADIATION PATHWAYS

4.1 Aquatic survey area

The aquatic survey area (shown in Figure 1, page 21) covered all tidal waters and intertidal areas from Fairlight (in the west) to Cop Point (in the east), and extended between 6 km and 15 km offshore to the English Channel Traffic Separation Zone. Also included were the tidal stretches of the rivers Brede and Rother. The same aquatic survey area was used in the previous survey in 2010.

The shore in the western part of the survey area between Fairlight and Winchelsea is predominately stones, with sand and mud exposed at low tide. The rivers Rother and Brede, located between Winchelsea and Camber Sands, are lined with salt marsh and a mud substrate is exposed at low tide. The beaches at Camber Sands and Broomhill Sands are predominately sand. The Ministry of Defence (MOD) owns Lydd Ranges, which is situated between Broomhill Sands and Dungeness. The stone shore in this area has restricted access at Galloways and Denge Marsh. The shore in the eastern part of the survey area between Denge Marsh and Folkestone is predominately stones, with the exception of Dymchurch and Sunny Sands which have a sandy substrate, and Lydd-on-Sea and Littlestone-on-Sea which have mud and sand flats exposed at low tide. The aquatic survey area is described in detail below from west to east.

Fairlight, Pett Level and Winchelsea

Fairlight is located at the westernmost point of the survey area. The shore from Fairlight to Pett Level is stones on the upper shore, with a mixture of sand, mud and rock exposed on the lower shore at low tide. At Fairlight, the shore is backed by a steep cliff and can only be accessed via the beach at Pett Level.

The beach at Pett Level (see Figure 3, page 32) is shingle on the upper shore, backed by a sea defence wall, with sand and mud exposed on the lower shore at low tide. Activities identified at Pett Level included angling, bait digging, boat angling, rock pooling, sitting on the beach and swimming. Individuals were also identified collecting winkles and mussels for their own consumption. A rescue boat station is located at the top of a public slipway, which is used for launching the rescue boat and small boats. An angling club was located at Pett Level with approximately 70 members and 25 small angling boats. The boats were kept on the upper shore above the high tide line. Keddle netting from Pett Level to Winchelsea can be undertaken by hobby fishermen who hold a permit; however, this activity was not recorded during the survey.

There is a 4 km continuous stretch of beach from Pett Level to Winchelsea, with good access from the coastal road and ample parking. The beach at Winchelsea has a large shingle bank on the upper shore,

with mud and sand exposed on the lower shore at low tide. Activities at Winchelsea included angling, bait digging, dog walking, playing, walking, kitesurfing, pleasure cruising, water skiing and windsurfing.



Figure 3. Pett Level with Fairlight in the background

Rye Harbour and Rye

Rye beach (to the east of Winchelsea) is part of the Wildlife Trust Nature Reserve. Here there are small areas of salt marsh along the River Rother and at Rye Harbour. Rye Harbour is a small village which is situated on the western bank of the River Rother located approximately 2 km inland from the coast. The Rye Royal National Lifeboat Institution (RNLI) station, a coastguard station and sailing club are based at Rye Harbour. Several commercial fishing vessels, a few pleasure craft and the harbour master's boat were moored at Rye Harbour quay. Boats rest on soft mud at low tide due to the River Rother's large tidal range.

A few commercial fishing vessels have moorings along the 2 km stretch of river between Rye Harbour and the town of Rye, situated near the confluence of the River Rother and the River Brede. The tidal reaches of the River Rother continue for 2 km beyond the confluence, and the River Brede continues to be tidal for approximately 1 km. Several boat yards with moorings for yachts and pleasure boats are located along the River Brede in Rye Town. Simmons Quay in Rye Town (see Figure 4, page 33) was the main hub of commercial fishing vessels on the River Rother. The majority of the Rye fishing fleet and two fish wholesalers are located here. Most of the boats moored along the rivers Rother and Brede

rest on soft mud for long periods and are afloat only at high tide. Sheep were identified grazing on small areas of salt marsh on the banks of the River Rother close to Rye Town.



Figure 4. Simmons Quay (Rye)

Camber Sands and Broomhill Sands

Camber Sands is a vast sandy beach backed with large sand dunes. The beach was very popular with tourists in the summer season. The range of activities undertaken included angling, bait digging, beach warden duties, dog walking, lifeguard duties, litter collecting, collecting cockles, playing, sitting on the beach, walking, kitesurfing, pleasure cruising, push netting, water skiing and windsurfing. Dog walking on the beach was not permitted from 1st May to 30th September. Amenities including toilets and cafés are located next to the main car park next to the beach and numerous caravan sites are in the nearby village. During the summer months beach wardens, lifeguards and beach cleaners work on the beach daily.

Broomhill Sands, located to the east of Camber Sands, is a sandy beach with patches of stones on the upper shore. In 2016, as part of the Broomhill Sands Coastal Defence Scheme, a new sea-defence was installed, consisting of large boulders and a new concrete coastal path (see Figure 5, page 34). A kitesurf centre is based in a large public car park adjacent to the concrete coastal path. Activities identified at Broomhill Sands included angling, beach warden duties, dog walking, kite bugging,

kitesurfing, landboarding, paddling, paddleboarding, playing, sitting on the beach, swimming, walking and windsurfing.



Figure 5. Broomhill Sands

Lydd Ranges, Galloways and Denge Marsh

The shore between Broomhill Sands and Denge Marsh is shingle. An area of the shoreline known locally as Jury's Gap is located at the western end of the Lydd Ranges, and this was popular with anglers. Lydd Ranges (MOD) spans approximately 7 km of this shoreline; access to the shore is prohibited during firing times and an exclusion zone for vessels extends approximately 5 km offshore. A road along the eastern section of the firing range, with vehicular access to the beach (known as Galloways), was popular with anglers.

The beach at the eastern edge of the firing range is known locally as Denge Marsh. A rough track along the western side of the Dungeness nuclear site provides access to the shingle shore. The beach was used by people for angling, bird watching, dog walking and litter collecting.

Dungeness

The Dungeness nuclear power stations are located on a peninsula with a large sloping shingle shore backed by an artificial embankment, which is maintained as a sea defence. This area is accessed by walking from Denge Marsh or from the eastern end of the power stations. It was a popular location for anglers as it was the only beach in the area where the shore dropped off into deep waters. Walkers and bird watchers were observed in this area, although they mainly walked along the top of the embankment, which was not tide washed. Two bird hides were at the top of the embankment.

The shingle shore continues around Dungeness Point to Lydd-on-Sea. A road provides access through the Dungeness Estate with multiple locations for parking vehicles. Most of the land in the Dungeness Estate is covered with shingle, and boardwalks provide access across the shingle to the shore. A private concrete road used by an angling association is located to the north of Dungeness Point. All members of the angling association can use this road for easy access to the shore. The concrete road is also used by fishermen to access the main launching area for the vessels to be pulled up on the shingle shore (see Figure 6, below). Three charter angling boats were operating from Dungeness. The Dungeness RNL station is located at the northern end of the Dungeness shoreline. Individuals were identified angling, beachcombing, boat angling, undertaking boat maintenance, dog walking, litter collecting, push netting, paddling, sailing, sunbathing, playing, pleasure cruising and walking.



Figure 6. Dungeness

Lydd-on-Sea, Greatstone-on-Sea and Littlestone-on-Sea

A coastal road runs parallel to the shore from Lydd-on-Sea to Littlestone-on-Sea, with multiple areas for parking allowing easy access to the shore. The upper shore from Lydd-on-Sea to Littlestone-on-Sea is a continuous stretch of shingle and a vast area of mud and sand is exposed on the lower shore at low tide.

Lydd-on-Sea, Greatstone-on-Sea (see Figure 7, below) and Littlestone-on-Sea were popular locations for intertidal activities and water sports. The shore between Lydd-on-Sea and Greatstone-on-Sea was popular with wind sports including kitesurfing, windsurfing, kite buggying, landboarding and land yachting. A water sports club, situated on the coast road at Littlestone-on-Sea, comprised 220 members undertaking a range of activities between Lydd-on-Sea and Littlestone-on-Sea including boat angling, kayaking, kitesurfing, land yachting, paddleboarding, open water swimming, sailing and windsurfing. Individuals were identified collecting cockles for their own consumption at Greatstone-on-Sea and Littlestone-on-Sea. Hobby fishing including push netting and seine netting were undertaken at Lydd-on-Sea, Greatstone-on-Sea and Littlestone-on-Sea. Other activities identified included paddling, sitting on the beach, sunbathing, horse riding, angling, bait digging, dog walking, and playing.



Figure 7. Greatstone-on-Sea

St Mary's Bay and Dymchurch

The coastal path and shingle beach continue from Littlestone-on-Sea to St Mary's Bay. A single-track coast road follows the shore to the west of St Mary's Bay where there is a small area for parking. The road diverts inland to the main coastal road and leads to another car park at St Mary's Bay which is popular with tourists. An individual was identified collecting seaweed from St Mary's Bay to use as fertiliser on their allotment plot, located outside of the terrestrial survey area. Other activities identified at St Mary's Bay included bait digging, dog walking, paddling, playing and swimming.

Dymchurch (see Figure 8, below) is a popular tourist destination, with good access to the shore, a large car park and local amenities. The upper shore is a mixture of sand and stones, and the lower shore is sand. The beach is backed by a promenade (renewed in 2011) that runs along the top of the concrete sea defence. Two public slipways are located along the promenade. Activities undertaken at Dymchurch included angling, bait digging, dog walking, paddling, playing, swimming and walking.



Figure 8. Dymchurch

Hythe, Seabrook and Sandgate

The Hythe Ranges is a military firing range (MOD) that spans 3 km along the shore between Dymchurch and Hythe. Access to the shore is prohibited when firing is taking place on the ranges and there is a vessel exclusion zone offshore which is patrolled.

To the east of the Hythe Ranges there is a sloped shingle beach (see Figure 9, below) at Hythe which is backed by a concrete promenade with parking. A fish merchant is based at the western end of Hythe close to several commercial fishing boats that are pulled up on the shingle bank. A sailing club is based near the eastern end of the beach. Water sports including kitesurfing, paddleboarding, sailing and windsurfing were popular along this stretch of shore. The concrete promenade and shingle shore continue for 7 km to Folkestone, and includes Seabrook and Sandgate. A rowing club is located on the concrete promenade at Sandgate.



Figure 9. Hythe

Folkestone

The shingle shore continues from Sandgate to the Folkestone Harbour Arm, which is a restored pier at Folkestone Harbour that extends approximately 0.5 km offshore. The Folkestone Seafront Improvement Scheme commenced in 2018, and over a number of years will provide a significant redevelopment of the Folkestone seafront and consequently increase the number of visitors to the area.

One development that had been completed was a widening and heightening of the Folkestone West beach using shingle that had been dredged offshore. Only the lower area of the beach was tide washed (see Figure 10, below). A newly installed boardwalk runs along the top of the shingle beach to the Folkestone Harbour Arm, allowing good access to the shore. This section of the beach was popular with people angling, dog walking and undertaking lifeguard duties. Other activities that were observed during the survey were playing, swimming, sitting on the beach and walking. The Harbour Arm pier is the main angling location in Folkestone because of deep water around the pier.



Figure 10. Folkestone West

The harbour at Folkestone comprises an inner harbour and an outer harbour, both of which dry out at low tide exposing mud and sand. All the boats in the harbours rest on mud for a period of the day, including pleasure cruising boats and charter boats moored in the inner harbour, and commercial fishing vessels and sailing boats moored in the outer harbour (see Figure 11, page 40). A water sports centre and a yacht and motorboat club are located at Folkestone Harbour. The activities identified in the area included kayaking, paddleboarding, pleasure cruising, sailing and sub-aqua diving. Other activities identified in the outer harbour included boat maintenance, dog walking and swimming. Sunny Sands is a small sandy bay to the east of Folkestone Harbour. This beach was popular with activities such as dog walking, playing and paddling. The shore to the east of this beach towards Cop Point is rocky and backed by cliffs.



Figure 11. Folkestone Outer Harbour

4.2 Commercial fisheries

The main fishing harbours in the survey area were Rye Harbour, Simmons Quay and Folkestone Harbour. Commercial fishing boats were also launched from the shore at Dungeness and Hythe.

A wide variety of fishing methods were being used within the aquatic survey area and some boats used more than one type of fishing gear. Trawl nets, trammel nets, gill nets and tangle nets were used to target Dover sole, lemon sole, thornback ray, turbot and plaice. A variety of other fish species were also caught in the nets. It was reported that over recent years there has been an influx of spider crabs. This has prevented some fishermen from fishing in the summer months because the crabs damage the nets. There was no commercial market for spider crabs, but they were consumed locally. There was also a dredge fishery for king scallops. Fishermen were potting for brown crab, common lobster and/or whelks. It was reported that the whelk fishery has grown over recent years since no catch limit exists and there is a good export market to South Korea.

4.3 Destination of seafood originating from the aquatic survey area

The majority of the fish and shellfish caught in the survey area were sold locally through three fish wholesalers based at Simmons Quay and Folkestone Harbour. Wet fish shops in Dungeness, Hythe and Folkestone sold fish and shellfish from fishermen in the survey area. Two kiosks sold catch from their own commercial fishing vessels, including whelks, brown crabs, common lobsters and scallops caught in the survey area. Small amounts of catch were also sold to local hotels, pubs and restaurants. A small quantity of fish and shellfish was sold to a wholesaler in Hastings. Whelks were being sold to Lynn Shellfish and were exported to South Korea.

4.4 Hobby fishing, angling and non-commercial shellfish collection

In this report, the term 'hobby fishing' is used to describe recreational fishing on a small scale with gear such as nets or pots. It is usually carried out by fishermen that do not have commercial fishing licences and therefore it is illegal to offer the catch for sale. Hobby fishing was identified taking place between Littlestone-on-Sea and Greatstone-on-Sea, with people push netting for brown shrimps and one person netting for fish. Keddle netting from Pett Level to Winchelsea can be undertaken by hobby fishermen with a permit; however, this activity was not identified during the survey. One keddle netter identified in 2010 was permitted to undertake the activity but had since retired.

Boat angling was very popular throughout the survey area and was mainly undertaken between Dymchurch and Dungeness. Many of the boats were launched from the shore between Dungeness and Hythe, or from slipways at Pett Level, Littlestone-on-Sea, St Mary's Bay, Dymchurch and Folkestone Harbour. Three angling charter boats operated from Dungeness, three operated from Rye Harbour and one operated from Folkestone Harbour. Dungeness and the Folkestone Harbour Arm were the most popular locations for shore angling. This was also taking place at Pett Level, Winchelsea, Rye, Camber Sands, Broomhill Sands, Jury's Gap, Galloways, Denge Marsh, Lydd-on-Sea, Greatstone-on-Sea, Littlestone-on-Sea, Hythe, Dymchurch and Sandgate. It was reported that the membership of a large angling club in the Dungeness area had decreased significantly; however, many visiting anglers still came to the area from across the country. The main edible species caught by anglers were cod, mackerel, plaice and Dover sole.

Many people were identified collecting molluscs from intertidal areas throughout the survey area: one person was collecting razor shells from Greatstone-on-Sea and Littlestone-on-Sea; one person was collecting cockles and winkles from Littlestone-on-Sea and Pett Level; one person was collecting cockles from Lydd-on-Sea; two people were collecting mussels from Pett Level and cockles from Camber Sands. Eight people were identified push netting for brown shrimps and common prawns between Dungeness and Littlestone-on-Sea and at Camber Sands. The brown shrimps and common prawns were consumed by the fishermen and their families.

4.5 Wildfowling

Limited areas across the aquatic survey area were available for wildfowling, and at the time of the survey, the activity of wildfowling was not identified.

4.6 Other pathways

One individual collected seaweed from the shore at St Mary’s Bay, which was used as a fertiliser on an allotment plot that was outside the terrestrial survey area. The use of seaweed as a fertiliser or as livestock feed was investigated but no evidence was found within the survey area. Sheep and lambs were grazing on small areas of salt marsh along the River Rother near Rye and a farmer was spending time on the salt marsh.

4.7 Food consumption data

Consumption data for aquatic foods are presented in Tables 3 to 7 for adults and in Tables 8 to 11 for children and infants. The mean consumption rates for the high-rate groups and the observed 97.5th percentile rates, calculated as described in Section 3.4, are given at the foot of each table.

Adults’ consumption rates

The people consuming the greatest quantities of food from the aquatic survey area were commercial fishermen, anglers and the families and friends of these groups of people.

Table B (see below) presents a summary of the adults’ consumption rates for the following food groups: fish; crustaceans; molluscs; marine plants/algae; salt marsh grazed sheep meat. 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, crustaceans and molluscs based on national data, which are referred to as ‘generic’ data in this report. No generic consumption rates are available for marine plants/algae or salt marsh grazed sheep meat.

Table B. 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	127	11	84.9	31.2	48.7	65.2	15	40
Crustaceans	77	5	49.4	18.4	34.1	36.3	3.5	10
Molluscs	51	6	25.6	8.6	18.2	25.6	3.5	10
Marine plants/algae	1	1	2.0	2.0	2.0	Not applicable	Not determined	Not determined
Salt marsh grazed sheep meat	11	11	10.6	10.6	10.6	10.6	Not determined	Not determined

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

The predominant species of fish consumed by adults were bass, cod, Dover sole, mackerel and plaice, with smaller quantities of bream, brill, conger eel, dab, eel, flounder, haddock, herring, huss, lemon sole, pollack, red gurnard, red mullet, saithe, smooth hound, sprat, thornback ray, turbot and whiting. The fish were caught throughout the aquatic survey area. Of the fish consumed by the 11 people in the high-rate group, the percentage breakdown of species (rounded to the nearest 5%) was 30% Dover sole, 15% plaice, 10% bass, 10% cod, 10% thornback ray, 10% turbot and a 15% mix of dab, herring, huss, lemon sole, mackerel, pollack and sprat. Members of the high-rate group were not consuming bream, brill, conger eel, eel, flounder, haddock, red gurnard, red mullet, saithe, smooth hound and whiting.

The main species of crustaceans consumed by adults were brown crab, brown shrimp and common lobster, with smaller quantities of common prawn and spiny spider crab. The common lobsters and brown crabs were caught using pots throughout the survey area. The brown shrimp and common prawns were caught using push nets at Camber Sands, Dungeness, Lydd-on-Sea and Littlestone-on-Sea. Of the crustaceans consumed by the five people in the high-rate group, the percentage breakdown of species (rounded to the nearest 5%) was 50% brown crab, 30% brown shrimp and 20% common lobster.

The main species of molluscs consumed by adults were cockles, whelks and scallops, with smaller quantities of mussels, razor shells and winkles. Whelks were caught commercially using pots throughout the survey area. Scallops were dredged commercially throughout the survey area. The cockles were collected from Littlestone-on-Sea, Lydd-on-Sea, Camber Sands and Rye beach. The razor shells were collected from Greatstone-on-Sea and Littlestone-on-Sea. The winkles and mussels were collected from Pett Level. Of the molluscs consumed by the six people in the high-rate group, the percentage breakdown of species, rounded to the nearest 5%, was 85% whelks, 10% cockles and 5% winkles.

The only species of marine plants/algae consumed by adults was samphire collected from Rye Harbour.

Children's and infants' consumption rates

Table C (see below) presents a summary of children's and infants' consumption rates of fish, crustaceans, molluscs and salt marsh grazed sheep meat. No consumption of wildfowl or marine plants/algae were identified for both the child age group and the infant age group. No infants were identified consuming molluscs or salt marsh grazed sheep meat. The table includes the mean consumption rates for the high-rate group and the observed 97.5th percentile rates. No generic rates have been determined for the child or infant age groups.

Table C. Summary of children's and infants' 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 97.5th percentile (kg y⁻¹)
Child age group (6 – 15 years old)						
Fish	16	3	24.2	23.4	23.7	23.9
Crustaceans	14	11	6.4	2.9	3.8	5.6
Molluscs	6	6	1.0	0.4	0.6	1.0
Salt marsh grazed sheep meat	2	2	10.6	8.0	9.3	10.6
Infant age group (0 – 5 years old)						
Fish	1	1	1.3	1.3	1.3	Not applicable
Crustaceans	1	1	0.9	0.9	0.9	Not applicable

The species of fish consumed by the individuals in the child age group were mackerel, bass, whiting, red gurnard and saithe, with smaller quantities of cod, dab, Dover sole, lemon sole, plaice, pollack thornback ray and turbot. The species of fish consumed by the only individual in the infant age group was plaice.

The species of crustaceans consumed by individuals in the child age group were brown crab and common lobster, with smaller quantities of brown shrimp and common prawn. The species of crustaceans consumed by the only individual in the infant age group was common lobster.

The species of molluscs consumed by individuals in the child age group were scallops and mussels.

4.8 Intertidal occupancy

Intertidal occupancy rates for adults are presented in Table 12 and intertidal occupancy rates for children and infants are presented in Table 13. 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' intertidal occupancy rates

Table D (see below) presents a summary of the adults' intertidal occupancy rates in the aquatic survey area. The table includes the mean occupancy rates for the high-rate groups and the observed 97.5th percentile rates.

Table D. 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)	97.5th percentile (h y⁻¹)
Mud and sand	44	16	867	357	577
Rock	5	3	15	15	15
Salt marsh	6	6	59	53	58
Sand	102	18	1189	768	1189
Sand and stones	75	15	730	469	575
Stones	281	24	1002	512	548
Boat on mud	13	7	1095	626	1095

The activities undertaken by people in the adult high-rate groups for occupancy over each of the intertidal substrates were:

- For mud and sand: bait digging at Pett Level, Winchelsea, Lydd-on-Sea, Littlestone-on-Sea, St Mary's Bay, Dymchurch and Greatstone-on-Sea.
- For rock: rock pooling at Pett Level.
- For salt marsh: working at Rye beach; working along the River Rother.
- For sand: angling at Camber Sands and Jury's Gap; bait digging at Camber Sands; litter collecting at Camber Sands; undertaking lifeguard duties at Camber Sands and Sunny Sands; undertaking beach warden duties at Rye, Camber Sands and Broomhill Sands.
- For sand and stones: kite bugging, landboarding and water sports preparation at Broomhill Sands; working at Rye; dog walking at Greatstone-on-Sea and Littlestone-on-Sea.
- For stones: boat maintenance throughout the survey area, Dungeness and Hythe; playing at Dungeness and Littlestone-on-Sea; angling at Dungeness, Galloways, Denge Marsh, Hythe and Winchelsea; undertaking lifeguard duties at Folkestone West; walking at Dungeness; dog walking at St Mary's Bay, Dungeness, Greatstone-on-Sea and Lydd-on-Sea; seaweed collecting at St Mary's Bay; litter collecting at Dungeness.
- For boat on mud: boat maintenance at Folkestone Outer Harbour, the River Rother and Simmons Quay (Rye).

Children's and infants' intertidal occupancy rates

Table E (see below) presents a summary of the children's and infants' intertidal occupancy rates in the aquatic survey area. The table includes the mean occupancy rates for the high-rate groups and the observed 97.5th percentile rates.

Table E. Summary of children's and infants' 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)	97.5th percentile (h y⁻¹)
Child age group (6 – 15 years old)					
Mud and sand	2	1	156	156	154
Sand	7	4	90	79	90
Sand and stones	1	1	1	1	Not Applicable
Stones	26	10	209	87	143
Infant age group (0 – 5 years old)					
Mud and sand	1	1	52	52	Not Applicable
Sand	12	2	209	156	180
Sand and stones	4	1	209	209	196
Stones	9	4	104	99	103

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

- For mud and sand: landboarding at Lydd-on-Sea; playing at Littlestone-on-Sea.
- For sand: playing at Broomhill Sands and Greatstone-on-Sea; kite buggying and water sports preparation at Broomhill Sands and Greatstone-on-Sea.
- For sand and stones: water sports preparation at Broomhill Sands.
- For stones: water sports preparation at Greatstone-on-Sea; playing at Dungeness and Littlestone-on-Sea; walking at Dungeness.

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

- For mud and sand: playing at Littlestone-on-Sea.
- For sand: playing at Camber Sands and Dymchurch.
- For sand and stones: playing at Dymchurch.
- For stones: playing at Dungeness, Littlestone-on-Sea, Hythe, Seabrook and Sandgate.

4.9 Gamma dose rate measurements

Gamma dose rate measurements were taken over four intertidal substrates. All measurements were taken at a height of 1 metre above the substrate. The results are presented in Table 14 and are summarised in Table F (see below).

Substrate	Number of measurements taken	Minimum gamma dose rate at 1 metre^a ($\mu\text{Gy h}^{-1}$)	Maximum gamma dose rate at 1 metre^a ($\mu\text{Gy h}^{-1}$)
Mud	2	0.066	0.067
Mud and sand	1	0.063	0.063
Sand	7	0.056	0.062
Stones	12	0.048	0.060

Notes

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

For comparison, natural background rates have been estimated at 0.05 $\mu\text{Gy h}^{-1}$ over sandy substrates, 0.07 $\mu\text{Gy h}^{-1}$ over mud and over salt marsh, and 0.06 $\mu\text{Gy h}^{-1}$ over other substrates (EA, FSA, FSS, NRW, NIEA and SEPA, 2019).

4.10 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 15. No children or infants were identified handling sediment or fishing gear.

Adults' handling rates of fishing gear and sediment

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

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)	97.5th percentile (h y⁻¹)
Handling fishing gear	41	18	1924	1421	1924
Handling sediment	15	4	867	590	809

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

- For handling fishing gear: handling pots and nets throughout the survey area.
- For handling sediment: bait digging at Pett Level, Winchelsea, Lydd-on-Sea, Littlestone-on-Sea, St Mary's Bay and Dymchurch.

4.11 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. Mean occupancy rates have not been calculated for the high-rate groups and 97.5th percentile rates.

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

Occupancy rates for 'in water' and 'on water' activities in the aquatic survey area are presented in Table 16 for adults and Table 17 for children and infants. Where generic data for groups of people were collected, for example members of sailing clubs, only representative examples have been included in the data presented.

Activities in water

The activities identified taking place in water in the aquatic survey area were kayaking, kitesurfing, paddleboarding, sub-aqua diving, lifeguard duties, swimming, water skiing and windsurfing. Kayaking is classified as an 'in water' activity since it is likely to lead to the ingestion of seawater. For adults, 176 observations were recorded, for the child age group eight observations were recorded and for the infant age group one observation was recorded. The highest occupancy rate for the adult age group was 1200 h y⁻¹ for a group of instructors who were teaching kitesurfing and paddleboarding at Broomhill Sands and Greatstone-on-Sea. The highest occupancy rate for the child age group was 100 h y⁻¹ for a group of children who were kayaking and paddleboarding at Folkestone inner and outer harbours. The only occupancy rate for the infant age group was 52 h y⁻¹ for an infant swimming at Dymchurch.

Activities on water

The activities taking place on water in the aquatic survey area were travelling to a dive site, harbour master duties and working on a boat, boat angling, charter boat duties, commercial fishing (including dredging, gill netting, potting, seine netting, trammel netting and trawling), paddling, pleasure cruising, push netting, power boating, rescue duties, rowing and sailing. For adults, 200 observations were recorded, for the child age group 16 observations were recorded and for the infant age group six observations were recorded. The highest occupancy rate for adults was 2500 h y⁻¹ for two commercial fisherman who were dredging and trawling, and two commercial fisherman who were potting and trammel netting. The highest occupancy rate for the child age group was 160 h y⁻¹ for a group of children who were rowing at Sandgate. The highest occupancy rate for the infant age group was 52 h y⁻¹ for an infant who was paddling at Dymchurch.

5 TERRESTRIAL RADIATION PATHWAYS

5.1 Terrestrial survey area

The terrestrial survey area (see Figure 2, page 22) covered the land and sea within 5 km of the site centre (National Grid Reference: TR 082 168).

The land within the terrestrial survey area to the north, east and west is predominantly covered in shingle. The Lydd Ranges (MOD) spanned the majority of the land to the west of the site. The land to the north-west of the Dungeness site is farmland, an RSPB Reserve where farming is permitted, and a series of lakes which are flooded gravel pits. The village of Lydd-on-Sea was located to the north-west just outside of the survey area.

Interviews were conducted at four working farms in the Dungeness terrestrial survey area which produced lamb and arable crops. Rapeseed oil and wheat were grown for human consumption and barley and grass (for haylage) were grown for animal feed.

Poultry sheds were identified within the survey area but the owner could not be contacted for further information during the survey. Lambs that grazed within the survey area were consumed.

One allotment site with approximately 100 individual plots was located just outside the survey area near Lydd. The consumption rates for fruit and vegetables grown on the allotment site were included in the survey results because the shingle covered land in the survey area limited the ability to grow produce in private gardens. 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.

Two beekeepers were identified with a total of 45 hives in the survey area. Fifty-five hives were located to the north-west of the Dungeness site. The average production of honey per hive ranged from 18 kg y⁻¹ to 22 kg y⁻¹. The honey was consumed by the beekeepers, their families and friends and sold within the survey area.

Wild foods that were collected from within the survey area and consumed included blackberries, sloes and mushrooms. Game shooting was not identified taking place within the 5 km terrestrial survey area; however, the consumption of goose was identified. Several coarse fishing lakes were located within the terrestrial area.

Consumption of groundwater by humans was not identified. Livestock were consuming mains water and had access to ditches and streams for drinking water.

5.2 Destination of food originating from the terrestrial survey area

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

- Lambs were sold at Ashford Market.
- Rapeseed oil was sold to a milling company and to a crushing unit in the UK.
- Wheat was grown for seed production in the UK and was exported to Spain, Holland and Belgium to produce biscuits and beer.
- Animal feed including barley and grass (for haylage) were sold to a farm outside the survey area.
- Honey was sold to the public from within the survey area and given away to friends and family.

5.3 The potential transfer of contamination off-site by wildlife

The potential transfer of contamination off-site by wildlife was investigated as radionuclides could enter the food chain or contaminate the environment through this pathway. Routine wildlife control was undertaken on the Dungeness A site. This included managing the pigeon populations on site by discouraging nesting with netting and culling any pigeons that enter the site's buildings. There is also a reptile fence at the perimeter of the site to prevent access to reptiles. Dungeness B did not undertake any routine controls, since the buildings are more enclosed, and it is highly unlikely that wildlife could enter controlled areas.

5.4 Food consumption data

Consumption data for locally produced foodstuffs potentially affected by deposition of gaseous discharges are presented in Tables 18 to 28 for adults and Tables 29 to 33 for children and infants. The mean consumption rates for the high-rate groups and the observed 97.5th percentile rates, calculated as described in Section 3.4, are given at the foot of each table.

In order to provide information relevant to monitoring and assessments studies, the consumption rate data 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 34.

Adults' consumption rates

Consumption of locally produced foods was identified in the following 11 food groups: green vegetables; other vegetables; root vegetables; potato; domestic fruit; sheep meat; poultry; eggs; wild/free foods; honey; wild fungi. No consumption was identified in the following food groups: milk; cattle meat; pig meat; rabbits/hares; venison; freshwater fish.

Table H (see below) presents a summary of the adults' consumption rates for the foods consumed from the terrestrial survey area. The table includes the mean consumption rates for the high-rate groups and the observed 97.5th percentile rates. For comparison, the table also includes mean consumption rates and 97.5th percentile consumption rates based on national data, which are referred to as 'generic' data in this report.

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

Food group	Number of observations	Number of high-rate consumers	Observed maximum for the high-rate group (kg y ⁻¹)	Observed minimum for the high-rate group (kg y ⁻¹)	Observed mean for the high-rate group (kg y ⁻¹)	Observed 97.5 th percentile (kg y ⁻¹)	Generic mean* (kg y ⁻¹)	Generic 97.5 th percentile* (kg y ⁻¹)
Green vegetables	43	13	44.7	17.8	26.6	35.4	15.0	45.0
Other vegetables	45	16	58.0	22.2	33.7	56.3	20.0	50.0
Root vegetables	42	10	40.5	23.2	32.0	40.4	10.0	40.0
Potato	39	20	54.6	20.5	33.5	54.6	50.0	120.0
Domestic fruit	46	20	16.2	6.2	9.8	16.1	20.0	75.0
Sheep meat	2	2	5.7	5.7	5.7	5.7	8.0	25.0
Poultry	1	1	6.6	6.6	6.6	Not Applicable	10.0	30.0
Eggs	9	2	41.6	14.8	28.2	36.2	8.5	25.0
Wild/free foods	18	9	5.0	1.8	3.5	5.0	7.0	25.0
Honey	3	1	10.9	10.9	10.9	10.5	2.5	9.5
Wild fungi	10	5	1.5	1.5	1.5	1.5	3.0	10.0

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

The observed mean consumption rate for the high-rate group was greater than the generic 97.5th percentile consumption rate for honey and eggs. Sheep meat and wild fungi were the only observed food groups for which the mean consumption rate for the high-rate group was equal to the observed 97.5th percentile consumption rate. Five 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, eggs and honey. Four of the observed 97.5th percentile consumption rates exceeded the generic 97.5th percentile consumption rates, which were for other vegetables, root vegetables, eggs and honey.

Children's and infants' consumption rates

Five individuals in the child age group were identified consuming foods from the terrestrial survey area. Consumption of foods from the terrestrial survey area was not identified for the infant age group. Table I (see page 53) presents a summary of children's consumption rates. The table includes the mean consumption rates for the high-rate groups and the observed 97.5th percentile rates. No generic

data have been determined for the child group. In the child age group, no consumption of foods from the following food groups was identified: milk; cattle meat; pig meat; sheep meat; poultry; eggs; wild/free foods; honey; wild fungi; rabbits/hares; venison; freshwater fish.

Table I. Summary of children's consumption rates of foods from the terrestrial survey area

Food group	Number of observations	Number of high-rate consumers	Observed maximum for the high-rate group (kg y ⁻¹)	Observed minimum for the high-rate group (kg y ⁻¹)	Observed mean for the high-rate group (kg y ⁻¹)	Observed 97.5 th percentile (kg y ⁻¹)
Child age group (6 - 15 years old)						
Green vegetables	5	2	11.6	5.8	8.7	11.0
Other vegetables	5	2	11.1	5.6	8.3	10.6
Root vegetables	5	5	4.7	2.1	3.0	4.5
Potato	5	4	12.3	4.6	9.1	12.3
Domestic fruit	5	2	8.1	4.1	6.1	7.7

6 DIRECT RADIATION PATHWAYS

6.1 Direct radiation survey area

The direct radiation survey area (see Figure 2, page 22) covered the land and sea within 1 km of the Dungeness A and B combined 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 Dungeness 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 Dungeness site is located on a shingle covered peninsula and the southern part of the direct radiation survey is taken up by the waters and intertidal areas of the English Channel. The Dungeness Estate includes the land to the north and east of the site, much of which has National Nature Reserve (NNR) and Site of Special Scientific Interest (SSSI) status. An RSPB Reserve is located within the north-western part of the survey area.

The survey area is sparsely populated with large areas of shingle and vegetation (see Figure 12, below).



Figure 12. Dungeness direct radiation survey area

A main road runs through the Dungeness village, which is lined with residences. Some of the properties are used as holiday homes. Small parking areas for vehicles are located along the main road, with one large car park at the Romney, Hythe and Dymchurch Railway (RH&DR) station. The village also includes a public house, the RH&DR station with associated café, a working lighthouse, the old lighthouse museum and a bird observatory. An electricity substation is based to the west of the site.

The Dungeness Estate was acquired by EDF Energy Ltd. in 2015 and it is managed by the Romney Marsh Countryside Partnership. Since 2015, the main road has been resurfaced and additional free parking has been installed resulting in an increase in the number of visitors to the area.

6.2 Residential activities

Residential properties are scattered across the eastern part of the survey area in the Dungeness village, primarily along the main road. Interviews were conducted at 21 residences, four of which had children or infants. Two properties were located close to the site boundary to the north-east. Approximately eight properties in the survey area were holiday homes, with part-time residency. Interviews were undertaken at properties in all three zones, ten of which were within the 0 – 0.25 km zone, four were in the >0.25 – 0.5 km zone and seven were in the >0.5 – 1 km zone.

6.3 Leisure activities

A number of leisure activities were undertaken in the direct radiation survey area. Many people were walking, dog walking, bird watching and sunbathing. Angling was popular along the shore in the survey area, particularly to the south of the Dungeness site. One angling club was identified within the survey area. The popularity of the Dungeness Estate has increased in recent years with visitor numbers increasing from approximately 600,000 people per year in 2010 to over 1 million people per year in 2019.

6.4 Commercial activities

A small number of businesses were spread throughout the survey area. In the 0 – 0.25 km zone, the RH&DR station and café were located to the east of the Dungeness site. The old lighthouse was located adjacent to the RH&DR station with employees working on a seasonal basis. A public house was located to the east of the Dungeness site in the >0.25 – 0.5 km. A small independent business was also based in this zone. A small food hut selling locally caught fish and shellfish was in the >0.5 – 1 km zone to the north-east of the site.

Commercial fishermen and charter fishermen maintained and launched their vessels from the shore to the east of the site in the >0.5 – 1 km zone. Two people were responsible for undertaking conservation duties and management of the estate throughout the survey area. The RNLI Dungeness Lifeboat

Station is located outside of the survey area, but a portion of the lifeboat rescue call outs were within the survey area.

6.5 Occupancy rates

Table 35 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 36. A summary of occupancy rates in the direct radiation survey area is presented in Table J (see below). Where generic data for groups of people were collected, for example employees of businesses, only representative examples have been included in the presented data.

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	71	8076	3379	8435
>0.25 - 0.5 km	54	7001	1977	8208
>0.5 - 1.0 km	27	7337	1805	8251

0 - 0.25 km from the nuclear licensed site boundary

Occupancy data for 71 individuals in the 0 - 0.25 km zone were included in the analysis. The observations were for 22 residents, 13 employees, 32 anglers, three birdwatchers and one person who was a regular visitor. 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 54 individuals in the >0.25 - 0.5 km zone were included in the analysis. The observations were for seven residents, 12 employees, 10 people undertaking RNLI training, one person undertaking boat maintenance, one person undertaking RNLI duties and angling, three people sunbathing and walking, 10 people walking and playing, six boat anglers, and four people walking. 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 27 people in the >0.5 - 1.0 km zone were included in the analysis. The observations were for 11 residents, four employees, seven people maintaining their fishing boats, three people playing and two visitors. The highest indoor, outdoor and total occupancy rates were for residents.

6.6 Gamma dose rate measurements

Gamma dose rates were measured indoors and outdoors at most properties and businesses where interviews were conducted in the Dungeness 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 37 and are summarised in Table K (see below).

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

Substrate	Number of measurements taken	Minimum gamma dose rate at 1 metre ($\mu\text{Gy h}^{-1}$)	Maximum gamma dose rate at 1 metre ($\mu\text{Gy h}^{-1}$)
Indoor measurements^a			
Concrete	6	0.056	0.108
Wood	10	0.049	0.084
Stone	3	0.110	0.118
Outdoor measurements^a			
Concrete	2	0.062	0.062
Grass	14	0.049	0.086
Mud and stones	1	0.061 (one result only)	
Stones	4	0.049	0.063
Background measurements			
Grass	3	0.076	0.080

Notes

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

Of the 19 measurements taken indoors at properties, five were higher than the maximum background reading, and of the 21 measurements taken outdoors at properties, one reading was higher than the maximum background reading. Since gamma dose rate measurements are influenced by the nature of building materials, the substrate over which they are taken, and many other factors, the measurements taken inside properties are expected to be higher than those taken outdoors.

The gamma dose rates can be compared with readings taken by the RIMNET programme, which continuously monitors radiation levels at a network of 92 fixed monitors and 105 mobile monitors distributed throughout the UK (www.gov.uk). The nearest RIMNET station to Dungeness was at Kent Lydd Range, which was approximately 6 km away. The ambient (i.e. background) gamma dose rates at Kent Lydd Range from July to September, which is the most recent data at the time of reporting, ranged from 0.110 $\mu\text{Gy h}^{-1}$ to 0.190 $\mu\text{Gy h}^{-1}$. All the outdoor readings taken during the Dungeness habits survey were within, or below, this range.

7 USES OF HABITS DATA FOR DOSE ASSESSMENTS

7.1 Combined pathways

In determining habits data for the purposes of assessing radiological doses to the public, it may be necessary to consider a combination of pathways. Data are provided in Annex 1 and Annex 2 so that the full effect of combining pathways can be assessed for individual observations, given the concentrations and dose rates for a particular assessment. The rates for individuals in the high-rate groups are emboldened. In some circumstances, it will be possible to make simplifying assumptions and define the consumption and external exposure rates appropriate to a series of potential high-rate groups.

The most extensive combinations of pathways for adult dose assessment are shown in Table 38. Each of the 27 combinations shown in Table 38 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 38 because they have fewer pathways and a dose assessment for them would be adequately covered by one of the 27 listed combinations.

7.2 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 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 Dungeness habits survey for females of childbearing age are presented in Annex 5. The Office of National Statistics classifies women to be of childbearing age if they are between 15 and 44 years old (www.ons.gov.uk); this age range has been used in Annex 5. It was not possible to collect ages for all female observations during the habits survey. However, these females with unknown ages have been included in Annex 5 as they might be women of childbearing age.

7.3 Total dose assessment

The UK environment agencies and the 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 *et al*, 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 (e.g. EA, FSA, FSS, NRW, NIEA and SEPA, 2019).

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

The results from this 2019 survey are compared below with results from the last combined habits survey undertaken at Dungeness in 2010. The aquatic, terrestrial and direct radiation survey areas in the 2019 survey were the same as those in the 2010 survey. The comparison of occupancy rates in the direct radiation area is for all age groups combined. All other comparisons are for adults only.

8.1 Aquatic survey area

Activities observed in the aquatic survey area in 2019 were broadly similar to those identified in 2010. It was reported that the whelk fishery has grown in recent years as no catch limit currently exists and there is a strong export market to South Korea. Some of the fishermen using nets reported that there has been an influx of spiny spider crabs over recent years that has prevented them from fishing in the summer months because the crabs damage their nets. A hobby fisherman undertaking keddle netting at Pett Level in 2010 had since retired and no other keddle netters were identified in 2019.

Improvements to the road and parking areas on the Dungeness Estate have helped to increase visitor numbers from 600,000 people per year in 2010 to approximately 1 million in 2019. Water sports have increased in popularity across the aquatic survey area, including kitesurfing, windsurfing and paddleboarding.

The main species of fish consumed by the adult high-rate group in 2019 were Dover sole, plaice, bass, cod, thornback ray and turbot, and the main species of fish consumed by the adult high-rate group in 2010 were plaice, Dover sole, mackerel, lemon sole and cod. The main species of crustaceans consumed by the adult high-rate group in both 2010 and 2019 were brown crab, brown shrimp and common lobster. The main species of molluscs consumed by the adult high-rate group in 2019 were whelks, cockles and winkles, and the main species of molluscs consumed by the adult high-rate group in 2010 were king scallops and whelks. The only species of marine plants/algae consumed by the adult high-rate group in 2019 was samphire, whereas in 2010 none were identified. Sheep and lambs were recorded to be grazing on salt marsh and lamb grazed on salt marsh was consumed in both surveys.

A comparison between the consumption of aquatic foods in 2010 and 2019 is presented in Table L (see page 61).

Table L. Comparison between 2010 and 2019 consumption rates of aquatic food groups for adults

Food group	2010			2019		
	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	6	163.3	87.3	11	84.9	48.7
Crustaceans	7	18.8	11.3	5	49.4	34.1
Molluscs	9	22.5	11.4	6	25.6	18.2
Marine plants/algae	Not identified			1	2.0	2.0
Salt marsh grazed meat	1	20.0	20.0	11	10.6	10.6

For fish, a significant decrease in the maximum consumption rate and the mean consumption rate was observed in 2019 for the adult high-rate group, compared to those in 2010. This was attributed to a retired fisherman who consumed large quantities of fish and shellfish daily in 2010, but had since passed away.

For crustaceans, there was a significant increase in the maximum and the mean consumption rate was observed in 2019 for the high-rate group. This increase was attributed to a commercial fishing family consuming larger quantities of crustaceans than in 2010.

For molluscs, a slight increase in the maximum consumption rate and a moderate increase in the mean consumption rate was observed for the high-rate group in 2019. The main species of mollusc consumed in 2010 were king scallops and whelks, whereas in 2019 the main species were whelks and cockles. The three high-rate individuals interviewed in 2019 were a newly identified fishing family consuming large quantities of whelks.

The consumption of samphire collected from Rye Harbour was identified in 2019, but not in 2010.

For salt marsh grazed sheep meat, a significant decrease in the maximum consumption rate and the mean consumption rate was observed for the high-rate group in 2019. The same person was interviewed in both years, but they had reduced their lamb consumption in 2019.

In 2010, intertidal occupancy for adults was recorded over the following seven substrates: mud; mud and sand; rock; sand; sand and stones; stones; boat resting on mud. In 2019, activities were recorded over similar substrates, with the addition of salt marsh and exception of mud.

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

- In 2010: boat maintenance, search and rescue duties, bait digging, beach cleaning, angling, rock pooling, collecting winkles and mussels, beach warden duties, walking, bird watching and staying on a boat.
- In 2019: bait digging, angling, kite buggying, landboarding, water sports preparation, boat maintenance, playing, rock pooling, working on intertidal areas, tending livestock, litter collecting, lifeguard duties, beach warden duties, dog walking, walking and collecting seaweed.

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

- In 2010: handling pots and nets.
- In 2019: handling pots and nets.

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

- In 2010: bait digging.
- In 2019: bait digging.

A comparison between the 2010 and 2019 data for adult occupancy over intertidal substrates, handling fishing gear and handling sediment is shown in Table M (see page 63).

Table M. Comparison between 2010 and 2019 intertidal occupancy rates and handling rates of fishing gear and sediment for adults

Intertidal substrate or handling pathway	2010			2019		
	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	9	100	59	Not recorded		
Mud and sand	3	1500	903	16	867	357
Rock	5	15	14	3	15	15
Salt marsh	Not recorded			6	59	53
Sand	12	840	613	18	1189	768
Sand and stones	1	105	105	15	730	469
Stones	15	819	436	24	1002	512
Boat on mud	3	1080	952	7	1095	626
Handling fishing gear	27	2990	1632	18	1924	1421
Handling sediment	3	1500	903	4	867	590

In 2019, compared to 2010, the mean intertidal occupancy rate for the adult high-rate group increased significantly over the substrate sand and stones; increased moderately over sand, and over stones; increased slightly over rock; decreased significantly over mud and sand; and decreased moderately over boat on mud. Occupancy over salt marsh was not recorded in 2010. In 2019, occupancy was identified for people working on the salt marsh along the River Rother and on the salt marsh near Rye. Occupancy over mud was recorded in 2010 but not in 2019.

The increase in the occupancy rate over sand and stones in 2019 compared to 2010 was due to the identification of water sports instructors spending long periods of time on the shore at Broomhill Sands, and people working on the shore at Rye. The decrease in the mean occupancy rate over mud and sand was attributed to several individuals who were bait digging commercially in 2010 but had retired by 2019. It was reported that bait digging is more difficult to undertake due to the increase in the popularity of water sports now being undertaken at the same locations, resulting in limited space on the shore. Occupancy over mud was not identified in 2019 because search and rescue duties on the mud on the River Rother and boat maintenance were both not recorded as taking place.

The mean rates for the adult high-rate groups for handling fishing gear and handling sediment decreased in 2019 compared to 2010. The handling rate for sediment decreased in 2019 due to the retirement of high-rate commercial bait diggers previously identified in 2010.

For activities taking place in the water in the aquatic survey area, the maximum adult occupancy rate increased significantly from 310 h y⁻¹ in 2010, for 17 windsurfers at Hythe, to 1200 h y⁻¹ in 2019, for 12 individuals teaching kitesurfing and paddleboarding at Broomhill Sands and Greatstone-on-Sea.

For activities taking place on the water in the aquatic survey area, the maximum adult occupancy rate decreased from 3500 h y⁻¹ in 2010, for three individuals potting and trammel netting in Rye Bay, to 2500 h y⁻¹ in 2019, for two individuals dredging and trawling, and two individuals potting and trammel netting throughout the survey area.

8.2 Terrestrial survey area

Activities in the terrestrial survey area in 2019 were broadly similar to those in 2010. The same number of farms were identified and the principal types of farm produce within the area continued to be lamb and arable crops. The growing of fruit and vegetables in gardens and on an allotment site, beekeeping and the collection of wild/free foods were identified in both surveys. Organised game shooting on farmland was identified in 2010 for rabbits, but this had ceased by 2019. The occasional bird was shot, and a small amount of goose was consumed. A new beekeeper was identified in 2019 who gave honey to their family and friends, one of whom consumed large quantities.

The mean consumption rates for the adult high-rate groups for terrestrial food groups from the 2010 and 2019 surveys are shown in Table N (see below).

Table N. Comparison between 2010 and 2019 mean consumption rates (kg y⁻¹) for the adult high-rate groups for terrestrial food groups		
Food group	2010	2019
Green vegetables	23.9	26.6
Other vegetables	27.9	33.7
Root vegetables	41.7	32.0
Potato	50.4	33.5
Domestic fruit	19.2	9.8
Sheep meat	Not identified	5.7
Poultry	11.7	6.6
Eggs	21.6	28.2
Wild/free foods	1.8	3.5
Rabbits/hares	5.4	Not identified
Honey	2.6	10.9
Wild fungi	1.5	1.5

In 2019, compared to 2010, the mean consumption rates for the adult high-rate group increased in the following food groups: green vegetables; other vegetables; eggs; wild/free foods; honey. In 2019 the mean consumption rates for the adult high-rate groups decreased in the following food groups: root vegetables; potato; domestic fruit; poultry. The consumption of rabbits/hares was identified in 2010 but not in 2019. Conversely, the consumption of lamb was identified in 2019, but not in 2010. The most significant increases in the consumption rates were for wild/free foods and honey, whilst the most significant decreases were for domestic fruit and poultry.

The consumption of honey increased in 2019 due to a newly identified beekeeper who gave honey to their family and friends, one of whom consumed large quantities. No specific reasons were identified for the other changes in consumption rates.

In the 2010 Dungeness habits survey, one household was identified consuming small quantities of water from a well, however, no human consumption of groundwater was identified in 2019. Livestock were consuming mains water in 2019 and had access to ditches and streams for drinking water.

8.3 Direct radiation survey area

Activities identified in the direct radiation survey area in 2010 and 2019 were similar and included people residing, working and undertaking recreational activities. In recent years there has been an increase in the number of visitors to the area due to improvements to the main road and additional parking. A comparison between the 2010 and 2019 direct radiation occupancy rates for all age groups combined, by zone, is presented in Table O (see below).

Table O. Comparison between 2010 and 2019 direct radiation occupancy rates ($h\ y^{-1}$) for all age groups combined		
	2010	2019
0 - 0.25 km zone		
Highest indoor	8236	8076
Highest outdoor	2281	3379
Highest total	8344	8435
>0.25 - 0.5 km zone		
Highest indoor	8556	7001
Highest outdoor	1272	1977
Highest total	8706	8208
>0.5 - 1.0 km zone		
Highest indoor	8296	7337
Highest outdoor	1500	1805
Highest total	8656	8251

The occupancy rates in the direct radiation survey area were similar in 2010 and 2019. The highest indoor, outdoor and total occupancy rates in all three zones in 2010 and 2019 were for residents.

In the Dungeness direct radiation survey area, eight sets of gamma dose measurements taken in 2019 can be compared with those taken at the same properties in 2010. These data are shown in Table P (see below).

Table P. Comparison between 2010 and 2019 gamma dose rates ($\mu\text{Gy h}^{-1}$)

Location	Indoor		Outdoor	
	2010	2019	2010	2019
Residence 7	0.057	0.060	0.057	0.056
Residence 10	0.049	0.056	0.057	0.061
Residence 11	0.045	0.057	0.054	0.059
Residence 14	0.104	0.118	0.071	0.074
Residence 18	0.056	-	0.057	0.062
Residence 19	-	-	0.055	0.062
Business 1	0.127	0.062	0.056	0.063
Business 2	-	0.069	0.050	0.054

Notes

These measurements have not been adjusted for background dose rates.

The locations correspond to those in Table 37.

There was no consistent pattern in the differences in the gamma dose rates between 2010 and 2019. Four of the indoor readings was higher in 2010 than in 2019, and four were lower. For the outdoor readings, seven were higher in 2019 than in 2010, and one was lower.

9 MAIN FINDINGS

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

- Discharges of liquid radioactive waste into the English Channel
- 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, commercial fishermen, 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 720 individuals are presented in this report. All consumption rates recorded are only for foods produced, collected or caught from within the aquatic and terrestrial survey areas as defined in Section 2.3. The consumption and occupancy rates in this section are presented to two significant figures.

9.1 Aquatic survey area

The mean consumption rates for the adult high-rate groups (as defined in Section 3.4) for the separate aquatic consumption pathways for foods potentially affected by liquid discharges were:

- 49 kg y⁻¹ for fish
- 34 kg y⁻¹ for crustaceans
- 18 kg y⁻¹ for molluscs
- 2.0 kg y⁻¹ for marine plants/algae
- 11 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, plaice, bass, cod, thornback ray and turbot
- For crustaceans: brown crab, brown shrimp and common lobster
- For molluscs: whelk, cockle and winkle
- For marine plants/algae: samphire
- 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:

- 360 h y⁻¹ for mud and sand
- 15 h y⁻¹ for rock
- 53 h y⁻¹ for salt marsh
- 770 h y⁻¹ for sand
- 470 h y⁻¹ for sand and stones
- 510 h y⁻¹ for stones
- 630 h y⁻¹ for boat on mud

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

- 1400 h y⁻¹ for handling fishing gear (nets and pots)
- 590 h y⁻¹ for handling sediment

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

- 1200 h y⁻¹ for 'in water'
- 2500 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.

9.2 Terrestrial survey area

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

- 27 kg y⁻¹ for green vegetables
- 34 kg y⁻¹ for other vegetables
- 32 kg y⁻¹ for root vegetables
- 34 kg y⁻¹ for potato
- 10 kg y⁻¹ for domestic fruit
- 5.7 kg y⁻¹ for sheep meat
- 6.6 kg y⁻¹ for poultry
- 28 kg y⁻¹ for eggs
- 3.5 kg y⁻¹ for wild/free foods
- 11 kg y⁻¹ for honey
- 1.5 kg y⁻¹ for wild fungi

The consumption of rabbits/hares was not identified from the survey area. The consumption of terrestrial foodstuffs was also recorded for individuals in the child age group but was not recorded for the infant age group.

The human consumption of groundwater was not identified in the 2019 survey. A farm supplied their livestock with mains water which also had access to ditches and streams for drinking water.

9.3 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

- 7000 h y⁻¹ for the indoor occupancy rate
- 2000 h y⁻¹ for the outdoor occupancy rate
- 8200 h y⁻¹ for the total occupancy rate

>0.5 - 1.0 km zone

- 7300 h y⁻¹ for the indoor occupancy rate
- 1800 h y⁻¹ for the outdoor occupancy rate
- 8300 h y⁻¹ for the total occupancy rate

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

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

Habits surveys provide site-specific information on the consumption of locally produced foods and the location and types of activities which may affect the public's exposure to radiation. This information can be used to help in the selection of samples and measurements for the monitoring programmes by identifying foods that are consumed at high rates and the locations where people spend 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 (e.g. EA, FSA, FSS, NRW, NIEA and SEPA, 2019).

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.

10.1 Summary of the monitoring programmes for Dungeness

The 2018 monitoring programmes relevant to the Dungeness area included the samples and measurements listed below. The location names, foods and substrate classifications are taken directly from RIFE 24 (EA, FSA, FSS, NRW, NIEA and SEPA, 2019). Some of the samples and measurements taken for the monitoring programmes may be from outside the survey areas used for the 2019 Dungeness habits survey.

Aquatic samples

Food and environmental samples

Sample	Location
Whiting	Pipeline
Sole	Pipeline
Spiny Spider Crab	Pipeline
Scallop	Pipeline
Sea kale	Dungeness Beach
Seaweed	Folkestone Harbour
Sediment	Rye Harbour
Sediment	Camber Sands
Sediment	Pilot Sands
Sediment	Dungeness South

Gamma dose rate measurements over intertidal sediments

Location	Substrate
Littlestone on Sea	Sand and silt
Littlestone on Sea	Sand and shingle
Greatstone on Sea	Mud
Greatstone on Sea	Sand and silt
Pilot Sands	Sand and silt
Dungeness West	Sand and shingle
Dungeness West	Shingle
Jury's Gap	Sand and silt
Jury's Gap	Pebbles and sand
Rye Bay	Sand and silt
Rye Bay	Pebbles and sand

Terrestrial samples

Milk
Potatoes
Wheat
Grass
Freshwater

10.2 Information from the 2019 Dungeness habits survey for use in the selection of samples and measurements for monitoring programmes**Food Standards Agency monitoring**

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

Food	Food Group
Dover sole	Fish
Brown crab	Crustacean
Whelk	Mollusc
Salt marsh grazed lamb	Salt marsh grazed sheep meat
Samphire	Marine plants/algae
Cucumber	Green vegetables
Tomato	Other vegetables
Onion	Root vegetables
Potato	Potato
Raspberry	Domestic fruit
Lamb	Sheep meat
Goose	Poultry
Chicken egg	Egg
Blackberry	Wild/free foods
Honey	Honey
Mushroom	Wild fungi

Environment Agency monitoring

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

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Allott, R., 2005. Assessment of compliance with the public dose limit. Principles for the assessment of total retrospective public doses. National Dose Assessment Working Group. NDAWG/2/2005.

BEIS, 2018. UK Strategy for Radioactive Discharges – 2018 Review of the 2009 Strategy. BEIS, London.

Byrom, J., Robinson, C., Simmonds, J.R., Walters, B., and Taylor, R.R., 1995. Food consumption rates for use in generalised radiological dose assessments. J. Radiol. Prot. 1995 Vol. 15 No 4 335-341.

Camplin, W.C., Grzechnik, M.P. and Smedley, C.A., 2005. Methods for assessment of total dose in the Radioactivity in Food and the Environment report. Presented to the *National Dose Assessments Working Group (NDAWG)*. Paper NDAWG/3/2005, 27th April 2005.

Clyne, F. J., Garrod, C. J., Ly. V. E., Rumney. P., Elliot. J., 2011. Radiological Habits Survey: Dungeness, 2010. RL 11/11. Cefas, Lowestoft.

EC, 2014. Council Directive 2013/59/EURATOM laying down basic safety standards for protection against the dangers arising from exposure to ionising radiation. OJ L13, 17.1.2014:1-73. EC, Brussels.

EA, FSA, FSS, NRW, NIEA and SEPA, 2019. Radioactivity in Food and the Environment, 2018. EA, FSA, FSS, NRW, NIEA and SEPA, Bristol, London, Aberdeen, Cardiff, Belfast and Stirling. RIFE (24).

EA, SEPA, DoENI, NRPB and FSA, 2002. Authorisation of discharges of radioactive waste to the environment. Principles for the assessment of prospective public doses. Interim Guidance. EA, SEPA, DoENI, NRPB and FSA, Lancaster.

EA, SEPA, NIEA, HPA and FSA, 2012. Principles for the Assessment of Prospective Public Doses arising from Authorised Discharges of Radioactive Waste to the Environment. EA, SEPA, NIEA, HPA and FSA, Penrith.

FSA, 2012. Radioactivity in Food Monitoring Review. FSA, London.

FSA, 2013. Radioactivity in Food Monitoring Review. Summary report of responses to consultation from stakeholders. FOODSA0128. FSA, London.

Good Housekeeping, 1994. Good Housekeeping Cook Book. Ebury Press, London.

Hessayon, D. G., 1990. *The Fruit Expert*, pbi Publications, Waltham Cross.

Hessayon, D. G., 1997. *The New Vegetable & Herb Expert*, Expert Books, London.

Hunt, G.J., Hewett, C.J. and Shepherd, J.G., 1982. The identification of critical groups and its application to fish and shellfish consumers in the coastal area of the north-east Irish Sea. *Health Physics*, Vol. 43, No 6, 875-889.

IAEA, 1996. International basic safety standards for protection against ionizing radiation and for the safety of radiation sources. Saf. Ser. No. 115. IAEA, Vienna.

ICRP, 1992. The Biological Basis for Dose Limitation in the Skin. ICRP Publication 59. Ann. ICRP 22 (2).

ICRP, 2007. The 2007 Recommendations of the International Commission on Radiological Protection. Annal. ICRP 37 (2-4). Elsevier Science, Oxford, (ICRP Publ. 103).

NDA, 2018. NDA Business Plan 2018/2021. SG/2018/36, NDA, Moor Row, Cumbria.

NDAWG, 2005. Position paper on the collection and use of habits data for retrospective dose assessments. National Dose Assessment Working Group. NDAWG/4/2005.

NDAWG, 2009. Acquisition and use of habits data for prospective assessments. National Dose Assessment Working Group. NDAWG/2/2009.

National Radiological Protection Board, 2005. Guidance on the application of dose coefficients for the embryo and fetus from intakes of radionuclides by the mother. Docs NRPB 16(2). NRPB, Chilton, 41pp.

Smith, K.R. and Jones, A.L., 2003. Generalised habit data for radiological assessments. NRPB-W41. NRPB, Chilton.

UK Parliament, 1965. Nuclear Installations Act, 1965 (as amended). HMSO, London.

UK Parliament, 2009. UK Strategy for Radioactive Discharges. DECC, London.

UK Parliament, 2019. The Ionising Radiations (Environmental and Public Protection) (Miscellaneous Amendments) (EU Exit) Regulations 2019. Stat. Inst. 2019/24. HMSO, London.

REFERENCES

United Kingdom - Parliament, 2019. Environmental Permitting (England and Wales) (Amendment) (EU Exit) Regulations 2019. Stat. Inst. 2019/39. HMSO, London.

www.gov.uk - Last accessed: 16/03/2020

www.ons.gov.uk - Last accessed: 16/03/2020

Table 1. Survey coverage

Group	Criteria	Estimate of complete coverage	Number for whom positive data was obtained	Coverage for positive observations	Notes
SUMMARY OF ALL PATHWAYS					
All potential interviewees in the Dunegness aquatic, terrestrial and direct radiation survey areas.	Number of people resident in the terrestrial survey area (excluding those resident in the direct radiation survey area) (See (B) TERRESTRIAL PATHWAYS)	1646 ^a	38 ^b	2%	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)	109	40 ^b	37%	Interviews were conducted at 21 residences out of an estimated total of 57 permanent residences.
	Number of people working, visiting and undertaking recreational activities in the direct radiation survey area (See (C) DIRECT RADIATION PATHWAYS)	U	112 ^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 effected by liquid discharges (excluding those assigned to other categories above) (See (A) AQUATIC PATHWAYS)	U	529 ^b	U	Where generalised data for groups of people were obtained, for example members of sailing clubs, only a limited number of representative individuals have been included.
	Total for aquatic, terrestrial and direct radiation survey areas	U	720 ^b	U	
(A) AQUATIC PATHWAYS					
Commercial and hobby fishermen	Number of commercial and hobby fishermen fishing in the aquatic survey area	U	35	U	
People undertaking activities in or on water (e.g. swimmers, surfers, boat anglers, commercial and hobby fishermen etc.)	Number of people undertaking activities in or on water in the aquatic survey area	U	370	U	Where generalised data for groups of people were obtained, for example members of sailing clubs, only a limited number of representative individuals have been included.
People using the shore (e.g. dog walkers, shore anglers, people playing, etc.)	Number of people undertaking intertidal activities in the aquatic survey area	U	410	U	
Fish consumers	Number of people consuming fish from the aquatic survey area	U	144	U	
Crustacean consumers	Number of people consuming crustaceans from the aquatic survey area	U	92	U	
Mollusc consumers	Number of people consuming molluscs from the aquatic survey area	U	57	U	

Table 1. Survey coverage

Group	Criteria	Estimate of complete coverage	Number for whom positive data was obtained	Coverage for positive observations	Notes
(B) TERRESTRIAL PATHWAYS					
Farmers	Number of farmers and their family members consuming food from the terrestrial survey area	U	3	U	Interviews were conducted at four farms out of an estimated five farms in the terrestrial survey area. Three of the farms interviewed were not consuming any food from the terrestrial survey area.
Allotment holders and gardeners	Number of allotment holders and gardeners and their family members consuming food from the terrestrial survey area	U	63	U	
Honey consumers	Number of people consuming honey produced in the survey area	U	3	U	Two beekeepers who kept hives in the survey area were interviewed.
(C) DIRECT RADIATION PATHWAYS					
Residents	Number of residents in the survey area	109	40	37%	Interviews were conducted at 21 residences out of an estimated total of 57 permanent residences.
Employees	Number of people working in the survey area	U	37	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.
Visitors (people undertaking recreational activities or visiting relatives)	Number of people visiting the survey area	U	75	U	
BREAKDOWN OF AGE GROUPS FOR PEOPLE RESIDENT IN THE 5 km TERRESTRIAL SURVEY AREA					
Adult	16-year-old and over	1370 ^a	650	47%	
Child	6-year-old to 15-year-old	196 ^a	54	28%	
Infant	0 to 5-year-old	80 ^a	16	20%	

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 shore angling and consumes the catch.

U - Unknown

Table 2. Typical food groups used in habits surveys

Food group	Examples of foods within the group
Green vegetables	Asparagus, broccoli, Brussels sprout, cabbage, calabrese, cauliflower, chard, courgette, cucumber, gherkin, globe artichoke, herbs, kale, leaf beet, lettuce, marrow, spinach
Other vegetables	Aubergine, broad bean, chilli pepper, French bean, kohlrabi, mangetout, pea, pepper, pumpkin, runner bean, sweetcorn, tomato
Root vegetables	Beetroot, carrot, celeriac, celery, chicory, fennel, garlic, Jerusalem artichoke, leek, onion, parsnip, radish, shallot, spring onion, swede, turnip
Potato	Potato
Domestic fruit	Apple, apricot, blackberry, blackcurrant, boysenberry, cherry, damson, fig, gooseberry, grape, greengage, huckleberry, loganberry, melon, nectarine, peach, pear, plum, raspberry, redcurrant, rhubarb, rowanberry, strawberry, tayberry, whitecurrant
Milk	Cows' milk, cream, goats' milk, yoghurt
Cattle meat ^a	Beef
Pig meat ^a	Pork
Sheep meat ^a	Lamb, mutton
Poultry ^b	Chicken, duck, goose, grouse, guinea fowl, partridge, pheasant, pigeon, turkey, woodcock
Eggs	Chicken egg, duck egg, goose egg
Wild/free foods	Blackberry, chestnut, crab apple, damson, dandelion root, elderberry, nettle, rowanberry, sloe
Honey	Honey
Wild fungi	Mushrooms, other edible fungi
Rabbits/Hares	Hare, rabbit
Venison ^a	Venison
Fish (sea)	Bass, brill, cod, 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, <i>Nephrops</i> , prawn, shrimp, spider crab, squat lobster, velvet swimming crab
Molluscs	Cockles, limpets, mussels, oysters, razor clam, scallops, whelks, winkles
Wildfowl ^b	Canada goose, greylag goose, mallard, pink-footed goose, pintail, shoveler, teal, wigeon

Notes

^a Including offal

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

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

Table 3. Adults' consumption rates of fish (kg y⁻¹) from the Dungeness aquatic survey area

Person ID number	Bass	Bream	Brill	Cod	Conger eel	Dab	Dover sole	Eel	Flounder	Haddock	Herring	Huss	Lemon sole	Mackerel	Plaice	Pollack	Red gurnard	Red mullet	Saithe	Smooth hound	Sprat	Thornback ray	Turbot	Whiting	Total
2551/1/1	27.4	-	-	-	-	-	57.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	84.9
2551/2/1	27.4	-	-	-	-	-	57.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	84.9
2553/1/1	-	-	-	11.8	-	-	17.7	-	-	-	-	-	-	-	17.7	-	-	-	-	-	-	11.8	11.8	-	71.0
2553/2/1	-	-	-	11.8	-	-	17.7	-	-	-	-	-	-	-	17.7	-	-	-	-	-	-	11.8	11.8	-	71.0
2514/1/1	5.4	-	-	7.2	-	-	-	-	-	-	-	7.2	-	5.4	7.2	-	-	-	-	-	-	-	-	-	32.4
2607/2/1	-	-	-	4.6	-	4.6	-	-	-	-	-	-	4.6	-	4.6	4.6	-	-	-	-	-	4.6	4.6	-	32.2
2607/3/1	-	-	-	4.6	-	4.6	-	-	-	-	-	-	4.6	-	4.6	4.6	-	-	-	-	-	4.6	4.6	-	32.2
2607/5/1	-	-	-	4.6	-	4.6	-	-	-	-	-	-	4.6	-	4.6	4.6	-	-	-	-	-	4.6	4.6	-	32.2
2607/6/1	-	-	-	4.6	-	4.6	-	-	-	-	-	-	4.6	-	4.6	4.6	-	-	-	-	-	4.6	4.6	-	32.2
2555/1/1	-	-	-	-	-	-	7.8	-	-	-	5.2	-	-	7.8	5.2	-	-	-	-	-	5.2	-	-	-	31.2
2555/3/1	-	-	-	-	-	-	7.8	-	-	-	5.2	-	-	7.8	5.2	-	-	-	-	-	5.2	-	-	-	31.2
2360/1/1	3.6	-	-	-	2.5	-	7.2	-	-	-	-	-	-	-	7.2	-	-	-	-	-	-	7.2	-	-	27.7
2360/2/1	3.6	-	-	-	2.5	-	7.2	-	-	-	-	-	-	-	7.2	-	-	-	-	-	-	7.2	-	-	27.7
2390/1/1	-	-	-	8.9	-	8.9	8.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	26.6
2543/1/1	3.9	-	-	-	-	-	-	-	-	-	-	-	-	3.9	-	-	5.2	-	5.2	-	-	-	-	5.2	23.4
2543/3/1	3.9	-	-	-	-	-	-	-	-	-	-	-	-	3.9	-	-	5.2	-	5.2	-	-	-	-	5.2	23.4
2515/1/1	16.7	-	-	-	-	-	-	-	-	-	-	-	-	-	5.2	-	-	-	-	-	-	-	-	-	21.9
2352/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	20.9	-	-	-	-	-	-	-	-	-	-	20.9
2352/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	20.9	-	-	-	-	-	-	-	-	-	-	20.9
2611/1/1	-	-	-	-	-	-	10.4	-	-	-	-	-	-	-	10.4	-	-	-	-	-	-	-	-	-	20.9
2611/3/1	-	-	-	-	-	-	10.4	-	-	-	-	-	-	-	10.4	-	-	-	-	-	-	-	-	-	20.9
2611/4/1	-	-	-	-	-	-	10.4	-	-	-	-	-	-	-	10.4	-	-	-	-	-	-	-	-	-	20.9
2611/5/1	-	-	-	-	-	-	10.4	-	-	-	-	-	-	-	10.4	-	-	-	-	-	-	-	-	-	20.9
2312/1/1	-	-	-	3.4	-	-	3.4	-	-	-	3.4	3.4	3.4	-	3.4	-	-	-	-	-	-	-	-	-	20.4
2512/1/1	-	-	-	-	-	-	6.8	-	-	-	-	-	6.8	-	6.8	-	-	-	-	-	-	-	-	-	20.4
2512/3/1	-	-	-	-	-	-	6.8	-	-	-	-	-	6.8	-	6.8	-	-	-	-	-	-	-	-	-	20.4
2603/1/1	-	-	-	5.0	-	-	5.0	-	-	-	-	-	-	-	5.0	-	-	-	-	-	-	-	-	5.0	20.0
2493/1/1	-	-	-	4.0	-	-	4.0	-	-	-	-	-	-	3.0	4.0	-	-	-	-	-	-	4.0	-	-	19.0
2493/2/1	-	-	-	4.0	-	-	4.0	-	-	-	-	-	-	3.0	4.0	-	-	-	-	-	-	4.0	-	-	19.0
2568/1/1	2.9	-	-	2.9	-	-	-	-	-	-	-	2.9	-	2.9	-	-	-	-	-	-	-	2.9	2.9	-	17.7
2568/2/1	2.9	-	-	2.9	-	-	-	-	-	-	-	2.9	-	2.9	-	-	-	-	-	-	-	2.9	2.9	-	17.7
2539/1/1	3.4	-	-	3.4	-	-	3.4	-	-	-	-	-	-	-	3.4	-	-	-	-	-	-	3.4	-	-	17.0
2539/2/1	3.4	-	-	3.4	-	-	3.4	-	-	-	-	-	-	-	3.4	-	-	-	-	-	-	3.4	-	-	17.0
2390/2/1	-	-	-	4.4	-	2.7	2.7	-	5.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15.7
2779/2/1	-	-	-	-	-	-	-	7.3	-	-	-	-	-	-	2.4	-	2.4	-	-	-	-	2.4	-	-	14.5
2607/4/1	-	-	-	4.6	-	-	-	-	-	-	-	-	-	-	-	4.6	-	-	-	-	-	-	4.6	-	13.8
2416/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	5.6	5.0	-	-	-	-	-	-	2.4	-	-	13.0
2416/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	5.6	5.0	-	-	-	-	-	-	2.4	-	-	13.0
2774/1/1	3.8	-	-	3.6	-	-	-	-	-	-	-	-	-	-	3.6	-	-	-	-	-	-	-	-	-	11.0
2449/1/1	0.9	-	-	-	-	2.4	-	-	-	-	-	-	-	5.3	2.4	-	-	-	-	-	-	-	-	-	10.9
2572/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	10.5	-	-	-	-	-	-	-	-	-	-	10.5
2444/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	2.4	-	8.0	-	-	-	-	-	-	-	-	10.4
2518/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10.4	-	-	10.4
2560/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10.4	-	-	-	-	-	-	-	-	-	10.4
2541/1/1	-	-	2.6	-	-	-	2.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.6	2.6	-	10.4

Table 3. Adults' consumption rates of fish (kg y⁻¹) from the Dungeness aquatic survey area

Person ID number	Bass	Bream	Brill	Cod	Conger eel	Dab	Dover sole	Eel	Flounder	Haddock	Herring	Huss	Lemon sole	Mackerel	Plaice	Pollack	Red gurnard	Red mullet	Saithe	Smooth hound	Sprat	Thornback ray	Turbot	Whiting	Total	
2463/4/1	-	-	-	-	-	-	-	-	-	-	-	-	-	2.5	-	-	-	-	-	-	-	-	-	1.7	4.2	
2463/5/1	-	-	-	-	-	-	-	-	-	-	-	-	-	2.5	-	-	-	-	-	-	-	-	-	-	1.7	4.2
2463/14/1	-	-	-	-	-	-	-	-	-	-	-	-	-	2.5	-	-	-	-	-	-	-	-	-	-	1.7	4.2
2463/15/1	-	-	-	-	-	-	-	-	-	-	-	-	-	2.5	-	-	-	-	-	-	-	-	-	-	1.7	4.2
2414/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	1.8	2.4	-	-	-	-	-	-	-	-	-	-	4.2
2414/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	1.8	2.4	-	-	-	-	-	-	-	-	-	-	4.2
2521/1/1	-	-	-	1.2	-	-	-	-	-	-	-	-	-	1.8	1.2	-	-	-	-	-	-	-	-	-	-	4.2
2521/2/1	-	-	-	1.2	-	-	-	-	-	-	-	-	-	1.8	1.2	-	-	-	-	-	-	-	-	-	-	4.2
2538/1/1	0.6	0.6	-	0.6	-	-	-	-	-	-	-	-	-	0.5	0.6	0.6	-	-	-	-	-	-	-	-	0.6	4.1
2538/3/1	0.6	0.6	-	0.6	-	-	-	-	-	-	-	-	-	0.5	0.6	0.6	-	-	-	-	-	-	-	-	0.6	4.1
2474/1/1	-	-	-	1.3	-	-	-	-	-	-	-	-	-	1.3	1.3	-	-	-	-	-	-	-	-	-	-	3.9
2474/2/1	-	-	-	1.3	-	-	-	-	-	-	-	-	-	1.3	1.3	-	-	-	-	-	-	-	-	-	-	3.9
2474/3/1	-	-	-	1.3	-	-	-	-	-	-	-	-	-	1.3	1.3	-	-	-	-	-	-	-	-	-	-	3.9
2564/1/1	0.8	-	-	1.0	-	-	-	-	-	-	-	-	-	0.8	-	1.0	-	-	-	-	-	-	-	-	-	3.5
2564/11/1	0.8	-	-	1.0	-	-	-	-	-	-	-	-	-	0.8	-	1.0	-	-	-	-	-	-	-	-	-	3.5
2324/1/1	-	-	-	-	-	0.5	2.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.3
2409/2/1	0.6	-	-	0.4	-	-	0.2	-	-	-	-	-	-	-	1.6	-	-	-	-	-	-	-	-	-	-	2.8
2511/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.6	-	-	-	-	-	-	-	-	-	-	2.6
2511/5/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.6	-	-	-	-	-	-	-	-	-	-	2.6
2464/1/1	1.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.4	-	-	2.5
2464/2/1	1.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.4	-	-	2.5
2394/1/1	-	-	-	-	-	-	1.2	-	-	-	-	-	-	-	1.2	-	-	-	-	-	-	-	-	-	-	2.4
2401/1/1	-	-	-	-	-	1.2	1.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.4
2354/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	2.0	-	-	-	-	-	-	-	-	-	-	-	2.0
2406/1/1	-	-	-	-	-	1.0	-	-	1.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.0
2450/1/1	-	0.4	-	-	-	-	-	-	-	-	-	-	-	1.5	-	-	-	-	-	-	-	-	-	-	-	1.9
2450/2/1	-	0.4	-	-	-	-	-	-	-	-	-	-	-	1.5	-	-	-	-	-	-	-	-	-	-	-	1.9
2384/1/1	-	-	-	-	-	-	0.9	-	-	-	-	-	-	-	0.9	-	-	-	-	-	-	-	-	-	-	1.8
2384/2/1	-	-	-	-	-	-	0.9	-	-	-	-	-	-	-	0.9	-	-	-	-	-	-	-	-	-	-	1.8
2473/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.2	-	-	-	-	-	-	-	-	-	-	1.2
2550/1/1	0.2	-	-	-	-	-	-	-	-	-	-	-	-	1.0	-	-	-	-	-	-	-	-	-	-	-	1.2
2550/2/1	0.2	-	-	-	-	-	-	-	-	-	-	-	-	1.0	-	-	-	-	-	-	-	-	-	-	-	1.2
2548/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.8	-	-	-	-	-	-	-	-	-	-	0.8
2548/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.8	-	-	-	-	-	-	-	-	-	-	0.8
2548/3/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.8	-	-	-	-	-	-	-	-	-	-	0.8
2453/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	0.3	-	-	-	-	-	-	-	-	-	-	-	0.3
2453/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	0.3	-	-	-	-	-	-	-	-	-	-	-	0.3

Notes

Emboldened observations are the high-rate consumers

The mean consumption rate of fish for adults based on the 11 high-rate consumers is 48.7 kg y⁻¹

The observed 97.5th percentile rate based on 127 observations is 65.2 kg y⁻¹

Table 4. Adults' consumption rates of crustaceans (kg y⁻¹) from the Dungeness aquatic survey area

Person ID number	Brown crab	Brown shrimp	Common Lobster	Common prawn	Spiny spider crab	Total
2555/1/1	23.7	25.7	-	-	-	49.4
2555/3/1	23.7	25.7	-	-	-	49.4
2518/1/1	23.7	-	11.2	-	-	34.9
2779/1/1	7.2	-	11.2	-	-	18.4
2779/2/1	7.2	-	11.2	-	-	18.4
2606/1/1	-	10.0	-	-	2.8	12.8
2606/2/1	-	10.0	-	-	2.8	12.8
2571/1/1	-	11.8	-	-	-	11.8
2493/1/1	7.2	3.9	-	-	-	11.1
2493/2/1	7.2	3.9	-	-	-	11.1
2553/1/1	7.2	-	2.6	-	-	9.7
2553/2/1	7.2	-	2.6	-	-	9.7
2514/1/1	-	8.6	-	-	-	8.6
2607/2/1	4.8	-	3.7	-	-	8.5
2607/3/1	4.8	-	3.7	-	-	8.5
2607/4/1	4.8	-	3.7	-	-	8.5
2607/5/1	4.8	-	3.7	-	-	8.5
2607/6/1	4.8	-	3.7	-	-	8.5
2554/1/1	-	6.6	-	-	-	6.6
2554/2/1	-	6.6	-	-	-	6.6
2554/3/1	-	6.6	-	-	-	6.6
2540/1/1	3.3	-	2.6	0.3	-	6.2
2540/2/1	3.3	-	2.6	0.3	-	6.2
2515/1/1	0.4	3.9	0.6	-	0.1	5.1
2312/1/1	-	3.9	-	-	-	3.9
2550/1/1	-	3.9	-	-	-	3.9
2550/2/1	-	3.9	-	-	-	3.9
2603/1/1	-	3.9	-	-	-	3.9
2604/1/1	3.8	-	-	-	-	3.8
2463/1/1	0.2	-	3.7	-	-	3.8
2463/2/1	0.2	-	3.7	-	-	3.8
2463/3/1	0.2	-	3.7	-	-	3.8
2463/4/1	0.2	-	3.7	-	-	3.8
2463/5/1	0.2	-	3.7	-	-	3.8
2463/14/1	0.2	-	3.7	-	-	3.8
2463/15/1	0.2	-	3.7	-	-	3.8
2543/1/1	0.1	-	-	3.0	-	3.1
2543/3/1	0.1	-	-	3.0	-	3.1
2521/1/1	-	2.9	-	-	-	2.9
2521/2/1	-	2.9	-	-	-	2.9
2541/1/1	-	-	2.8	-	-	2.8
2541/2/1	-	-	2.8	-	-	2.8
2605/1/1	-	2.5	-	-	-	2.5
2605/2/1	-	2.5	-	-	-	2.5
2482/1/1	2.3	-	-	-	-	2.3
2482/2/1	2.3	-	-	-	-	2.3
2516/1/1	0.8	-	1.3	-	-	2.1
2516/2/1	0.8	-	1.3	-	-	2.1
2516/3/1	0.8	-	1.3	-	-	2.1
2516/4/1	0.8	-	1.3	-	-	2.1
2390/1/1	-	-	-	2.0	-	2.0
2511/1/1	-	-	1.7	-	-	1.7
2511/5/1	-	-	1.7	-	-	1.7
2474/1/1	1.0	-	0.4	-	-	1.4
2474/2/1	1.0	-	0.4	-	-	1.4
2474/3/1	1.0	-	0.4	-	-	1.4
2530/1/1	-	1.3	-	-	-	1.3
2473/1/1	0.8	-	-	-	-	0.8

Table 4. Adults' consumption rates of crustaceans (kg y⁻¹) from the Dungeness aquatic survey area

Person ID number	Brown crab	Brown shrimp	Common Lobster	Common prawn	Spiny spider crab	Total
2401/1/1	0.3	-	0.4	-	-	0.7
2388/1/1	0.3	-	0.3	-	-	0.5
2539/1/1	-	-	0.4	-	-	0.4
2539/2/1	-	-	0.4	-	-	0.4
2324/1/1	0.4	-	-	-	-	0.4
2548/1/1	0.4	-	-	-	-	0.4
2548/2/1	0.4	-	-	-	-	0.4
2548/3/1	0.4	-	-	-	-	0.4
2771/1/1	-	0.3	-	-	-	0.3
2411/2/1	0.2	-	-	-	-	0.2
2411/4/1	0.2	-	-	-	-	0.2
2411/5/1	0.2	-	-	-	-	0.2
2411/6/1	0.2	-	-	-	-	0.2
2564/1/1	-	0.2	-	-	-	0.2
2564/11/1	-	0.2	-	-	-	0.2
2453/1/1	0.1	-	-	-	-	0.1
2453/2/1	0.1	-	-	-	-	0.1
2464/1/1	0.1	-	-	-	-	0.1
2464/2/1	0.1	-	-	-	-	0.1

Notes

Emboldened observations are the high-rate consumers

The mean consumption rate of crustaceans for adults based on the 5 high-rate consumers is 34.1 kg y⁻¹

The observed 97.5th percentile rate based on 77 observations is 36.3 kg y⁻¹

Table 5. Adults' consumption rates of molluscs (kg y⁻¹) from the Dungeness aquatic survey area

Person ID number	Cockle	Mussel	Razor shell	Scallop	Whelk	Winkle	Total
2779/1/1	-	-	-	-	25.6	-	25.6
2779/2/1	-	-	-	-	25.6	-	25.6
2779/4/1	-	-	-	-	25.6	-	25.6
2539/1/1	4.0	-	-	1.0	7.0	-	12.0
2539/2/1	4.0	-	-	1.0	7.0	-	12.0
2571/1/1	5.3	-	-	-	-	3.2	8.6
2396/1/1	-	-	-	-	7.8	-	7.8
2604/1/1	-	-	-	-	7.3	-	7.3
2390/1/1	-	2.0	-	-	3.1	-	5.1
2550/1/1	1.8	0.6	-	1.4	-	-	3.8
2550/2/1	1.8	0.6	-	1.4	-	-	3.8
2553/1/1	-	-	-	3.6	-	-	3.6
2553/2/1	-	-	-	3.6	-	-	3.6
2774/1/1	3.6	-	-	-	-	-	3.6
2515/1/1	-	-	-	-	3.6	-	3.6
2611/1/1	-	-	-	3.1	-	-	3.1
2611/3/1	-	-	-	3.1	-	-	3.1
2611/4/1	-	-	-	3.1	-	-	3.1
2611/5/1	-	-	-	3.1	-	-	3.1
2541/1/1	-	-	-	1.6	-	-	1.6
2541/2/1	-	-	-	1.6	-	-	1.6
2568/1/1	1.2	-	0.3	-	-	-	1.5
2568/2/1	1.2	-	0.3	-	-	-	1.5
2607/2/1	-	-	-	1.4	-	-	1.4
2607/3/1	-	-	-	1.4	-	-	1.4
2607/4/1	-	-	-	1.4	-	-	1.4
2607/5/1	-	-	-	1.4	-	-	1.4
2607/6/1	-	-	-	1.4	-	-	1.4
2307/1/1	-	-	-	1.2	-	-	1.2
2530/1/1	1.0	-	-	-	-	-	1.0
2521/1/1	-	-	-	-	0.8	-	0.8
2493/1/1	-	-	-	-	0.8	-	0.8
2493/2/1	-	-	-	-	0.8	-	0.8
2564/1/1	-	-	-	0.6	-	-	0.6
2564/11/1	-	-	-	0.6	-	-	0.6
2388/1/1	-	-	-	0.3	0.3	-	0.5
2771/1/1	-	-	-	0.5	-	-	0.5
2539/3/1	-	-	-	0.5	-	-	0.5
2539/5/1	-	-	-	0.5	-	-	0.5
2539/6/1	-	-	-	0.5	-	-	0.5
2539/7/1	-	-	-	0.5	-	-	0.5
2551/1/1	-	-	-	0.5	-	-	0.5
2551/2/1	-	-	-	0.5	-	-	0.5
2538/1/1	-	-	-	0.4	-	-	0.4
2538/2/1	-	-	-	0.4	-	-	0.4
2543/1/1	-	0.4	-	-	-	-	0.4
2543/3/1	-	0.4	-	-	-	-	0.4
2544/1/1	-	-	-	0.4	-	-	0.4
2544/2/1	-	-	-	0.4	-	-	0.4
2555/1/1	-	-	-	0.4	-	-	0.4
2555/3/1	-	-	-	0.4	-	-	0.4

Notes

Emboldened observations are the high-rate consumers

The mean consumption rate of molluscs for adults based on the 6 high-rate consumers is 18.2 kg y⁻¹

The observed 97.5th percentile rate based on 51 observations is 25.6 kg y⁻¹

Table 6. Adults' consumption rates of marine plants/algae (kg y^{-1}) from the Dungeness aquatic survey area

Person ID number	Samphire
2493/3/1	2.0

Notes

The emboldened observation is the high-rate consumer

The mean consumption rate of marine plants/algae for adults based on the high-rate consumer is 2.0 kg y^{-1}

The observed 97.5th percentile is not applicable for 1 observation

Table 7. Adults' consumption rates of salt marsh grazed sheep meat (kg y^{-1}) from the Dungeness aquatic survey area

Person ID number	Salt marsh lamb
2342/1/1	10.6
2342/2/1	10.6
2342/3/1	10.6
2342/6/1	10.6
2342/7/1	10.6
2342/7/2	10.6
2342/7/3	10.6
2342/7/4	10.6
2342/7/5	10.6
2342/7/6	10.6
2342/7/7	10.6

Notes

Emboldened observations are the high-rate consumers

The mean consumption rate of saltmarsh grazed sheep meat for adults based on the 11 high-rate consumers is 10.6 kg y^{-1}

The observed 97.5th percentile rate based on 11 observations is 10.6 kg y^{-1}

Table 8. Children's and infants' consumption rates of fish (kg y⁻¹) from the Dungeness aquatic survey area

Child age group (6 - 15 years old)

Person ID number	Age	Bass	Cod	Dab	Dover sole	Lemon sole	Mackerel	Plaice	Pollack	Red gurnard	Saithe	Thornback ray	Turbot	Whiting	Total
2607/1/1	13	-	3.5	3.5	-	3.5	-	3.5	3.5	-	-	3.5	3.5	-	24.2
2543/4/1	14	3.9	-	-	-	-	3.9	-	-	5.2	5.2	-	-	5.2	23.4
2543/5/1	13	3.9	-	-	-	-	3.9	-	-	5.2	5.2	-	-	5.2	23.4
2539/4/1	14	1.6	1.6	-	1.6	-	-	1.6	-	-	-	1.6	-	-	8.0
2463/7/1	10	-	-	-	-	-	2.5	-	-	-	-	-	-	1.7	4.2
2463/8/1	12	-	-	-	-	-	2.5	-	-	-	-	-	-	1.7	4.2
2463/9/1	14	-	-	-	-	-	2.5	-	-	-	-	-	-	1.7	4.2
2463/10/1	11	-	-	-	-	-	2.5	-	-	-	-	-	-	1.7	4.2
2463/11/1	14	-	-	-	-	-	2.5	-	-	-	-	-	-	1.7	4.2
2463/12/1	12	-	-	-	-	-	2.5	-	-	-	-	-	-	1.7	4.2
2463/13/1	15	-	-	-	-	-	2.5	-	-	-	-	-	-	1.7	4.2
2564/2/1	15	0.8	1.0	-	-	-	0.8	-	1.0	-	-	-	-	-	3.5
2564/10/1	14	0.8	1.0	-	-	-	0.8	-	1.0	-	-	-	-	-	3.5
2463/6/1	8	-	-	-	-	-	1.9	-	-	-	-	-	-	1.3	3.2
2530/3/1	14	1.0	-	1.0	-	-	-	-	-	-	-	-	1.0	-	3.1
2511/3/1	6	-	-	-	-	-	-	2.0	-	-	-	-	-	-	2.0

Notes

Emboldened observations are the high-rate consumers

The mean consumption rate of fish for the child age group based on the 3 high-rate consumers is 23.7 kg y⁻¹

The observed 97.5th percentile rate based on 16 observations is 23.9 kg y⁻¹

Infant age group (0 - 5 years old)

Person ID number	Age	Bass	Cod	Dab	Dover sole	Lemon sole	Mackerel	Plaice	Pollack	Red gurnard	Saithe	Thornback ray	Turbot	Whiting	Total
2511/4/1	3	-	-	-	-	-	-	1.3	-	-	-	-	-	-	1.3

Notes

The emboldened observation is the high-rate consumer

The mean consumption rate of fish for the infant age group based on the high-rate consumer is 1.3 kg y⁻¹

The observed 97.5th percentile is not applicable for 1 observation

Table 9. Children's and infants' consumption rates of crustaceans (kg y⁻¹) from the Dungeness aquatic survey area

Child age group (6 - 15 years old)

Person ID number	Age	Brown crab	Brown shrimp	Common lobster	Common prawn	Total
2607/1/1	13	3.6	-	2.8	-	6.4
2463/7/1	10	0.2	-	3.7	-	3.8
2463/8/1	12	0.2	-	3.7	-	3.8
2463/9/1	14	0.2	-	3.7	-	3.8
2463/10/1	11	0.2	-	3.7	-	3.8
2463/11/1	14	0.2	-	3.7	-	3.8
2463/12/1	12	0.2	-	3.7	-	3.8
2463/13/1	15	0.2	-	3.7	-	3.8
2543/4/1	14	0.1	-	-	3.0	3.1
2543/5/1	13	0.1	-	-	3.0	3.1
2463/6/1	8	0.1	-	2.7	-	2.9
2511/3/1	6	-	-	1.3	-	1.3
2564/2/1	15	-	0.2	-	-	0.2
2564/10/1	14	-	0.2	-	-	0.2

Notes

Emboldened observations are the high-rate consumers

The mean consumption rate of crustaceans for the child age group based on the 11 high-rate consumers is 3.8 kg y⁻¹

The observed 97.5th percentile rate based on 14 observations is 5.6 kg y⁻¹

Infant age group (0 - 5 years old)

Person ID number	Age	Brown crab	Brown shrimp	Common lobster	Common prawn	Total
2511/4/1	3	-	-	0.9	-	0.9

Notes

The emboldened observation is the high-rate consumer

The mean consumption rate of crustaceans for the infant age group based on the high-rate consumer is 0.9 kg y⁻¹

The observed 97.5th percentile is not applicable for 1 observation

Table 10. Children's and infants' consumption rates of molluscs (kg y⁻¹) from the Dungeness aquatic survey area

Child age group (6 - 15 years old)

Person ID number	Age	Mussel	Scallop	Total
2607/1/1	13	-	1.0	1.0
2564/2/1	15	-	0.6	0.6
2564/10/1	14	-	0.6	0.6
2539/4/1	14	-	0.5	0.5
2543/4/1	14	0.4	-	0.4
2543/5/1	13	0.4	-	0.4

Notes

Emboldened observations are the high-rate consumers

The mean consumption rate of molluscs for the child age group based on the 6 high-rate consumers is 0.6 kg y⁻¹

The observed 97.5th percentile rate based on 6 observations is 1.0 kg y⁻¹

Infant age group (0 - 5 years old)

No consumption rate data obtained for this group.

Table 11. Children's and infants' consumption rates of salt marsh grazed sheep meat (kg y⁻¹) from the Dungeness aquatic survey area

Child age group (6 - 15 years old)

Person ID number	Age	Salt marsh lamb
2342/5/1	11	10.6
2342/4/1	9	8.0

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 9.3 kg y⁻¹

The observed 97.5th percentile rate based on 2 observations is 10.6 kg y⁻¹

Infant age group (0 - 5 years old)

No consumption rate data obtained for this group.

Table 12. Adults' intertidal occupancy rates ($h\ y^{-1}$) in the Dungeness aquatic survey area

Person ID number	Location	Activity	Mud and sand	Rock	Salt marsh	Sand	Sand and stones	Stones	Boat on mud
2389/1/1	Pett Level, Winchelsea, Lydd-on-Sea, Littlestone-on-Sea, St Mary's Bay and Dymchurch	Bait digging	867	-	-	-	-	-	-
2551/1/1	Pett Level, Winchelsea, Greatstone-on-Sea, Littlestone-on-Sea, Dymchurch and St Mary's Bay	Bait digging	585	-	-	-	-	-	-
	Camber Sands	Bait digging	-	-	-	387	-	-	-
	Camber Sands and Dymchurch	Angling	-	-	-	-	-	-	-
2433/1/1	Galloways, Denge Marsh, Dungeness and Hythe	Angling	-	-	-	-	-	540	-
	Winchelsea	Bait digging	480	-	-	-	-	-	-
2395/1/1	Pett Level, Winchelsea, Lydd-on-Sea, Greatstone-on-Sea, Littlestone-on-Sea, St Mary's Bay and Dymchurch	Bait digging	313	-	-	-	-	-	-
2601/1/1	Greatstone-on-Sea	Kite buggying and landboarding	289	-	-	-	-	-	-
	Broomhill Sands	Kite buggying, landboarding and water sports preparation	-	-	-	-	419	-	-
	Greatstone-on-Sea	Water sports preparation	-	-	-	-	-	130	-
2601/1/2	Greatstone-on-Sea	Kite buggying and landboarding	289	-	-	-	-	-	-
	Broomhill Sands	Kite buggying, landboarding and water sports preparation	-	-	-	-	419	-	-
	Greatstone-on-Sea	Water sports preparation	-	-	-	-	-	130	-
2601/2/1	Greatstone-on-Sea	Kite buggying and landboarding	289	-	-	-	-	-	-
	Broomhill Sands	Kite buggying, landboarding and water sports preparation	-	-	-	-	419	-	-
	Greatstone-on-Sea	Water sports preparation	-	-	-	-	-	130	-
2601/2/2	Greatstone-on-Sea	Kite buggying and landboarding	289	-	-	-	-	-	-
	Broomhill Sands	Kite buggying, landboarding and water sports preparation	-	-	-	-	419	-	-
	Greatstone-on-Sea	Water sports preparation	-	-	-	-	-	130	-
2601/2/3	Greatstone-on-Sea	Kite buggying and landboarding	289	-	-	-	-	-	-
	Broomhill Sands	Kite buggying, landboarding and water sports preparation	-	-	-	-	419	-	-
	Greatstone-on-Sea	Water sports preparation	-	-	-	-	-	130	-
2601/2/4	Greatstone-on-Sea	Kite buggying and landboarding	289	-	-	-	-	-	-
	Broomhill Sands	Kite buggying, landboarding and water sports preparation	-	-	-	-	419	-	-
	Greatstone-on-Sea	Water sports preparation	-	-	-	-	-	130	-
2601/2/5	Greatstone-on-Sea	Kite buggying and landboarding	289	-	-	-	-	-	-
	Broomhill Sands	Kite buggying, landboarding and water sports preparation	-	-	-	-	419	-	-
	Greatstone-on-Sea	Water sports preparation	-	-	-	-	-	130	-

Table 12. Adults' intertidal occupancy rates ($h\ y^{-1}$) in the Dungeness aquatic survey area

Person ID number	Location	Activity	Mud and sand	Rock	Salt marsh	Sand	Sand and stones	Stones	Boat on mud
2601/2/6	Greatstone-on-Sea	Kite buggying and landboarding	289	-	-	-	-	-	-
	Broomhill Sands	Kite buggying, landboarding and water sports preparation	-	-	-	-	419	-	-
	Greatstone-on-Sea	Water sports preparation	-	-	-	-	-	130	-
2601/2/7	Greatstone-on-Sea	Kite buggying and landboarding	289	-	-	-	-	-	-
	Broomhill Sands	Kite buggying, landboarding and water sports preparation	-	-	-	-	419	-	-
	Greatstone-on-Sea	Water sports preparation	-	-	-	-	-	130	-
2601/2/8	Greatstone-on-Sea	Kite buggying and landboarding	289	-	-	-	-	-	-
	Broomhill Sands	Kite buggying, landboarding and water sports preparation	-	-	-	-	419	-	-
	Greatstone-on-Sea	Water sports preparation	-	-	-	-	-	130	-
2601/2/9	Greatstone-on-Sea	Kite buggying and landboarding	289	-	-	-	-	-	-
	Broomhill Sands	Kite buggying, landboarding and water sports preparation	-	-	-	-	419	-	-
	Greatstone-on-Sea	Water sports preparation	-	-	-	-	-	130	-
2601/2/10	Greatstone-on-Sea	Kite buggying and landboarding	289	-	-	-	-	-	-
	Broomhill Sands	Kite buggying, landboarding and water sports preparation	-	-	-	-	419	-	-
	Greatstone-on-Sea	Water sports preparation	-	-	-	-	-	130	-
2347/1/1	Folkestone Outer Harbour	Dog walking	273	-	-	-	-	-	-
	Sunny Sands		-	-	-	115	-	-	-
	Folkestone West		-	-	-	-	-	115	-
2568/1/1	Lydd-on-Sea, Littlestone-on-Sea and Greatstone-on-Sea	Walking	230	-	-	-	-	-	-
	Littlestone-on-Sea and Lydd-on-Sea	Angling		-	-	-	-	-	-
	Greatstone-on-Sea and Littlestone-on-Sea	Collecting cockles		-	-	-	-	-	-
2494/1/1	Dymchurch	Angling, bait digging and collecting razor shells	-	-	-	106	-	-	-
	Denge Marsh	Angling	-	-	-	-	-	156	-
	Winchelsea and Rye Harbour	Bait digging	158	-	-	-	-	-	-
2564/12/1	Greatstone-on-Sea	Land yachting	102	-	-	-	-	-	
2564/12/2	Greatstone-on-Sea	Land yachting	102	-	-	-	-	-	
2564/12/3	Greatstone-on-Sea	Land yachting	102	-	-	-	-	-	
2564/12/4	Greatstone-on-Sea	Land yachting	102	-	-	-	-	-	
2564/12/5	Greatstone-on-Sea	Land yachting	102	-	-	-	-	-	
2564/12/6	Greatstone-on-Sea	Land yachting	102	-	-	-	-	-	
2564/12/7	Greatstone-on-Sea	Land yachting	102	-	-	-	-	-	
2564/12/8	Greatstone-on-Sea	Land yachting	102	-	-	-	-	-	
2564/12/9	Greatstone-on-Sea	Land yachting	102	-	-	-	-	-	
2564/12/10	Greatstone-on-Sea	Land yachting	102	-	-	-	-	-	
2568/3/1	Littlestone-on-Sea and Greatstone-on-Sea	Walking	72	-	-	-	-	-	

Table 12. Adults' intertidal occupancy rates ($h\ y^{-1}$) in the Dungeness aquatic survey area

Person ID number	Location	Activity	Mud and sand	Rock	Salt marsh	Sand	Sand and stones	Stones	Boat on mud
2571/1/1	Littlestone-on-Sea	Bait digging and collecting cockles	54	-	-	-	-	-	-
	Pett Level	Collecting winkles		-	-	-	-	-	-
	Lydd-on-Sea	Bait digging	-	-	-	-	-	-	
2515/1/1	Dungeness	Angling	-	-	-	-	-	275	-
	Lydd-on-Sea	Bait digging	52	-	-	-	-	-	-
	Camber Sands and Jury's Gap	Angling	-	-	-	521	-	-	-
	Camber Sands	Bait digging	-	-	-	-	-	-	-
	Winchelsea and Dungeness	Angling	-	-	-	-	-	469	-
2511/1/1	Littlestone-on-Sea	Playing	52	-	-	-	-	-	-
	Dungeness	Boat maintenance	-	-	-	-	-	730	-
2511/5/1	Dungeness and Littlestone-on-Sea	Playing	-	-	-	-	-	104	-
	Littlestone-on-Sea	Playing	52	-	-	-	-	-	-
2432/1/1	Winchelsea	Bait digging	52	-	-	-	-	-	-
2378/1/1	Folkestone Outer Harbour	Dog walking	26	-	-	-	-	-	-
	Folkestone West		-	-	-	-	-	52	-
2530/1/1	Lydd-on-Sea	Bait digging and collecting cockles	18	-	-	-	-	-	-
	Dungeness, Lydd-on-Sea, Greatstone-on-Sea and Littlestone-on-Sea	Angling	-	-	-	-	-	288	-
2766/1/1	Lydd-on-Sea	Walking	11	-	-	-	-	-	-
	Camber Sands	Walking and water sports preparation	-	-	-	45	-	-	-
	Broomhill Sands	Water sports preparation	-	-	-	-	11	-	-
	Lydd-on-Sea	Walking	11	-	-	-	-	-	-
2766/2/1	Camber Sands	Walking and water sports preparation	-	-	-	45	-	-	-
	Broomhill Sands	Water sports preparation	-	-	-	-	11	-	-
2766/3/1	Lydd-on-Sea	Walking	11	-	-	-	-	-	-
	Camber Sands	Walking and water sports preparation	-	-	-	45	-	-	-
	Broomhill Sands	Water sports preparation	-	-	-	-	11	-	-
	Lydd-on-Sea	Walking	11	-	-	-	-	-	-
2767/1/1	Greatstone-on-Sea and Littlestone-on-Sea	Water sports preparation	9	-	-	-	-	-	-
	Camber Sands and Dymchurch		-	-	-	17	-	-	
	Broomhill Sands		-	-	-	-	9	-	
2767/2/1	Greatstone-on-Sea, Littlestone-on-Sea and Hythe	Water sports preparation	-	-	-	-	-	17	-
	Greatstone-on-Sea and Littlestone-on-Sea		9	-	-	-	-	-	
	Camber Sands and Dymchurch		-	-	-	17	-	-	
2550/2/1	Broomhill Sands	Water sports preparation	-	-	-	-	9	-	-
	Greatstone-on-Sea, Littlestone-on-Sea and Hythe		-	-	-	-	-	17	-
	Pett Level		Collecting mussels	1	-	-	-	-	-
2550/1/1	Camber Sands	Collecting cockles	-	1	-	-	-	-	-
	Dungeness and Winchelsea	Angling	-	-	-	3	-	-	-
	Winchelsea	Dog walking	-	-	-	-	-	255	-
2465/1/1	Pett Level	Collecting mussels	1	-	-	-	-	-	-
	Camber Sands	Collecting cockles	-	-	-	3	-	-	-
	Dungeness	Angling	-	-	-	-	-	22	-
2465/2/1	Pett Level	Rock pooling	-	15	-	-	-	-	-
	Camber Sands	Sitting on the beach	-	-	-	8	-	-	-
	Pett Level	Rock pooling	-	15	-	-	-	-	-
2465/1/1	Camber Sands	Sitting on the beach	-	-	-	8	-	-	-
	Pett Level	Sitting on the beach	-	-	-	-	-	20	-

Table 12. Adults' intertidal occupancy rates ($h\ y^{-1}$) in the Dungeness aquatic survey area

Person ID number	Location	Activity	Mud and sand	Rock	Salt marsh	Sand	Sand and stones	Stones	Boat on mud
2465/3/1	Pett Level	Rock pooling	-	15	-	-	-	-	-
	Camber Sands	Sitting on the beach	-	-	-	8	-	-	-
2563/2/1	Pett Level		-	-	-	-	-	20	-
	Rye beach	Working	-	-	59	-	-	-	-
2563/3/1	Rye beach	Working	-	-	52	-	-	-	-
			-	-	-	-	730	-	-
2563/4/1	Rye beach	Working	-	-	52	-	-	-	-
			-	-	-	-	730	-	-
2563/1/1	Rye beach	Working	-	-	52	-	-	-	-
		Litter collecting	-	-	-	-	134	-	-
		Working	-	-	-	-	-	-	-
2342/1/1	River Rother	Working	-	-	52	-	-	104	-
			-	-	52	-	-	-	-
2342/6/1	River Rother	Working	-	-	52	-	-	-	-
2368/1/1	Camber Sands	Litter collecting	-	-	-	1189	-	-	-
2368/1/2	Camber Sands	Litter collecting	-	-	-	1189	-	-	-
2368/1/3	Camber Sands	Litter collecting	-	-	-	1189	-	-	-
2368/1/4	Camber Sands	Litter collecting	-	-	-	1189	-	-	-
2368/1/5	Camber Sands	Litter collecting	-	-	-	1189	-	-	-
2313/1/1	Camber Sands	Lifeguard duties	-	-	-	718	-	-	-
2313/1/2	Camber Sands	Lifeguard duties	-	-	-	718	-	-	-
2313/1/3	Camber Sands	Lifeguard duties	-	-	-	718	-	-	-
2313/2/1	Camber Sands	Lifeguard duties	-	-	-	718	-	-	-
2313/3/1	Camber Sands	Lifeguard duties	-	-	-	718	-	-	-
2313/3/2	Camber Sands	Lifeguard duties	-	-	-	718	-	-	-
2313/4/1	Camber Sands	Lifeguard duties	-	-	-	718	-	-	-
2314/1/1	Rye beach, Camber Sands and Broomhill Sands	Beach warden duties	-	-	-	697	-	-	-
2349/3/1	Sunny Sands	Lifeguard duties	-	-	-	409	-	-	-
	Folkestone West		-	-	-	-	-	409	-
2349/3/2	Sunny Sands	Lifeguard duties	-	-	-	409	-	-	-
	Folkestone West		-	-	-	-	-	409	-
2349/3/3	Sunny Sands	Lifeguard duties	-	-	-	409	-	-	-
	Folkestone West		-	-	-	-	-	409	-
2349/3/4	Sunny Sands	Lifeguard duties	-	-	-	409	-	-	-
	Folkestone West		-	-	-	-	-	409	-
2374/1/1	Dymchurch	Litter collecting	-	-	-	384	-	-	-
			-	-	-	-	192	-	-
2384/1/1	Broomhill Sands	Dog walking	-	-	-	304	-	-	-
	Winchelsea		-	-	-	-	-	6	-
2384/2/1	Broomhill Sands	Dog walking	-	-	-	304	-	-	-
	Winchelsea		-	-	-	-	-	6	-
2380/1/1	Dymchurch	Dog walking	-	-	-	261	-	-	-
2380/2/1	Dymchurch	Dog walking	-	-	-	261	-	-	-
2314/3/1	Rye beach to Broomhill	Beach warden duties	-	-	-	246	-	-	-
2314/4/1	Rye beach to Broomhill	Beach warden duties	-	-	-	246	-	-	-
2314/2/1	Rye beach to Broomhill	Beach warden duties	-	-	-	239	-	-	-
	Camber Sands	Playing	-	-	-	209	-	-	-
2778/1/1	Broomhill Sands		-	-	-	-	9	-	-
	Greatstone-on-Sea and Littlestone-on-Sea	Water sports preparation	-	-	-	-	-	17	-
2379/1/1	Dymchurch	Dog walking and playing	-	-	-	156	-	-	-
		Playing	-	-	-	-	209	-	-
2379/2/1	Dymchurch	Dog walking and playing	-	-	-	156	-	-	-
		Playing	-	-	-	-	209	-	-

Table 12. Adults' intertidal occupancy rates ($h\ y^{-1}$) in the Dungeness aquatic survey area

Person ID number	Location	Activity	Mud and sand	Rock	Salt marsh	Sand	Sand and stones	Stones	Boat on mud
2370/1/1	Broomhill Sands	Dog walking and playing	-	-	-	144	-	-	-
		Playing	-	-	-	-	39	-	-
2385/1/1	Pett Level and Winchelsea	Dog walking and playing	-	-	-	125	-	-	-
			-	-	-	-	-	111	-
2385/2/1	Pett Level and Winchelsea	Dog walking and playing	-	-	-	125	-	-	-
			-	-	-	-	-	111	-
2514/1/1	Camber Sands and Lydd-on-Sea	Bait digging	-	-	-	104	-	-	-
		Angling	-	-	-	-	-	1002	-
2521/1/1	Dymchurch	Walking	-	-	-	104	-	-	-
	Dungeness		-	-	-	-	-	104	-
2560/1/1	Greatstone-on-Sea	Playing	-	-	-	90	-	-	-
			-	-	-	-	-	51	-
2774/1/1	Rye beach	Angling, bait digging and collecting cockles	-	-	-	84	-	-	-
2334/1/1	Littlestone-on-Sea	Horse riding	-	-	-	72	-	-	-
2334/2/1	Littlestone-on-Sea	Horse riding	-	-	-	72	-	-	-
	Camber Sands		-	-	-	-	-	-	-
2543/1/1	Camber Sands and Broomhill Sands	Water sports preparation	-	-	-	66	-	-	-
	Pett Level, Winchelsea and Rye beach	Dog walking	-	-	-	-	-	114	-
	Winchelsea	Water sports preparation	-	-	-	-	-	-	-
2528/2/1	Broomhill Sands	Playing	-	-	-	54	-	-	-
		Walking	-	-	-	52	-	-	-
2386/1/1	Pett Level	Litter collecting and walking	-	-	-	-	-	70	-
			-	-	-	-	-	-	-
2414/1/1	Camber Sands	Dog walking	-	-	-	52	-	-	-
	Pett Level and Rye beach		-	-	-	-	-	34	-
2414/2/1	Camber Sands	Dog walking	-	-	-	52	-	-	-
	Pett Level and Rye beach		-	-	-	-	-	34	-
2516/1/1	Broomhill Sands and Hythe	Angling	-	-	-	49	-	-	-
	Dungeness		-	-	-	-	-	28	-
2516/2/1	Broomhill Sands and Hythe	Angling	-	-	-	49	-	-	-
	Dungeness		-	-	-	-	-	28	-
2330/1/1	Sunny Sands	Sandsculpting	-	-	-	40	-	-	
2330/2/1	Sunny Sands	Sandsculpting	-	-	-	40	-	-	
2425/1/1	Broomhill Sands and Greatstone-on-Sea	Water sports preparation	-	-	-	38	-	-	-
	Broomhill Sands		-	-	-	-	19	-	-
	Greatstone-on-Sea		-	-	-	-	-	19	-
2419/1/1	Camber Sands and Broomhill Sands	Water sports preparation	-	-	-	38	-	-	-
	Camber Sands		-	-	-	-	13	-	-
2419/2/1	Camber Sands	Water sports preparation	-	-	-	38	-	-	
2419/2/1	Broomhill Sands		-	-	-	-	-	-	
2419/2/1	Broomhill Sands		-	-	-	-	13	-	
2543/2/1	Camber Sands and Broomhill Sands	Water sports preparation	-	-	-	34	-	-	-
	Winchelsea		-	-	-	-	-	17	-
2364/1/1	Dymchurch	Playing	-	-	-	33	-	-	-
	Hythe, Sandgate and Seabrook		-	-	-	-	-	98	-
2364/2/1	Dymchurch	Playing	-	-	-	33	-	-	-
	Hythe, Sandgate and Seabrook		-	-	-	-	-	98	-
2543/3/1	Camber Sands	Dog walking	-	-	-	32	-	-	-
	Pett Level, Winchelsea and Rye beach		-	-	-	-	-	98	-
2310/1/1	Winchelsea and Camber Sands	Water sports preparation	-	-	-	32	-	-	-
	Winchelsea		-	-	-	-	-	4	-
2335/1/1	Dymchurch	Angling	-	-	-	30	-	-	-
	Dungeness		-	-	-	-	-	30	-

Table 12. Adults' intertidal occupancy rates ($h\ y^{-1}$) in the Dungeness aquatic survey area

Person ID number	Location	Activity	Mud and sand	Rock	Salt marsh	Sand	Sand and stones	Stones	Boat on mud
2406/1/1	Camber Sands	Angling and water sports preparation	-	-	-	28	-	-	-
	Denge Marsh and Dungeness	Angling and water sports preparation	-	-	-	-	-	48	-
2323/2/1	Camber Sands and Greatstone-on-Sea	Water sports preparation	-	-	-	26	-	-	-
	Greatstone-on-Sea and Hythe	Water sports preparation	-	-	-	-	-	26	-
2436/1/1	Broomhill Sands and Greatstone-on-Sea	Sitting on the beach and water sports preparation	-	-	-	25	-	-	-
	Broomhill Sands	Sitting on the beach and water sports preparation	-	-	-	-	13	-	-
	Greatstone-on-Sea	Sitting on the beach and water sports preparation	-	-	-	-	-	13	-
2539/1/1	Camber Sands	Collecting cockles	-	-	-	18	-	-	-
2610/1/1	Camber Sands and Greatstone-on-Sea	Water sports preparation	-	-	-	16	-	-	-
	Winchelsea and Greatstone-on-Sea	Water sports preparation	-	-	-	-	-	16	-
2340/1/1	Camber Sands	Water sports preparation	-	-	-	16	-	-	-
2423/1/1	Broomhill Sands	Sitting on the beach and water sports preparation	-	-	-	15	-	-	-
			-	-	-	-	15	-	-
2323/3/1	Winchelsea, Camber Sands and Greatstone-on-Sea	Water sports preparation	-	-	-	13	-	-	-
	Winchelsea and Greatstone-on-Sea		-	-	-	-	-	7	-
2776/1/1	Littlestone-on-Sea	Playing	-	-	-	12	-	-	-
2776/2/1	Littlestone-on-Sea	Playing	-	-	-	12	-	-	-
2421/2/1	Broomhill Sands	Playing	-	-	-	10	-	-	-
	Broomhill Sands		-	-	-	-	10	-	-
	Winchelsea, Camber Sands and Broomhill Sands	Water sports preparation	-	-	-	9	-	-	-
2770/2/1	Broomhill Sands	Water sports preparation	-	-	-	-	3	-	-
	Winchelsea	Water sports preparation	-	-	-	-	-	158	-
	Dungeness	Angling	-	-	-	-	-	-	-
	Winchelsea, Camber Sands and Broomhill Sands		-	-	-	9	-	-	-
23770/1/1	Broomhill Sands	Water sports preparation	-	-	-	-	3	-	-
	Winchelsea		-	-	-	-	-	1	-
2610/2/1	Camber Sands and Greatstone-on-Sea	Water sports preparation	-	-	-	8	-	-	-
	Winchelsea and Greatstone-on-Sea		-	-	-	-	-	8	-
2610/3/1	Camber Sands and Greatstone-on-Sea	Water sports preparation	-	-	-	8	-	-	-
	Winchelsea and Greatstone-on-Sea		-	-	-	-	-	8	-
2610/3/2	Camber Sands and Greatstone-on-Sea	Water sports preparation	-	-	-	8	-	-	-
	Winchelsea and Greatstone-on-Sea		-	-	-	-	-	8	-
2610/3/3	Camber Sands and Greatstone-on-Sea	Water sports preparation	-	-	-	8	-	-	-
	Winchelsea and Greatstone-on-Sea		-	-	-	-	-	8	-
2610/4/1	Camber Sands and Greatstone-on-Sea	Water sports preparation	-	-	-	8	-	-	-
	Winchelsea and Greatstone-on-Sea		-	-	-	-	-	8	-
2610/4/2	Camber Sands and Greatstone-on-Sea	Water sports preparation	-	-	-	8	-	-	-
	Winchelsea and Greatstone-on-Sea		-	-	-	-	-	8	-
2610/4/3	Camber Sands and Greatstone-on-Sea	Water sports preparation	-	-	-	8	-	-	-
	Winchelsea and Greatstone-on-Sea		-	-	-	-	-	8	-
2610/4/4	Camber Sands and Greatstone-on-Sea	Water sports preparation	-	-	-	8	-	-	-
	Winchelsea and Greatstone-on-Sea		-	-	-	-	-	8	-
2610/4/5	Camber Sands and Greatstone-on-Sea	Water sports preparation	-	-	-	8	-	-	-
	Winchelsea and Greatstone-on-Sea		-	-	-	-	-	8	-
2610/4/6	Camber Sands and Greatstone-on-Sea	Water sports preparation	-	-	-	8	-	-	-
	Winchelsea and Greatstone-on-Sea		-	-	-	-	-	8	-
2610/4/7	Camber Sands and Greatstone-on-Sea	Water sports preparation	-	-	-	8	-	-	-
	Winchelsea and Greatstone-on-Sea		-	-	-	-	-	8	-

Table 12. Adults' intertidal occupancy rates ($h\ y^{-1}$) in the Dungeness aquatic survey area

Person ID number	Location	Activity	Mud and sand	Rock	Salt marsh	Sand	Sand and stones	Stones	Boat on mud
2427/1/1	Broomhill Sands	Sitting on the beach and water sports preparation	-	-	-	5	-	-	-
			-	-	-	-	5	-	-
2420/1/1	Broomhill Sands	Water sports preparation	-	-	-	3	-	-	-
			-	-	-	-	3	-	-
2426/1/1	Broomhill Sands and Greatstone-on-Sea	Water sports preparation	-	-	-	3	-	-	-
	Broomhill Sands		-	-	-	-	2	-	-
	Greatstone-on-Sea		-	-	-	-	-	2	-
2428/1/1	Broomhill Sands and Greatstone-on-Sea	Water sports preparation	-	-	-	3	-	-	-
	Broomhill Sands		-	-	-	-	2	-	-
	Greatstone-on-Sea		-	-	-	-	-	2	-
2421/1/1	Broomhill Sands	Water sports preparation	-	-	-	2	-	-	-
			-	-	-	-	2	-	-
2323/1/1	Camber Sands and Greatstone-on-Sea	Water sports preparation	-	-	-	2	-	-	-
	Greatstone-on-Sea		-	-	-	-	-	1	-
2422/1/1	Broomhill Sands	Water sports preparation	-	-	-	1	-	-	-
			-	-	-	-	1	-	-
2422/2/1	Broomhill Sands	Water sports preparation	-	-	-	1	-	-	-
			-	-	-	-	1	-	-
2498/1/1	Greatstone-on-Sea and Littlestone-on-Sea	Dog walking	-	-	-	-	548	-	-
2601/3/1	Broomhill Sands	Water sports preparation	-	-	-	-	52	-	-
	Greatstone-on-Sea		-	-	-	-	-	52	-
2601/3/2	Broomhill Sands	Water sports preparation	-	-	-	-	52	-	-
	Greatstone-on-Sea		-	-	-	-	-	52	-
2601/3/3	Broomhill Sands	Water sports preparation	-	-	-	-	52	-	-
	Greatstone-on-Sea		-	-	-	-	-	52	-
2601/3/4	Broomhill Sands	Water sports preparation	-	-	-	-	52	-	-
	Greatstone-on-Sea		-	-	-	-	-	52	-
2601/3/5	Broomhill Sands	Water sports preparation	-	-	-	-	52	-	-
	Greatstone-on-Sea		-	-	-	-	-	52	-
2601/3/6	Broomhill Sands	Water sports preparation	-	-	-	-	52	-	-
	Greatstone-on-Sea		-	-	-	-	-	52	-
2601/3/7	Broomhill Sands	Water sports preparation	-	-	-	-	52	-	-
	Greatstone-on-Sea		-	-	-	-	-	52	-
2601/3/8	Broomhill Sands	Water sports preparation	-	-	-	-	52	-	-
	Greatstone-on-Sea		-	-	-	-	-	52	-
2601/3/9	Broomhill Sands	Water sports preparation	-	-	-	-	52	-	-
	Greatstone-on-Sea		-	-	-	-	-	52	-
2601/3/10	Broomhill Sands	Water sports preparation	-	-	-	-	52	-	-
	Greatstone-on-Sea		-	-	-	-	-	52	-
2601/5/1	Broomhill Sands	Water sports preparation	-	-	-	-	52	-	-
	Greatstone-on-Sea		-	-	-	-	-	52	-
2529/1/1	Galloways and Denge Marsh	Angling and dog walking	-	-	-	-	46	-	-
	Dungeness and Greatstone-on-Sea	Angling and dog walking	-	-	-	-	-	36	-
2306/1/1	Broomhill Sands	Dog walking	-	-	-	-	36	-	-
2306/2/1	Broomhill Sands	Dog walking	-	-	-	-	36	-	-
2563/5/1	Rye beach	Litter collecting	-	-	-	-	28	-	-
2563/5/2	Rye beach	Litter collecting	-	-	-	-	28	-	-
2563/5/3	Rye beach	Litter collecting	-	-	-	-	28	-	-
2563/5/4	Rye beach	Litter collecting	-	-	-	-	28	-	-
2563/5/5	Rye beach	Litter collecting	-	-	-	-	28	-	-
2563/5/6	Rye beach	Litter collecting	-	-	-	-	28	-	-
2563/5/7	Rye beach	Litter collecting	-	-	-	-	28	-	-
2529/2/1	Galloways	Dog walking	-	-	-	-	26	-	-
	Greatstone-on-Sea		-	-	-	-	-	26	-

Table 12. Adults' intertidal occupancy rates ($h\ y^{-1}$) in the Dungeness aquatic survey area

Person ID number	Location	Activity	Mud and sand	Rock	Salt marsh	Sand	Sand and stones	Stones	Boat on mud
2601/4/1	Broomhill Sands	Water sports preparation	-	-	-	-	12	-	-
	Greatstone-on-Sea		-	-	-	-	-	12	-
2601/4/2	Broomhill Sands	Water sports preparation	-	-	-	-	12	-	-
	Greatstone-on-Sea		-	-	-	-	-	12	-
2601/4/3	Broomhill Sands	Water sports preparation	-	-	-	-	12	-	-
	Greatstone-on-Sea		-	-	-	-	-	12	-
2601/4/4	Broomhill Sands	Water sports preparation	-	-	-	-	12	-	-
	Greatstone-on-Sea		-	-	-	-	-	12	-
2601/4/5	Broomhill Sands	Water sports preparation	-	-	-	-	12	-	-
	Greatstone-on-Sea		-	-	-	-	-	12	-
2601/4/6	Broomhill Sands	Water sports preparation	-	-	-	-	12	-	-
	Greatstone-on-Sea		-	-	-	-	-	12	-
2601/4/7	Broomhill Sands	Water sports preparation	-	-	-	-	12	-	-
	Greatstone-on-Sea		-	-	-	-	-	12	-
2601/4/8	Broomhill Sands	Water sports preparation	-	-	-	-	12	-	-
	Greatstone-on-Sea		-	-	-	-	-	12	-
2601/4/9	Broomhill Sands	Water sports preparation	-	-	-	-	12	-	-
	Greatstone-on-Sea		-	-	-	-	-	12	-
2601/4/10	Broomhill Sands	Water sports preparation	-	-	-	-	12	-	-
	Greatstone-on-Sea		-	-	-	-	-	12	-
2771/1/1	Dungeness	Boat maintenance	-	-	-	-	-	704	-
2555/1/1	Dungeness	Boat maintenance	-	-	-	-	-	678	-
2555/2/1	Dungeness	Boat maintenance	-	-	-	-	-	678	-
2511/2/1	Dungeness	Boat maintenance	-	-	-	-	-	626	-
2511/2/2	Dungeness	Boat maintenance	-	-	-	-	-	626	-
2557/1/1	Dungeness	Walking	-	-	-	-	-	548	-
2518/1/1	Dungeness	Boat maintenance	-	-	-	-	-	547	-
2390/2/1	Hythe	Boat maintenance	-	-	-	-	-	523	-
2572/1/1	Dungeness	Boat maintenance	-	-	-	-	-	417	-
2393/1/1	Hythe	Angling	-	-	-	-	-	391	-
2372/1/1	St Mary's Bay	Dog walking and collecting seaweed	-	-	-	-	-	365	-
2453/1/1	Dungeness and Greatstone-on-Sea	Dog walking	-	-	-	-	-	365	-
2453/2/1	Dungeness and Greatstone-on-Sea	Dog walking	-	-	-	-	-	365	-
2493/1/1	Lydd-on-Sea	Dog walking	-	-	-	-	-	365	-
2532/1/1	Dungeness	Litter collecting	-	-	-	-	-	365	-
2570/3/1	Dungeness	Litter collecting	-	-	-	-	-	339	-
2559/1/1	Rye Harbour	Being on a boat	-	-	-	-	-	-	72
	Pett Level, Winchelsea and Rye beach	Dog walking	-	-	-	-	-	313	-
2559/2/1	Rye Harbour	Being on a boat	-	-	-	-	-	-	72
	Pett Level, Winchelsea and Rye beach	Dog walking	-	-	-	-	-	313	-
2343/1/1	Denge Marsh and Dungeness	Litter collecting	-	-	-	-	-	313	-
2360/1/1	Hythe, Sandgate and Folkestone West	Angling	-	-	-	-	-	313	-
2449/1/1	Galloways, Denge Marsh and Dungeness	Angling	-	-	-	-	-	313	-
2333/1/1	Dungeness and Sandgate	Angling	-	-	-	-	-	312	-
2333/2/1	Dungeness and Sandgate	Angling	-	-	-	-	-	288	-
2439/1/1	Hythe and Folkestone West	Angling	-	-	-	-	-	272	-
2439/2/1	Hythe and Folkestone West	Angling	-	-	-	-	-	272	-
2562/3/1	River Brede	Being on a boat	-	-	-	-	-	-	72
	Winchelsea	Walking	-	-	-	-	-	235	-
2457/1/1	Rye beach and Camber Sands	Dog walking	-	-	-	-	-	235	-
2457/2/1	Rye beach and Camber Sands	Dog walking	-	-	-	-	-	235	-
2457/3/1	Rye beach and Camber Sands	Dog walking	-	-	-	-	-	235	-
2361/1/1	Hythe	Sunbathing and water sports preparation	-	-	-	-	-	234	-

Table 12. Adults' intertidal occupancy rates ($h\ y^{-1}$) in the Dungeness aquatic survey area

Person ID number	Location	Activity	Mud and sand	Rock	Salt marsh	Sand	Sand and stones	Stones	Boat on mud
2392/1/1	Dungeness, Greatstone-on-Sea, Littlestone-on-Sea and Hythe	Angling	-	-	-	-	-	216	-
2392/2/1	Dungeness, Greatstone-on-Sea, Littlestone-on-Sea and Hythe	Angling	-	-	-	-	-	216	-
2392/3/1	Dungeness, Greatstone-on-Sea, Littlestone-on-Sea and Hythe	Angling	-	-	-	-	-	216	-
2392/3/2	Dungeness, Greatstone-on-Sea, Littlestone-on-Sea and Hythe	Angling	-	-	-	-	-	216	-
2570/2/1	Dungeness	Litter collecting	-	-	-	-	-	209	-
2391/1/1	Hythe	Angling	-	-	-	-	-	196	-
2391/2/1	Hythe	Angling	-	-	-	-	-	196	-
2393/2/1	Hythe	Sunbathing	-	-	-	-	-	196	-
2541/1/1	Dungeness	Walking	-	-	-	-	-	183	-
2328/1/1	Hythe	Angling	-	-	-	-	-	182	-
2409/1/1	Pett Level, Denge Marsh and Dungeness	Angling	-	-	-	-	-	168	-
2409/2/1	Denge Marsh and Dungeness	Angling	-	-	-	-	-	160	-
2327/1/1	Denge Marsh, Dungeness and Hythe	Angling	-	-	-	-	-	156	-
2327/2/1	Denge Marsh, Dungeness and Hythe	Angling	-	-	-	-	-	156	-
2369/1/1	Winchelsea	Angling	-	-	-	-	-	156	-
2369/2/1	Winchelsea	Angling	-	-	-	-	-	156	-
2442/1/1	Pett Level and Rye beach	Dog walking	-	-	-	-	-	152	-
2442/2/1	Pett Level and Rye beach	Dog walking	-	-	-	-	-	152	-
2490/1/1	Dungeness, Hythe and Sandgate	Angling	-	-	-	-	-	144	-
2490/2/1	Dungeness, Hythe and Sandgate	Angling	-	-	-	-	-	144	-
2533/1/1	Hythe	Water sports preparation	-	-	-	-	-	143	-
2512/1/1	Dungeness	Boat maintenance	-	-	-	-	-	130	-
2336/1/1	Dungeness and Hythe	Angling	-	-	-	-	-	120	-
2336/2/1	Dungeness and Hythe	Angling	-	-	-	-	-	120	-
2438/1/1	Dungeness	Angling	-	-	-	-	-	108	-
2438/2/1	Dungeness	Angling	-	-	-	-	-	108	-
2319/1/1	Dungeness	Dog walking	-	-	-	-	-	104	-
2548/1/1	Pett Level, Winchelsea, Dungeness and Rye beach	Walking	-	-	-	-	-	104	-
2548/2/1	Pett Level, Winchelsea, Dungeness and Rye beach	Walking	-	-	-	-	-	104	-
2548/3/1	Pett Level, Winchelsea, Dungeness and Rye beach	Walking	-	-	-	-	-	104	-
2564/3/1	Greatstone-on-Sea	Water sports preparation	-	-	-	-	-	104	-
2564/3/2	Greatstone-on-Sea	Water sports preparation	-	-	-	-	-	104	-
2564/3/3	Greatstone-on-Sea	Water sports preparation	-	-	-	-	-	104	-
2564/3/4	Greatstone-on-Sea	Water sports preparation	-	-	-	-	-	104	-
2564/3/5	Greatstone-on-Sea	Water sports preparation	-	-	-	-	-	104	-
2564/3/6	Greatstone-on-Sea	Water sports preparation	-	-	-	-	-	104	-
2564/3/7	Greatstone-on-Sea	Water sports preparation	-	-	-	-	-	104	-
2564/3/8	Greatstone-on-Sea	Water sports preparation	-	-	-	-	-	104	-
2564/3/9	Greatstone-on-Sea	Water sports preparation	-	-	-	-	-	104	-
2564/3/10	Greatstone-on-Sea	Water sports preparation	-	-	-	-	-	104	-
2564/4/1	Greatstone-on-Sea	Water sports preparation	-	-	-	-	-	104	-
2564/4/2	Greatstone-on-Sea	Water sports preparation	-	-	-	-	-	104	-
2564/4/3	Greatstone-on-Sea	Water sports preparation	-	-	-	-	-	104	-
2564/4/4	Greatstone-on-Sea	Water sports preparation	-	-	-	-	-	104	-
2564/4/5	Greatstone-on-Sea	Water sports preparation	-	-	-	-	-	104	-
2564/4/6	Greatstone-on-Sea	Water sports preparation	-	-	-	-	-	104	-
2564/4/7	Greatstone-on-Sea	Water sports preparation	-	-	-	-	-	104	-
2564/4/8	Greatstone-on-Sea	Water sports preparation	-	-	-	-	-	104	-
2564/4/9	Greatstone-on-Sea	Water sports preparation	-	-	-	-	-	104	-
2564/4/10	Greatstone-on-Sea	Water sports preparation	-	-	-	-	-	104	-

Table 12. Adults' intertidal occupancy rates ($h\ y^{-1}$) in the Dungeness aquatic survey area

Person ID number	Location	Activity	Mud and sand	Rock	Salt marsh	Sand	Sand and stones	Stones	Boat on mud
2570/1/1	Dungeness	Litter collecting	-	-	-	-	-	104	-
2441/1/1	Various locations within the survey area	Angling	-	-	-	-	-	102	-
2441/1/2	Various locations within the survey area	Angling	-	-	-	-	-	102	-
2441/1/3	Various locations within the survey area	Angling	-	-	-	-	-	102	-
2441/1/4	Various locations within the survey area	Angling	-	-	-	-	-	102	-
2441/1/5	Various locations within the survey area	Angling	-	-	-	-	-	102	-
2441/1/6	Various locations within the survey area	Angling	-	-	-	-	-	102	-
2441/1/7	Various locations within the survey area	Angling	-	-	-	-	-	102	-
2441/1/8	Various locations within the survey area	Angling	-	-	-	-	-	102	-
2441/1/9	Various locations within the survey area	Angling	-	-	-	-	-	102	-
2441/1/10	Various locations within the survey area	Angling	-	-	-	-	-	102	-
2466/1/1	Pett Level	Dog walking and sitting on the beach	-	-	-	-	-	98	-
2466/2/1	Pett Level	Dog walking and sitting on the beach	-	-	-	-	-	98	-
2390/1/1	Hythe	Boat maintenance	-	-	-	-	-	84	-
2473/1/1	Dungeness	Beachcombing	-	-	-	-	-	78	-
2322/1/1	Dungeness	Boat maintenance	-	-	-	-	-	72	-
2381/1/1	Dungeness	Angling	-	-	-	-	-	72	-
2402/1/1	Dungeness	Angling	-	-	-	-	-	72	-
2463/3/1	Dungeness	Sunbathing and walking	-	-	-	-	-	70	-
2463/4/1	Dungeness	Sunbathing and walking	-	-	-	-	-	70	-
2463/5/1	Dungeness	Sunbathing and walking	-	-	-	-	-	70	-
2463/14/1	Dungeness	Playing and walking	-	-	-	-	-	70	-
2463/15/1	Dungeness	Playing and walking	-	-	-	-	-	70	-
2500/1/1	Greatstone-on-Sea and Littlestone-on-Sea	Sitting on the beach and sunbathing	-	-	-	-	-	54	-
2526/1/1	Dungeness and Hythe	Angling	-	-	-	-	-	54	-
2607/3/1	Galloways, Denge Marsh, Dungeness, Hythe, Sandgate and Folkestone West	Angling	-	-	-	-	-	54	-
2607/5/1	Galloways, Denge Marsh, Dungeness, Hythe, Sandgate and Folkestone West	Angling	-	-	-	-	-	54	-
2607/6/1	Galloways, Denge Marsh, Dungeness, Hythe, Sandgate and Folkestone West	Angling	-	-	-	-	-	54	-
2367/7/1	Sandgate	Water sports preparation	-	-	-	-	-	52	-
2367/7/2	Sandgate	Water sports preparation	-	-	-	-	-	52	-
2367/7/3	Sandgate	Water sports preparation	-	-	-	-	-	52	-
2367/7/4	Sandgate	Water sports preparation	-	-	-	-	-	52	-
2367/7/5	Sandgate	Water sports preparation	-	-	-	-	-	52	-
2367/7/6	Sandgate	Water sports preparation	-	-	-	-	-	52	-
2367/7/7	Sandgate	Water sports preparation	-	-	-	-	-	52	-
2403/1/1	Dungeness	Walking	-	-	-	-	-	52	-
2403/2/1	Dungeness	Walking	-	-	-	-	-	52	-
2533/5/1	Hythe	Water sports preparation	-	-	-	-	-	52	-
2533/5/2	Hythe	Water sports preparation	-	-	-	-	-	52	-
2533/5/3	Hythe	Water sports preparation	-	-	-	-	-	52	-
2533/5/4	Hythe	Water sports preparation	-	-	-	-	-	52	-
2533/5/5	Hythe	Water sports preparation	-	-	-	-	-	52	-
2533/5/6	Hythe	Water sports preparation	-	-	-	-	-	52	-
2533/5/7	Hythe	Water sports preparation	-	-	-	-	-	52	-
2533/5/8	Hythe	Water sports preparation	-	-	-	-	-	52	-
2533/5/9	Hythe	Water sports preparation	-	-	-	-	-	52	-
2533/5/10	Hythe	Water sports preparation	-	-	-	-	-	52	-
2363/1/1	Sandgate and Dungeness	Angling	-	-	-	-	-	50	-
2332/1/1	Sandgate	Angling	-	-	-	-	-	42	-
2332/2/1	Sandgate	Sunbathing	-	-	-	-	-	42	-

Table 12. Adults' intertidal occupancy rates ($h\ y^{-1}$) in the Dungeness aquatic survey area

Person ID number	Location	Activity	Mud and sand	Rock	Salt marsh	Sand	Sand and stones	Stones	Boat on mud
2611/2/1	Folkestone Outer Harbour	Boat maintenance	-	-	-	-	-	-	417
2611/2/2	Folkestone Outer Harbour	Boat maintenance	-	-	-	-	-	-	417
2350/1/1	Folkestone Outer Harbour	Boat maintenance	-	-	-	-	-	-	209
2562/1/1	River Brede	Boat maintenance	-	-	-	-	-	-	72
2562/2/1	River Brede	Boat maintenance	-	-	-	-	-	-	72

Notes

Emboldened observations are the high-rate individuals

The mean intertidal occupancy rate over mud and sand for adults based on 16 high-rate observations is $357\ h\ y^{-1}$

The observed 97.5th percentile rate based on 44 observations is $577\ h\ y^{-1}$

The mean intertidal occupancy rate over rock for adults based on 3 high-rate observations is $15\ h\ y^{-1}$

The observed 97.5th percentile rate based on 5 observations is $15\ h\ y^{-1}$

The mean intertidal occupancy rate over salt marsh for adults based on 6 high-rate observations is $53\ h\ y^{-1}$

The observed 97.5th percentile rate based on 6 observations is $58\ h\ y^{-1}$

The mean intertidal occupancy rate over sand for adults based on 18 high-rate observations is $768\ h\ y^{-1}$

The observed 97.5th percentile rate based on 102 observations is $1189\ h\ y^{-1}$

The mean intertidal occupancy rate over sand and stones for adults based on 15 high-rate observations is $469\ h\ y^{-1}$

The observed 97.5th percentile rate based on 75 observations is $575\ h\ y^{-1}$

The mean intertidal occupancy rate over stones for adults based on 24 high-rate observations is $512\ h\ y^{-1}$

The observed 97.5th percentile rate based on 281 observations is $548\ h\ y^{-1}$

The mean intertidal occupancy rate over boat on mud for adults based on 7 high-rate observations is $626\ h\ y^{-1}$

The observed 97.5th percentile rate based on 13 observations is $1095\ h\ y^{-1}$

Table 13. Children's and infants' intertidal occupancy rates ($h\ y^{-1}$) in the Dungeness aquatic survey area

Child age group (6 - 15 years old)

Person ID number	Age	Location	Activity	Mud and sand	Sand	Sand and stones	Stones
2321/4/1	14	Lydd-on-Sea	Landboarding	156	-	-	-
2511/3/1	6	Littlestone-on-Sea	Playing	52	-	-	-
		Dungeness and Littlestone-on-Sea		-	-	-	104
2560/2/1	15	Greatstone-on-Sea	Playing	-	90	-	-
				-	-	-	51
2560/3/1	6	Greatstone-on-Sea	Playing	-	90	-	-
				-	-	-	51
2436/2/1	7	Broomhill Sands and Greatstone-on-Sea	Kite bugging and water sports preparation	-	80	-	-
		Broomhill Sands	Water sports preparation	-	-	1	-
		Greatstone-on-Sea		-	-	-	1
2528/4/1	7	Broomhill Sands	Playing	-	54	-	-
2385/3/1	9	Pett Level and Winchelsea	Playing	-	21	-	-
				-	-	-	7
2385/4/1	6	Pett Level and Winchelsea	Playing	-	21	-	-
				-	-	-	7
2776/5/1	8	Littlestone-on-Sea	Playing	-	12	-	-
2564/2/1	15	Greatstone-on-Sea	Water sports preparation	-	-	-	209
2463/6/1	8	Dungeness	Playing and walking	-	-	-	70
2463/7/1	10	Dungeness	Playing and walking	-	-	-	70
2463/8/1	12	Dungeness	Playing and walking	-	-	-	70
2463/9/1	14	Dungeness	Playing and walking	-	-	-	70
2463/10/1	11	Dungeness	Playing and walking	-	-	-	70
2463/11/1	14	Dungeness	Playing and walking	-	-	-	70
2463/12/1	12	Dungeness	Playing and walking	-	-	-	70
2463/13/1	15	Dungeness	Playing and walking	-	-	-	70
2500/2/1	14	Greatstone-on-Sea and Littlestone-on-Sea	Sitting on the beach and sunbathing	-	-	-	54
2367/3/1	11	Sandgate	Water sports preparation	-	-	-	52
2367/4/1	12	Sandgate	Water sports preparation	-	-	-	52
2367/5/1	13	Sandgate	Water sports preparation	-	-	-	52
2367/6/1	15	Sandgate	Water sports preparation	-	-	-	52
2367/6/2	15	Sandgate	Water sports preparation	-	-	-	52
2367/6/3	15	Sandgate	Water sports preparation	-	-	-	52
2367/6/4	15	Sandgate	Water sports preparation	-	-	-	52
2326/4/1	12	St Mary's Bay	Playing	-	-	-	33
2326/5/1	8	St Mary's Bay	Playing	-	-	-	33
2329/3/1	9	Hythe	Playing	-	-	-	18

Notes

Emboldened observations are the high-rate individuals

The mean intertidal occupancy rate over mud and sand for the child age group based on the high-rate observation is $156\ h\ y^{-1}$

The observed 97.5th percentile rate based on 2 observations is $154\ h\ y^{-1}$

The mean intertidal occupancy rate over sand for the child age group based on 4 high-rate observations is $79\ h\ y^{-1}$

The observed 97.5th percentile rate based on 7 observations is $90\ h\ y^{-1}$

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

The observed 97.5th percentile is not applicable for 1 observation

The mean intertidal occupancy rate over stones for the child age group based on 10 high-rate observations is $87\ h\ y^{-1}$

The observed 97.5th percentile rate based on 26 observations is $143\ h\ y^{-1}$

Table 13. Children's and infants' intertidal occupancy rates ($h\ y^{-1}$) in the Dungeness aquatic survey area

Infant age group (0 - 5 years old)

Person ID number	Age	Location	Activity	Mud and sand	Sand	Sand and stones	Stones
2511/4/1	3	Littlestone-on-Sea	Playing	52	-	-	-
		Dungeness and Littlestone-on-Sea		-	-	-	104
2778/2/1	1	Camber Sands	Playing	-	209	-	-
2379/3/1	2	Dymchurch	Playing	-	104	-	-
				-	-	209	-
2370/2/1	3	Broomhill Sands	Playing	-	39	-	-
				-	-	39	-
2364/3/1	4	Dymchurch	Playing	-	33	-	-
		Hythe, Seabrook and Sandgate		-	-	-	98
2364/4/1	3	Dymchurch	Playing	-	33	-	-
		Hythe, Seabrook and Sandgate		-	-	-	98
2364/5/1	2	Dymchurch	Playing	-	33	-	-
		Hythe, Seabrook and Sandgate	Playing	-	-	-	98
2385/5/1	5	Pett Level and Winchelsea	Playing	-	21	-	-
				-	-	-	7
2385/6/1	1	Pett Level and Winchelsea	Playing	-	21	-	-
				-	-	-	7
2776/3/1	1	Littlestone-on-Sea	Playing	-	12	-	-
2776/4/1	2	Littlestone-on-Sea	Playing	-	12	-	-
2421/3/1	5	Broomhill Sands	Playing	-	10	-	-
				-	-	10	-
2421/4/1	1	Broomhill Sands	Playing	-	10	-	-
				-	-	10	-
2326/2/1	2	St Mary's Bay	Playing	-	-	-	33
2326/3/1	1	St Mary's Bay	Playing	-	-	-	33
2329/4/1	5	Hythe	Playing	-	-	-	18

Notes

Emboldened observations are the high-rate individuals

The mean intertidal occupancy rate over mud and sand for the infant age group based on the high-rate observation is $52\ h\ y^{-1}$

The observed 97.5th percentile is not applicable for 1 observation

The mean intertidal occupancy rate over sand for the infant age group based on 2 high-rate observations is $156\ h\ y^{-1}$

The observed 97.5th percentile rate based on 12 observations is $180\ h\ y^{-1}$

The mean intertidal occupancy rate over sand and stones for the infant age group based on the high-rate observation is $209\ h\ y^{-1}$

The observed 97.5th percentile rate based on 4 observations is $196\ h\ y^{-1}$

The mean intertidal occupancy rate over stones for the infant age group based on 4 high-rate observations is $99\ h\ y^{-1}$

The observed 97.5th percentile rate based on 9 observations is $103\ h\ y^{-1}$

Table 14. Gamma dose rate measurements over intertidal substrates (μGyh^{-1}) in the Dungeness aquatic survey area

Location	National Grid Reference	Substrate	Gamma dose rate at 1 metre ^a
Winchelsea	TQ 912 154	Stones	0.051
River Brede	TQ 921 199	Mud	0.067
Camber Sands	TQ 965 184	Sand	0.058
Broomhill Sands	TQ 982 181	Sand	0.062
Denge Marsh	TR 064 166	Stones	0.051
Dungeness in front of site	TR 087 165	Stones	0.050
Dungeness	TR 094 184	Stones	0.051
Dungeness east	TR 093 166	Stones	0.048
Dungeness fishing boats	TR 097 170	Stones	0.051
Lydd-on-Sea	TR 085 207	Sand	0.056
Greatstone-on-Sea	TR 083 229	Sand	0.060
Littlestone-on-Sea	TR 086 248	Sand	0.058
St Mary's Bay	TR 089 267	Stones	0.056
Dymchurch	TR 092 277	Stones	0.060
Dymchurch	TR 099 287	Sand	0.058
Hythe	TR 159 339	Stones	0.050
Sandgate	TR 187 347	Stones	0.056
Seabrook	TR 194 349	Stones	0.052
Folkestone West	TR 232 356	Stones	0.055
Folkestone Outer Harbour	TR 233 360	Mud and sand	0.063
Folkestone Inner Harbour	TR 232 358	Mud	0.066
Sunny Sands	TR 235 361	Sand	0.061

Notes

^a These measurements have not been adjusted for background dose rates

Table 15. Adults' handling rates of fishing gear and sediment ($h\ y^{-1}$) in the Dungeness aquatic survey area

Person ID number	Location	Activity	Fishing gear	Sediment
2308/1/1	Rye to Folkestone	Potting and trammel netting	1924	-
2308/2/1	Rye to Folkestone	Potting and trammel netting	1924	-
2365/2/1	Hythe, Sandgate, Seabrook and Folkestone	Potting	1695	-
2365/1/1	Hythe, Sandgate, Seabrook and Folkestone	Potting	1695	-
2511/2/2	Various locations within the survey area	Potting, gill netting and trammel netting	1564	-
2511/2/1	Various locations within the survey area	Potting, gill netting and trammel netting	1564	-
2511/1/1	Various locations within the survey area	Potting, gill netting and trammel netting	1564	-
2603/3/1	Various locations within the survey area	Potting, gill netting and trammel netting	1527	-
2603/1/1	Various locations within the survey area	Potting, gill netting and trammel netting	1527	-
2603/2/1	Various locations within the survey area	Potting, gill netting and trammel netting	1527	-
2397/1/1	Various locations within the survey area	Gill netting and trammel netting	1460	-
2510/2/1	Various locations within the survey area	Trawling	1251	-
2510/1/1	Various locations within the survey area	Trawling	1251	-
2390/1/1	Various locations within the survey area	Trawling	1251	-
2555/1/1	Various locations within the survey area	Potting	1173	-
2555/2/1	Various locations within the survey area	Potting	1173	-
2518/1/1	Various locations within the survey area	Trammel netting	775	-
2774/1/1	Various locations within the survey area	Gill netting and trammel netting	728	-
		Collecting cockles and bait digging	-	36
2611/2/1	Various locations within the survey area	Dredging and trawling	469	-
2611/2/2	Various locations within the survey area	Dredging and trawling	469	-
2779/1/1	Hythe, Sandgate, Seabrook and Folkestone	Potting	469	-
2779/3/1	Hythe, Sandgate, Seabrook and Folkestone	Potting	469	-
2566/1/1	River Brede	Handling mooring ropes	209	-
2566/1/2	River Brede	Handling mooring ropes	209	-
2566/1/3	River Brede	Handling mooring ropes	209	-
2566/1/5	River Brede	Handling mooring ropes	209	-
2566/1/4	River Brede	Handling mooring ropes	209	-
2539/1/1	Various locations within the survey area	Trammel netting, trawling and dredging	120	-
	Camber Sands	Collecting cockles	-	18
2539/7/1	Various locations within the survey area	Trammel netting, trawling and dredging	120	-
	Lydd-on-Sea, Greatstone-on-Sea and Littlestone-on-Sea	Push netting, seine netting,	84	-
2568/1/1	Greatstone-on-Sea and Littlestone-on-Sea	Collecting cockles	-	54
	Dymchurch	Bait digging and collecting razor shells	-	-
2568/3/1	Lydd-on-Sea, Greatstone-on-Sea, Littlestone-on-Sea and Dymchurch	Seine netting	72	-
2554/1/1	Lydd-on-Sea	Push netting	60	-
2307/1/1	Various locations within the survey area	Dredging and trawling	56	-
2307/2/1	Various locations within the survey area	Dredging and trawling	56	-
2606/1/1	Lydd-on-Sea	Push netting	50	-
		Push netting	26	-
2514/1/1	Camber Sands and Lydd-on-Sea	Bait digging	-	104
	Littlestone-on-Sea	Push netting	12	-
2571/1/1	Pett Level	Collecting winkles	-	54
	Lydd-on-Sea and Littlestone-on-Sea	Bait digging and collecting cockles	-	-

Table 15. Adults' handling rates of fishing gear and sediment (h y^{-1}) in the Dungeness aquatic survey area

Person ID number	Location	Activity	Fishing gear	Sediment
2605/1/1	Dungeness	Push netting	12	-
2544/2/1	Various locations within the survey area	Gill netting	9	-
2544/1/1	Various locations within the survey area	Gill netting	9	-
2530/1/1	Lydd-on-Sea	Push netting	3	-
		Bait digging and collecting cockles	-	18
2389/1/1	Pett Level, Winchelsea, Lydd-on-Sea, Littlestone-on-Sea, St Mary's Bay and Dymchurch	Bait digging	-	867
2551/1/1	Pett Level, Winchelsea, Lydd-on-Sea, Littlestone-on-Sea, St Mary's Bay and Dymchurch	Bait digging	-	702
2433/1/1	Winchelsea	Bait digging	-	480
2395/1/1	Pett Level, Winchelsea, Lydd-on-Sea, Littlestone-on-Sea, St Mary's Bay and Dymchurch	Bait digging	-	313
2494/1/1	Rye Harbour, Winchelsea and Camber Sands	Bait digging	-	234
2515/1/1	Camber Sands and Lydd-on-Sea	Bait digging	-	104
2432/1/1	Winchelsea	Bait digging	-	52
2550/1/1	Pett Level and Camber Sands	Collecting cockles and mussels	-	5
2550/2/1	Pett Level and Camber Sands	Collecting cockles and mussels	-	5

Notes

Emboldened observations are the high-rate individuals

The mean handling rate of fishing gear for adults based on 18 high-rate observations is 1421 h y^{-1}

The observed 97.5th percentile rate based on 41 observations is 1924 h y^{-1}

The mean handling rate of sediments for adults based on 4 high-rate observations is 590 h y^{-1}

The observed 97.5th percentile rate based on 15 observations is 809 h y^{-1}

Table 16. Adults' occupancy rates in and on water ($h\ y^{-1}$) in the Dungeness aquatic survey area

Person ID number	Location	Activity	In water	On water
2601/1/1	Broomhill Sands and Greatstone-on-Sea	Instructing paddleboarding and kitesurfing	1182	-
2601/1/2	Broomhill Sands and Greatstone-on-Sea	Instructing paddleboarding and kitesurfing	1182	-
2601/2/1	Broomhill Sands and Greatstone-on-Sea	Instructing paddleboarding and kitesurfing	1182	-
2601/2/2	Broomhill Sands and Greatstone-on-Sea	Instructing paddleboarding and kitesurfing	1182	-
2601/2/3	Broomhill Sands and Greatstone-on-Sea	Instructing paddleboarding and kitesurfing	1182	-
2601/2/4	Broomhill Sands and Greatstone-on-Sea	Instructing paddleboarding and kitesurfing	1182	-
2601/2/5	Broomhill Sands and Greatstone-on-Sea	Instructing paddleboarding and kitesurfing	1182	-
2601/2/6	Broomhill Sands and Greatstone-on-Sea	Instructing paddleboarding and kitesurfing	1182	-
2601/2/7	Broomhill Sands and Greatstone-on-Sea	Instructing paddleboarding and kitesurfing	1182	-
2601/2/8	Broomhill Sands and Greatstone-on-Sea	Instructing paddleboarding and kitesurfing	1182	-
2601/2/9	Broomhill Sands and Greatstone-on-Sea	Instructing paddleboarding and kitesurfing	1182	-
2601/2/10	Broomhill Sands and Greatstone-on-Sea	Instructing paddleboarding and kitesurfing	1182	-
2425/1/1	Broomhill Sands and Greatstone-on-Sea	Kitesurfing	675	-
2323/2/1	Camber Sands, Greatstone-on-Sea and Hythe	Kitesurfing	469	-
2601/3/1	Broomhill Sands and Greatstone-on-Sea	Kitesurfing	417	-
2601/3/2	Broomhill Sands and Greatstone-on-Sea	Kitesurfing	417	-
2601/3/3	Broomhill Sands and Greatstone-on-Sea	Kitesurfing	417	-
2601/3/4	Broomhill Sands and Greatstone-on-Sea	Kitesurfing	417	-
2601/3/5	Broomhill Sands and Greatstone-on-Sea	Kitesurfing	417	-
2601/3/6	Broomhill Sands and Greatstone-on-Sea	Kitesurfing	417	-
2601/3/7	Broomhill Sands and Greatstone-on-Sea	Kitesurfing	417	-
2601/3/8	Broomhill Sands and Greatstone-on-Sea	Kitesurfing	417	-
2601/3/9	Broomhill Sands and Greatstone-on-Sea	Kitesurfing	417	-
2601/3/10	Broomhill Sands and Greatstone-on-Sea	Kitesurfing	417	-
2564/3/1	Greatstone-on-Sea	Kitesurfing	417	-
2564/3/2	Greatstone-on-Sea	Kitesurfing	417	-
2564/3/3	Greatstone-on-Sea	Kitesurfing	417	-
2564/3/4	Greatstone-on-Sea	Kitesurfing	417	-
2564/3/5	Greatstone-on-Sea	Kitesurfing	417	-
2564/3/6	Greatstone-on-Sea	Kitesurfing	417	-
2564/3/7	Greatstone-on-Sea	Kitesurfing	417	-
2564/3/8	Greatstone-on-Sea	Kitesurfing	417	-
2564/3/9	Greatstone-on-Sea	Kitesurfing	417	-
2564/3/10	Greatstone-on-Sea	Kitesurfing	417	-
2564/4/1	Greatstone-on-Sea	Windsurfing	417	-
2564/4/2	Greatstone-on-Sea	Windsurfing	417	-
2564/4/3	Greatstone-on-Sea	Windsurfing	417	-
2564/4/4	Greatstone-on-Sea	Windsurfing	417	-
2564/4/5	Greatstone-on-Sea	Windsurfing	417	-
2564/4/6	Greatstone-on-Sea	Windsurfing	417	-
2564/4/7	Greatstone-on-Sea	Windsurfing	417	-
2564/4/8	Greatstone-on-Sea	Windsurfing	417	-
2564/4/9	Greatstone-on-Sea	Windsurfing	417	-
2564/4/10	Greatstone-on-Sea	Windsurfing	417	-
2533/1/1	Hythe	Windsurfing, paddleboarding and swimming	401	-
		Sailing	-	417
2533/2/1	Hythe	Windsurfing, paddleboarding and swimming	313	-
		Sailing	-	104
2533/2/2	Hythe	Windsurfing, paddleboarding and swimming	313	-
		Sailing	-	104
2533/2/3	Hythe	Windsurfing, paddleboarding and swimming	313	-
		Sailing	-	104

Table 16. Adults' occupancy rates in and on water ($h\ y^{-1}$) in the Dungeness aquatic survey area

Person ID number	Location	Activity	In water	On water
2533/2/4	Hythe	Windsurfing, paddleboarding and swimming	313	-
		Sailing	-	104
2533/2/5	Hythe	Windsurfing, paddleboarding and swimming	313	-
		Sailing	-	104
2533/2/6	Hythe	Windsurfing, paddleboarding and swimming	313	-
		Sailing	-	104
2533/2/7	Hythe	Windsurfing, paddleboarding and swimming	313	-
		Sailing	-	104
2533/2/8	Hythe	Windsurfing, paddleboarding and swimming	313	-
		Sailing	-	104
2533/2/9	Hythe	Windsurfing, paddleboarding and swimming	313	-
		Sailing	-	104
2533/2/10	Hythe	Windsurfing, paddleboarding and swimming	313	-
		Sailing	-	104
2601/5/1	Broomhill Sands and Greatstone-on-Sea	Kitesurfing	313	-
2361/1/1	Hythe	Windsurfing, paddleboarding and swimming	295	-
2543/1/1	Winchelsea Camber Sands and Broomhill Sands	Windsurfing	261	-
	Various locations within the survey area including The River Rother	Rescue duties	-	50
2543/2/1	Winchelsea, Camber Sands and Broomhill Sands	Windsurfing	261	-
2419/1/1	Broomhill Sands and Camber Sands	Kitesurfing	221	-
2419/2/1	Broomhill Sands and Camber Sands	Kitesurfing	221	-
2766/1/1	Lydd-on-Sea, Broomhill Sands and Camber Sands	Kitesurfing	209	-
2766/2/1	Lydd-on-Sea, Broomhill Sands and Camber Sands	Kitesurfing	209	-
2766/3/1	Lydd-on-Sea, Broomhill Sands and Camber Sands	Kitesurfing	209	-
2609/2/1	Folkestone Outer Harbour, Folkestone Inner Harbour, Folkestone and Hythe	Paddleboarding	208	-
2609/3/1	Folkestone Outer Harbour, Folkestone Inner Harbour, Folkestone and Hythe	Paddleboarding	208	-
2310/1/1	Winchelsea and Camber Sands	Windsurfing and kitesurfing	182	-
2323/3/1	Camber Sands, Greatstone-on-Sea and Winchelsea	Kitesurfing	180	-
2564/1/1	Greatstone-on-Sea and Littlestone-on-Sea	Kitesurfing, windsurfing and swimming	173	-
	Greatstone-on-Sea to Dungeness	Boat angling and sailing	-	192
2767/1/1	Camber Sands, Broomhill Sands, Greatstone-on-Sea, Littlestone-on-Sea, Hythe and Dymchurch	Kitesurfing	156	-
2767/2/1	Camber Sands, Broomhill Sands, Greatstone-on-Sea, Littlestone-on-Sea, Hythe and Dymchurch	Kitesurfing	156	-
2769/1/1	Broomhill Sands, Greatstone-on-Sea and Littlestone-on-Sea	Kitesurfing and paddleboarding	156	-
2436/1/1	Broomhill Sands and Greatstone-on-Sea	Kitesurfing	156	-
2423/1/1	Broomhill Sands	Windsurfing	130	-
2407/1/1	Greatstone-on-Sea	Kitesurfing	125	-
2340/1/1	Camber Sands	Windsurfing	120	-
2386/1/1	Pett Level	Swimming	105	-
2558/1/1	Folkestone	Sub-aqua diving	104	-
		Travelling to a dive site	-	209
2351/1/1	Folkestone, Folkestone Inner Harbour and Folkestone Outer Harbour	Kayaking	104	-
2377/1/1	Hythe	Windsurfing	100	-
2610/1/1	Winchelsea, Camber Sands and Greatstone-on-Sea	Kitesurfing	97	-
2610/2/1	Winchelsea, Camber Sands and Greatstone-on-Sea	Kitesurfing and windsurfing	88	-
2770/1/1	Camber Sands and Broomhill Sands	Kitesurfing and windsurfing	80	-
2770/2/1	Camber Sands and Broomhill Sands	Kitesurfing and windsurfing	80	-
2564/8/1	Various locations within the survey area	Water skiing	78	-
2564/8/2	Various locations within the survey area	Water skiing	78	-
2564/8/3	Various locations within the survey area	Water skiing	78	-
2564/8/4	Various locations within the survey area	Water skiing	78	-
2459/3/1	Camber Sands, Greatstone-on-Sea and Winchelsea	Kitesurfing and windsurfing	75	-
2459/3/2	Camber Sands, Greatstone-on-Sea and Winchelsea	Kitesurfing and windsurfing	75	-
2459/3/3	Camber Sands, Greatstone-on-Sea and Winchelsea	Kitesurfing and windsurfing	75	-
2459/4/1	Camber Sands, Greatstone-on-Sea and Winchelsea	Kitesurfing and windsurfing	75	-
2459/4/2	Camber Sands, Greatstone-on-Sea and Winchelsea	Kitesurfing and windsurfing	75	-
2459/4/3	Camber Sands, Greatstone-on-Sea and Winchelsea	Kitesurfing and windsurfing	75	-
2459/4/4	Camber Sands, Greatstone-on-Sea and Winchelsea	Kitesurfing and windsurfing	75	-
2459/4/5	Camber Sands, Greatstone-on-Sea and Winchelsea	Kitesurfing and windsurfing	75	-

Table 16. Adults' occupancy rates in and on water (h y⁻¹) in the Dungeness aquatic survey area

Person ID number	Location	Activity	In water	On water
2459/4/6	Camber Sands, Greatstone-on-Sea and Winchelsea	Kitesurfing and windsurfing	75	-
2459/4/7	Camber Sands, Greatstone-on-Sea and Winchelsea	Kitesurfing and windsurfing	75	-
2601/4/1	Broomhill Sands and Greatstone-on-Sea	Windsurfing	72	-
2601/4/2	Broomhill Sands and Greatstone-on-Sea	Windsurfing	72	-
2601/4/3	Broomhill Sands and Greatstone-on-Sea	Windsurfing	72	-
2601/4/4	Broomhill Sands and Greatstone-on-Sea	Windsurfing	72	-
2601/4/5	Broomhill Sands and Greatstone-on-Sea	Windsurfing	72	-
2601/4/6	Broomhill Sands and Greatstone-on-Sea	Windsurfing	72	-
2601/4/7	Broomhill Sands and Greatstone-on-Sea	Windsurfing	72	-
2601/4/8	Broomhill Sands and Greatstone-on-Sea	Windsurfing	72	-
2601/4/9	Broomhill Sands and Greatstone-on-Sea	Windsurfing	72	-
2601/4/10	Broomhill Sands and Greatstone-on-Sea	Windsurfing	72	-
2426/1/1	Broomhill Sands and Greatstone-on-Sea	Kitesurfing	72	-
2428/1/1	Broomhill Sands and Greatstone-on-Sea	Kitesurfing	63	-
2564/5/1	Greatstone-on-Sea and Littlestone-on-Sea	Swimming	52	-
2564/5/2	Greatstone-on-Sea and Littlestone-on-Sea	Swimming	52	-
2564/7/1	Greatstone-on-Sea	Paddleboarding	52	-
2564/7/2	Greatstone-on-Sea	Paddleboarding	52	-
2564/7/3	Greatstone-on-Sea	Paddleboarding	52	-
2564/7/4	Greatstone-on-Sea	Paddleboarding	52	-
2564/7/5	Greatstone-on-Sea	Paddleboarding	52	-
2564/7/6	Greatstone-on-Sea	Paddleboarding	52	-
2564/7/7	Greatstone-on-Sea	Paddleboarding	52	-
2564/7/8	Greatstone-on-Sea	Paddleboarding	52	-
2564/7/9	Greatstone-on-Sea	Paddleboarding	52	-
2564/7/10	Greatstone-on-Sea	Paddleboarding	52	-
2379/1/1	Dymchurch	Swimming	52	-
		Paddling	-	52
2379/2/1	Dymchurch	Swimming	52	-
		Paddling	-	52
2558/2/1	Folkestone	Sub-aqua diving	52	-
		Travelling to a dive site	-	104
2558/2/2	Folkestone	Sub-aqua diving	52	-
		Travelling to a dive site	-	104
2558/2/3	Folkestone	Sub-aqua diving	52	-
		Travelling to a dive site	-	104
2558/2/4	Folkestone	Sub-aqua diving	52	-
		Travelling to a dive site	-	104
2558/2/5	Folkestone	Sub-aqua diving	52	-
		Travelling to a dive site	-	104
2558/2/6	Folkestone	Sub-aqua diving	52	-
		Travelling to a dive site	-	104
2558/2/7	Folkestone	Sub-aqua diving	52	-
		Travelling to a dive site	-	104
2558/3/1	Folkestone	Sub-aqua diving	52	-
		Travelling to a dive site	-	104
2558/3/2	Folkestone	Sub-aqua diving	52	-
		Travelling to a dive site	-	104
2558/3/3	Folkestone	Sub-aqua diving	52	-
		Travelling to a dive site	-	104
2427/1/1	Broomhill Sands	Kitesurfing	39	-
2331/1/1	Sandgate to Folkestone	Kayaking	35	-
2564/6/1	Greatstone-on-Sea, Lydd-on-Sea and Littlestone-on-Sea	Kayaking	30	-
2564/6/2	Greatstone-on-Sea, Lydd-on-Sea and Littlestone-on-Sea	Kayaking	30	-
2564/6/3	Greatstone-on-Sea, Lydd-on-Sea and Littlestone-on-Sea	Kayaking	30	-
2564/6/4	Greatstone-on-Sea, Lydd-on-Sea and Littlestone-on-Sea	Kayaking	30	-
2564/6/5	Greatstone-on-Sea, Lydd-on-Sea and Littlestone-on-Sea	Kayaking	30	-
2564/6/6	Greatstone-on-Sea, Lydd-on-Sea and Littlestone-on-Sea	Kayaking	30	-
2564/6/7	Greatstone-on-Sea, Lydd-on-Sea and Littlestone-on-Sea	Kayaking	30	-
2564/6/8	Greatstone-on-Sea, Lydd-on-Sea and Littlestone-on-Sea	Kayaking	30	-
2564/6/9	Greatstone-on-Sea, Lydd-on-Sea and Littlestone-on-Sea	Kayaking	30	-
2564/6/10	Greatstone-on-Sea, Lydd-on-Sea and Littlestone-on-Sea	Kayaking	30	-
2313/1/1	Camber Sands	Lifeguard duties	29	-
2313/1/2	Camber Sands	Lifeguard duties	29	-
2313/1/3	Camber Sands	Lifeguard duties	29	-
2313/2/1	Camber Sands	Lifeguard duties	29	-
2313/3/1	Camber Sands	Lifeguard duties	29	-
2313/3/2	Camber Sands	Lifeguard duties	29	-
2313/4/1	Camber Sands	Lifeguard duties	29	-
2370/1/1	Broomhill Sands	Swimming	26	-
2378/1/1	Folkestone Outer Harbour	Swimming	26	-
2420/1/1	Broomhill Sands	Kitesurfing	26	-

Table 16. Adults' occupancy rates in and on water ($h\ y^{-1}$) in the Dungeness aquatic survey area

Person ID number	Location	Activity	In water	On water
2542/1/1	Greatstone-on-Sea	Kitesurfing	24	-
2323/1/1	Various locations within the survey area	Sailing	-	15
2339/1/1	Camber Sands and Greatstone-on-Sea	Kitesurfing	24	-
2406/1/1	Hythe	Kitesurfing	22	-
2422/1/1	Camber Sands and Greatstone-on-Sea	Kitesurfing	20	-
2422/1/1	Broomhill Sands	Kitesurfing	18	-
2422/2/1	Broomhill Sands	Kitesurfing	18	-
2421/1/1	Broomhill Sands	Kitesurfing	18	-
2466/1/1	Pett Level	Swimming	7	-
2466/2/1	Pett Level	Swimming	7	-
2465/1/1	Pett Level	Swimming	5	-
2465/2/1	Pett Level	Swimming	5	-
2465/3/1	Pett Level	Swimming	5	-
2410/1/1	Winchelsea, Camber Sands and Rye	Water skiing	4	-
		Pleasure cruising	-	20
2410/2/1	Winchelsea, Camber Sands and Rye	Water skiing	4	-
		Pleasure cruising	-	20
2410/3/1	Winchelsea, Camber Sands and Rye	Water skiing	4	-
		Pleasure cruising	-	20
2410/4/1	Winchelsea, Camber Sands and Rye	Water skiing	4	-
		Pleasure cruising	-	20
2410/4/2	Winchelsea, Camber Sands and Rye	Water skiing	4	-
		Pleasure cruising	-	20
2410/4/3	Winchelsea, Camber Sands and Rye	Water skiing	4	-
		Pleasure cruising	-	20
2410/4/4	Winchelsea, Camber Sands and Rye	Water skiing	4	-
		Pleasure cruising	-	20
2438/2/1	Pett Level	Swimming	3	-
2535/2/1	Various locations throughout the survey area	Dredging and trawling	-	2503
2535/2/2	Various locations throughout the survey area	Dredging and trawling	-	2503
2308/1/1	Rye to Folkestone	Potting and trammel netting	-	2503
2308/2/1	Rye to Folkestone	Potting and trammel netting	-	2503
2773/1/1	Hythe	Working on a baot	-	2346
2773/1/2	Hythe	Working on a baot	-	2346
2510/1/1	Various locations within the survey area	Trawling	-	2086
2510/2/1	Various locations within the survey area	Trawling	-	2086
2511/1/1	Various locations within the survey area	Potting, gill netting and trammel netting	-	2086
2511/2/1	Various locations within the survey area	Potting, gill netting and trammel netting	-	2086
2511/2/2	Various locations within the survey area	Potting, gill netting and trammel netting	-	2086
2539/1/1	Various locations within the survey area	Trammel netting, trawling and dredging	-	2001
2539/7/1	Various locations within the survey area	Trammel netting, trawling and dredging	-	2001
2603/1/1	Various locations within the survey area	Potting, gill netting and trammel netting	-	1908
2603/2/1	Various locations within the survey area	Potting, gill netting and trammel netting	-	1908
2603/3/1	Various locations within the survey area	Potting, gill netting and trammel netting	-	1908
2451/1/1	Various locations within the survey area	Fishing	-	1877
2307/1/1	Various locations within the survey area	Dredging and trawling	-	1862
2307/2/1	Various locations within the survey area	Dredging and trawling	-	1862
2555/1/1	Various locations within the survey area	Potting	-	1695
2555/2/1	Various locations within the survey area	Potting	-	1695
2450/1/1	Various locations within the survey area	Charter boat duties and rescue duties	-	1686
2397/1/1	Various locations within the survey area	Gill netting and trammel netting	-	1668
2365/1/1	Folkestone, Seabrook, Sandgate and Hythe	Potting	-	1564
2365/2/1	Folkestone, Seabrook, Sandgate and Hythe	Potting	-	1564
2518/1/1	Various locations within the survey area	Trammel netting	-	1550
2390/1/1	Various locations within the survey area	Trawling	-	1460
2771/1/1	Various locations within the survey area	Charter boat duties	-	1408
2774/1/1	Various locations within the survey area	Gill netting and trammel netting	-	728
2572/1/1	Sandgate to Rye	Charter boat duties and rescue duties	-	780
2779/1/1	Folkestone, Seabrook, Sandgate and Hythe	Potting	-	626
2779/3/1	Folkestone, Seabrook, Sandgate and Hythe	Potting	-	626
2325/1/1	Dymchurch to Dungeness	Boat angling	-	417
2325/1/2	Dymchurch to Dungeness	Boat angling	-	417
2325/1/3	Dymchurch to Dungeness	Boat angling	-	417

Table 16. Adults' occupancy rates in and on water (h y⁻¹) in the Dungeness aquatic survey area

Person ID number	Location	Activity	In water	On water
2325/1/4	Dymchurch to Dungeness	Boat angling	-	417
2325/1/5	Dymchurch to Dungeness	Boat angling	-	417
2325/1/6	Dymchurch to Dungeness	Boat angling	-	417
2558/6/1	Dymchurch to Dungeness	Pleasure cruising	-	417
2558/6/2	Dymchurch to Dungeness	Pleasure cruising	-	417
2558/6/3	Dymchurch to Dungeness	Pleasure cruising	-	417
2558/6/4	Dymchurch to Dungeness	Pleasure cruising	-	417
2558/6/5	Dymchurch to Dungeness	Pleasure cruising	-	417
2558/6/6	Dymchurch to Dungeness	Pleasure cruising	-	417
2558/6/7	Dymchurch to Dungeness	Pleasure cruising	-	417
2558/7/1	Dymchurch to Dungeness	Pleasure cruising	-	417
2558/7/2	Dymchurch to Dungeness	Pleasure cruising	-	417
2558/7/3	Dymchurch to Dungeness	Pleasure cruising	-	417
2538/1/1	Various locations within the survey area	Boat angling and harbour master duties	-	410
2559/1/1	Various locations within the survey area	Pleasure cruising	-	336
2559/2/1	Various locations within the survey area	Pleasure cruising	-	336
2564/9/1	Greatstone-on-Sea to Dungeness	Boat angling	-	313
2564/9/2	Greatstone-on-Sea to Dungeness	Boat angling	-	313
2564/9/3	Greatstone-on-Sea to Dungeness	Boat angling	-	313
2564/9/4	Greatstone-on-Sea to Dungeness	Boat angling	-	313
2564/9/5	Greatstone-on-Sea to Dungeness	Boat angling	-	313
2564/9/6	Greatstone-on-Sea to Dungeness	Boat angling	-	313
2538/2/1	Various locations within the survey area	Harbour master duties	-	300
2367/1/1	Sandgate	Rowing	-	262
2367/2/1	Sandgate	Rowing	-	262
2367/2/2	Sandgate	Rowing	-	262
2367/2/3	Sandgate	Rowing	-	262
2530/1/1	Lydd-on-Sea, Greatstone-on-Sea, Littlestone-on-Sea and Dungeness	Boat angling	-	219
	Lydd-on-Sea	Push netting	-	
2417/1/1	Various locations within the survey area	Pleasure cruising	-	213
2417/2/1	Various locations within the survey area	Pleasure cruising	-	210
2562/1/1	Various locations within the survey area	Pleasure cruising	-	193
2562/2/1	Various locations within the survey area	Pleasure cruising	-	193
2562/3/1	Various locations within the survey area	Pleasure cruising	-	193
2544/1/1	Various locations within the survey area	Gill netting	-	180
2544/2/1	Various locations within the survey area	Gill netting	-	180
2350/1/1	Hythe, Sandgate, Folkestone and Seabrook	Sailing	-	156
2350/2/1	Hythe, Sandgate, Folkestone and Seabrook	Sailing	-	156
2350/3/1	Hythe, Sandgate, Folkestone and Seabrook	Sailing	-	156
2350/4/1	Hythe, Sandgate, Folkestone and Seabrook	Sailing	-	156
2367/7/1	Sandgate	Rowing	-	156
2367/7/2	Sandgate	Rowing	-	156
2367/7/3	Sandgate	Rowing	-	156
2367/7/4	Sandgate	Rowing	-	156
2367/7/5	Sandgate	Rowing	-	156
2367/7/6	Sandgate	Rowing	-	156
2367/7/7	Sandgate	Rowing	-	156
2322/1/1	Dungeness	Charter boat duties	-	144
2444/1/1	Various locations within the survey area	Boat angling	-	144
2463/1/1	Various locations within the survey area	Boat angling	-	131
2463/2/1	Various locations within the survey area	Boat angling	-	131
2415/1/1	Various locations within the survey area	Rescue duties	-	114
2415/1/2	Various locations within the survey area	Rescue duties	-	114
2415/1/3	Various locations within the survey area	Rescue duties	-	114
2415/1/4	Various locations within the survey area	Rescue duties	-	114
2415/1/5	Various locations within the survey area	Rescue duties	-	114
2415/1/6	Various locations within the survey area	Rescue duties	-	114
2415/1/7	Various locations within the survey area	Rescue duties	-	114
2415/1/8	Various locations within the survey area	Rescue duties	-	114
2415/2/1	Various locations within the survey area	Rescue duties	-	114
2415/2/2	Various locations within the survey area	Rescue duties	-	114
2538/3/1	Various locations within the survey area	Boat angling	-	110
2449/1/1	Various locations within the survey area	Boat angling	-	102
2357/1/1	Folkestone, Sandgate, Hythe and Dymchurch	Charter boat duties	-	85
2550/2/1	Various locations within the survey area	Boat angling	-	84
2411/2/1	Various locations within the survey area	Boat angling	-	80
2447/1/1	Various locations within the survey area	Power boating and pleasure cruising	-	72
2447/2/1	Various locations within the survey area	Power boating and pleasure cruising	-	72
2446/1/1	Various locations within the survey area	Boat angling and sailing	-	62
2554/1/1	Lydd-on-Sea	Push netting	-	60
2416/1/1	Fairlight and Pett Level	Boat angling	-	60

Table 16. Adults' occupancy rates in and on water (h y⁻¹) in the Dungeness aquatic survey area

Person ID number	Location	Activity	In water	On water
2489/1/1	Various locations within the survey area	Rescue duties	-	54
2489/1/2	Various locations within the survey area	Rescue duties	-	54
2489/1/3	Various locations within the survey area	Rescue duties	-	54
2489/1/4	Various locations within the survey area	Rescue duties	-	54
2489/1/5	Various locations within the survey area	Rescue duties	-	54
2489/1/6	Various locations within the survey area	Rescue duties	-	54
2489/1/7	Various locations within the survey area	Rescue duties	-	54
2489/1/8	Various locations within the survey area	Rescue duties	-	54
2489/1/9	Various locations within the survey area	Rescue duties	-	54
2489/1/10	Various locations within the survey area	Rescue duties	-	54
2411/1/1	Various locations within the survey area including the River Rother	Rescue duties	-	50
2411/3/1	Various locations within the survey area including the River Rother	Rescue duties	-	50
2411/3/2	Various locations within the survey area including the River Rother	Rescue duties	-	50
2411/3/3	Various locations within the survey area including the River Rother	Rescue duties	-	50
2411/3/4	Various locations within the survey area including the River Rother	Rescue duties	-	50
2414/1/1	Various locations within the survey area including the River Rother	Rescue duties	-	50
2414/2/1	Various locations within the survey area including the River Rother	Rescue duties	-	50
2606/1/1	Lydd-on-Sea	Push netting	-	50
2568/1/1	Littlestone-on-Sea and Greatstone-on-Sea	Seine netting	-	48
	Lydd-on-Sea	Push netting	-	
2516/1/1	Various locations within the survey area including the River Rother	Boat angling	-	40
2516/2/1	Various locations within the survey area including the River Rother	Boat angling	-	40
2560/1/1	Greatstone-on-Sea	Paddling	-	39
2603/1/1	Folkestone and Sandgate	Boat angling	-	30
2514/1/1	Lydd-on-Sea and Camber Sands	Push netting	-	26
2412/1/1	Various locations within the survey area including the River Rother	Sailing	-	24
2412/1/2	Various locations within the survey area including the River Rother	Sailing	-	24
2412/1/3	Various locations within the survey area including the River Rother	Sailing	-	24
2412/1/4	Various locations within the survey area including the River Rother	Sailing	-	24
2412/1/5	Various locations within the survey area including the River Rother	Sailing	-	24
2412/1/6	Various locations within the survey area including the River Rother	Sailing	-	24
2546/1/1	Dungeness	Push netting	-	24
2568/3/1	Littlestone-on-Sea and Greatstone-on-Sea	Seine netting	-	24
2605/1/1	Dungeness	Push netting	-	24
2528/2/1	Broomhill Sands	Paddling	-	18
2412/2/1	Rye	Sailing	-	16
2412/2/2	Rye	Sailing	-	16
2412/2/3	Rye	Sailing	-	16
2412/3/1	Rye	Sailing	-	16
2412/3/2	Rye	Sailing	-	16
2412/4/1	Rye	Working on a baot	-	16
2412/4/2	Rye	Working on a baot	-	16
2412/5/1	Rye	Working on a baot	-	16
2412/5/2	Rye	Working on a baot	-	16
2571/1/1	Littlestone-on-Sea	Push netting	-	12
2326/1/1	St Mary's Bay	Paddling	-	7
2364/1/1	Dymchurch, Hythe, Sandgate and Seabrook	Paddling	-	7
2364/2/1	Dymchurch, Hythe, Sandgate and Seabrook	Paddling	-	7
2506/1/1	Dungeness	Paddling	-	2
2506/2/1	Dungeness	Paddling	-	2
2349/1/1	Folkestone and Sandgate	Rescue duties	-	2
2349/1/2	Folkestone and Sandgate	Rescue duties	-	2
2349/1/3	Folkestone and Sandgate	Rescue duties	-	2
2349/1/4	Folkestone and Sandgate	Rescue duties	-	2
2349/1/5	Folkestone and Sandgate	Rescue duties	-	2
2349/1/6	Folkestone and Sandgate	Rescue duties	-	2
2349/2/1	Folkestone and Sandgate	Rescue duties	-	2
2349/2/2	Folkestone and Sandgate	Rescue duties	-	2
2349/2/3	Folkestone and Sandgate	Rescue duties	-	2
2349/2/4	Folkestone and Sandgate	Rescue duties	-	2

Table 17. Children's and infants' occupancy rates in and on water ($h\ y^{-1}$) in the Dungeness aquatic survey area

Children age group (6 - 15 years old)

Person ID number	Age	Location	Activity	In water	On water
2609/4/1	9	Folkestone Inner Harbour and Folkestone Outer Harbour	Kayaking and paddleboarding	104	-
2609/4/2	9	Folkestone Inner Harbour and Folkestone Outer Harbour	Kayaking and paddleboarding	104	-
2609/4/3	9	Folkestone Inner Harbour and Folkestone Outer Harbour	Kayaking and paddleboarding	104	-
2609/4/4	9	Folkestone Inner Harbour and Folkestone Outer Harbour	Kayaking and paddleboarding	104	-
2609/4/5	9	Folkestone Inner Harbour and Folkestone Outer Harbour	Kayaking and paddleboarding	104	-
2564/2/1	15	Greatstone-on-Sea	Kitesurfing and windsurfing	24	-
2326/4/1	12	St Mary's Bay	Swimming	7	-
2326/5/1	8	St Mary's Bay	Swimming	7	-
2367/3/1	11	Sandgate	Rowing	-	156
2367/4/1	12	Sandgate	Rowing	-	156
2367/5/1	13	Sandgate	Rowing	-	156
2367/6/1	15	Sandgate	Rowing	-	156
2367/6/2	15	Sandgate	Rowing	-	156
2367/6/3	15	Sandgate	Rowing	-	156
2367/6/4	15	Sandgate	Rowing	-	156
2560/2/1	15	Greatstone-on-Sea	Paddling	-	39
2560/3/1	6	Greatstone-on-Sea	Paddling	-	39
2528/4/1	7	Broomhill Sands	Paddling	-	18
2412/6/1	14	Rye	Being on a boat	-	16
2412/7/1	10	Rye	Sailing	-	16
2412/8/1	11	Rye	Sailing	-	16
2412/9/1	12	Rye	Sailing	-	16
2412/10/1	13	Rye	Sailing	-	16
2412/11/1	14	Rye	Sailing	-	16

Infant age group (0 - 5 years old)

Person ID number	Age	Location	Activity	In water	On water
2379/3/1	2	Dymchurch	Swimming	52	-
			Paddling	-	52
2326/2/1	2	St Mary's Bay	Paddling	-	7
2326/3/1	1	St Mary's Bay	Paddling	-	7
2364/3/1	4	Dymchurch, Hythe, Sandgate and Seabrook	Paddling	-	7
2364/4/1	3	Dymchurch, Hythe, Sandgate and Seabrook	Paddling	-	7
2364/5/1	2	Dymchurch, Hythe, Sandgate and Seabrook	Paddling	-	7

Table 18. Adults' consumption rates of green vegetables (kg y⁻¹) from the Dungeness terrestrial survey area

Person ID number	Broccoli	Brussels sprout	Cabbage	Calabrese	Cauliflower	Chives	Courgette	Cucumber	Endive	Kale	Lettuce	Mint	Pak choi	Parsley	Purslane	Sea kale	Spinach	Total
2476/2/1	0.7	-	0.9	-	0.7	-	0.9	-	-	-	-	-	-	-	-	-	-	3.1
2476/3/1	0.7	-	0.9	-	0.7	-	0.9	-	-	-	-	-	-	-	-	-	-	3.1
2476/4/1	0.7	-	0.9	-	0.7	-	0.9	-	-	-	-	-	-	-	-	-	-	3.1
2476/5/1	0.7	-	0.9	-	0.7	-	0.9	-	-	-	-	-	-	-	-	-	-	3.1
2476/6/1	0.7	-	0.9	-	0.7	-	0.9	-	-	-	-	-	-	-	-	-	-	3.1
2554/1/1	-	-	-	-	-	-	2.0	-	-	-	-	-	-	-	-	-	-	2.0
2554/2/1	-	-	-	-	-	-	2.0	-	-	-	-	-	-	-	-	-	-	2.0
2554/3/1	-	-	-	-	-	-	2.0	-	-	-	-	-	-	-	-	-	-	2.0
2475/1/1	-	-	-	-	-	-	0.2	-	-	-	1.3	-	-	-	-	-	-	1.5
2475/2/1	-	-	-	-	-	-	0.2	-	-	-	1.3	-	-	-	-	-	-	1.5
2473/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	0.1

Notes

Emboldened observations are the high-rate consumers

The mean consumption rate of green vegetables for adults based on the 13 high-rate consumers is 26.6 kg y⁻¹

The observed 97.5th percentile rate based on 43 observations is 35.4 kg y⁻¹

Table 19. Adults' consumption rates of other vegetables (kg y⁻¹) from the Dungeness terrestrial survey area

Person ID number	Broad bean	French bean	Pea	Pepper	Pumpkin	Runner bean	Squash	Sweetcorn	Tomato	Total
2529/1/1	10.0	-	10.1	-	-	0.5	7.3	1.3	28.8	58.0
2529/2/1	10.0	-	10.1	-	-	0.5	7.3	1.3	28.8	58.0
2605/1/1	2.8	-	-	-	-	6.1	-	-	32.4	41.3
2605/2/1	2.8	-	-	-	-	6.1	-	-	32.4	41.3
2532/1/1	-	-	-	1.5	-	2.6	-	-	36.0	40.1
2532/2/1	-	-	-	1.5	-	2.6	-	-	36.0	40.1
2304/1/1	-	-	6.8	4.4	-	10.2	-	-	14.4	35.8
2304/2/1	-	-	6.8	4.4	-	10.2	-	-	14.4	35.8
2606/1/1	5.0	5.0	-	-	-	5.0	-	-	10.0	25.0
2606/2/1	5.0	5.0	-	-	-	5.0	-	-	10.0	25.0
2528/1/1	8.8	1.5	5.0	-	-	1.9	0.7	3.5	2.9	24.4
2528/2/1	8.8	1.5	5.0	-	-	1.9	0.7	3.5	2.9	24.4
2521/1/1	-	-	4.5	-	9.0	6.8	-	2.9	-	23.2
2521/2/1	-	-	4.5	-	9.0	6.8	-	2.9	-	23.2
2484/1/1	5.0	5.9	-	-	-	7.4	4.0	-	-	22.2
2484/2/1	5.0	5.9	-	-	-	7.4	4.0	-	-	22.2
2554/1/1	-	-	-	-	15.0	-	4.2	-	-	19.2
2554/2/1	-	-	-	-	15.0	-	4.2	-	-	19.2
2554/3/1	-	-	-	-	15.0	-	4.2	-	-	19.2
2483/1/1	-	-	-	-	-	-	-	-	18.0	18.0
2487/1/1	4.2	1.6	-	2.0	-	-	3.6	-	5.4	16.8
2303/1/1	-	-	3.4	-	-	10.2	-	-	-	13.6
2303/2/1	-	-	3.4	-	-	10.2	-	-	-	13.6
2478/1/1	-	-	4.5	-	-	8.5	-	-	-	13.0
2478/2/1	-	-	4.5	-	-	8.5	-	-	-	13.0
2528/3/1	4.4	0.8	2.5	-	-	1.0	0.4	1.7	1.4	12.2
2548/1/1	-	1.0	-	-	-	4.8	2.3	3.2	-	11.2
2548/2/1	-	1.0	-	-	-	4.8	2.3	3.2	-	11.2
2548/3/1	-	1.0	-	-	-	4.8	2.3	3.2	-	11.2
2477/1/1	-	-	0.02	-	-	4.9	-	-	4.3	9.2
2477/2/1	-	-	0.02	-	-	4.9	-	-	4.3	9.2
2477/3/1	-	-	0.02	-	-	4.9	-	-	4.3	9.2
2475/1/1	-	-	-	-	-	-	-	8.1	-	8.1
2475/2/1	-	-	-	-	-	-	-	8.1	-	8.1
2473/1/1	-	-	-	-	-	-	-	-	7.2	7.2
2568/1/1	5.5	-	-	-	-	-	-	-	-	5.5
2568/2/1	5.5	-	-	-	-	-	-	-	-	5.5
2482/1/1	-	1.1	-	-	-	3.1	-	-	-	4.1
2482/2/1	-	1.1	-	-	-	3.1	-	-	-	4.1
2476/1/1	0.7	-	-	-	-	2.4	-	-	-	3.2
2476/2/1	0.7	-	-	-	-	2.4	-	-	-	3.2
2476/3/1	0.7	-	-	-	-	2.4	-	-	-	3.2
2476/4/1	0.7	-	-	-	-	2.4	-	-	-	3.2
2476/5/1	0.7	-	-	-	-	2.4	-	-	-	3.2
2476/6/1	0.7	-	-	-	-	2.4	-	-	-	3.2

Notes

Emboldened observations are the high-rate consumers

The mean consumption rate of other vegetables for adults based on the 16 high-rate consumers is 33.7 kg y⁻¹

The observed 97.5th percentile rate based on 45 observations is 56.3 kg y⁻¹

Table 20. Adults' consumption rates of root vegetables (kg y⁻¹) from the Dungeness terrestrial survey area

Person ID number	Beetroot	Carrot	Chicory	Garlic	Kohlrabi	Leek	Onion	Parsnip	Radish	Salsify	Shallot	Spring onion	Swede	Sweet potato	Turnip	Total
2532/1/1	-	0.5	-	-	-	10.0	16.5	13.5	-	-	-	-	-	-	-	40.5
2532/2/1	-	0.5	-	-	-	10.0	16.5	13.5	-	-	-	-	-	-	-	40.5
2529/1/1	0.5	3.0	-	1.0	1.0	-	18.9	0.5	-	0.2	7.2	0.4	4.8	0.5	-	38.0
2529/2/1	0.5	3.0	-	1.0	1.0	-	18.9	0.5	-	0.2	7.2	0.4	4.8	0.5	-	38.0
2606/1/1	2.0	0.5	5.0	-	-	9.5	6.0	5.0	-	-	3.0	-	-	-	-	31.0
2606/2/1	2.0	0.5	5.0	-	-	9.5	6.0	5.0	-	-	3.0	-	-	-	-	31.0
2475/1/1	7.2	3.6	-	-	-	4.5	3.6	3.6	1.4	-	-	3.2	-	-	-	27.1
2475/2/1	7.2	3.6	-	-	-	4.5	3.6	3.6	1.4	-	-	3.2	-	-	-	27.1
2528/1/1	3.2	8.1	-	-	-	3.2	4.6	1.7	-	-	1.0	1.3	-	-	-	23.2
2528/2/1	3.2	8.1	-	-	-	3.2	4.6	1.7	-	-	1.0	1.3	-	-	-	23.2
2303/1/1	3.4	6.8	-	-	-	3.4	-	-	-	-	-	-	-	-	-	13.5
2303/2/1	3.4	6.8	-	-	-	3.4	-	-	-	-	-	-	-	-	-	13.5
2304/1/1	0.9	-	-	-	-	3.4	8.1	-	-	-	-	-	-	-	-	12.4
2304/2/1	0.9	-	-	-	-	3.4	8.1	-	-	-	-	-	-	-	-	12.4
2528/3/1	1.6	4.1	-	-	-	1.6	2.3	0.9	-	-	0.5	0.6	-	-	-	11.6
2483/1/1	-	2.2	-	-	-	4.4	-	3.5	-	-	-	-	-	-	-	10.2
2506/1/1	-	-	-	1.3	-	-	8.8	-	-	-	-	-	-	-	-	10.1
2506/2/1	-	-	-	1.3	-	-	8.8	-	-	-	-	-	-	-	-	10.1
2521/1/1	1.1	6.8	-	-	-	-	-	1.8	-	-	-	-	-	-	-	9.7
2521/2/1	1.1	6.8	-	-	-	-	-	1.8	-	-	-	-	-	-	-	9.7
2484/1/1	4.9	2.5	-	-	-	-	-	-	1.0	-	-	1.1	-	-	-	9.4
2484/2/1	4.9	2.5	-	-	-	-	-	-	1.0	-	-	1.1	-	-	-	9.4
2548/1/1	2.0	4.2	-	-	-	-	-	0.6	-	-	-	-	-	-	-	6.8
2548/2/1	2.0	4.2	-	-	-	-	-	0.6	-	-	-	-	-	-	-	6.8
2548/3/1	2.0	4.2	-	-	-	-	-	0.6	-	-	-	-	-	-	-	6.8
2477/1/1	1.4	0.1	-	-	-	-	0.2	2.2	0.5	-	0.9	1.2	-	-	-	6.4
2477/2/1	1.4	0.1	-	-	-	-	0.2	2.2	0.5	-	0.9	1.2	-	-	-	6.4
2477/3/1	1.4	0.1	-	-	-	-	0.2	2.2	0.5	-	0.9	1.2	-	-	-	6.4
2487/1/1	-	-	-	-	-	5.4	-	-	-	-	-	-	-	-	-	5.4
2568/1/1	-	-	-	-	-	-	2.9	-	-	-	1.3	-	-	-	-	4.2
2568/2/1	-	-	-	-	-	-	2.9	-	-	-	1.3	-	-	-	-	4.2
2478/1/1	-	2.3	-	-	-	-	-	-	-	-	1.9	-	-	-	-	4.1
2478/2/1	-	2.3	-	-	-	-	-	-	-	-	1.9	-	-	-	-	4.1
2482/1/1	-	1.5	-	-	-	-	-	-	0.6	-	-	-	-	-	1.8	3.8
2482/2/1	-	1.5	-	-	-	-	-	-	0.6	-	-	-	-	-	1.8	3.8
2476/1/1	0.7	-	-	-	-	-	1.3	-	-	-	0.8	-	-	-	-	2.8
2476/2/1	0.7	-	-	-	-	-	1.3	-	-	-	0.8	-	-	-	-	2.8
2476/3/1	0.7	-	-	-	-	-	1.3	-	-	-	0.8	-	-	-	-	2.8
2476/4/1	0.7	-	-	-	-	-	1.3	-	-	-	0.8	-	-	-	-	2.8
2476/5/1	0.7	-	-	-	-	-	1.3	-	-	-	0.8	-	-	-	-	2.8
2476/6/1	0.7	-	-	-	-	-	1.3	-	-	-	0.8	-	-	-	-	2.8
2491/2/1	-	1.8	-	-	-	-	-	-	-	-	-	-	-	-	-	1.8

Notes

Emboldened observations are the high-rate consumers

The mean consumption rate of root vegetables for adults based on the 10 high-rate consumers is 32.0 kg y⁻¹

The observed 97.5th percentile rate based on 42 observations is 40.4 kg y⁻¹

Table 21. Adults' consumption rates of potato (kg y⁻¹) from the Dungeness terrestrial survey area

Person ID number	Potato
2303/1/1	54.6
2303/2/1	54.6
2528/1/1	49.1
2528/2/1	49.1
2529/1/1	41.0
2529/2/1	41.0
2478/1/1	34.1
2478/2/1	34.1
2554/1/1	33.3
2554/2/1	33.3
2554/3/1	33.3
2475/1/1	28.1
2475/2/1	28.1
2606/1/1	25.0
2606/2/1	25.0
2528/3/1	24.6
2304/1/1	20.5
2304/2/1	20.5
2568/1/1	20.5
2568/2/1	20.5
2483/1/1	17.9
2484/1/1	14.9
2484/2/1	14.9
2477/1/1	13.7
2477/2/1	13.7
2477/3/1	13.7
2476/1/1	12.3
2476/2/1	12.3
2476/3/1	12.3
2476/4/1	12.3
2476/5/1	12.3
2476/6/1	12.3
2548/1/1	7.3
2548/2/1	7.3
2548/3/1	7.3
2482/1/1	5.9
2482/2/1	5.9
2532/1/1	0.1
2532/2/1	0.1

Notes

Emboldened observations are the high-rate consumers

The mean consumption rate of potato for adults based on the 20 high-rate consumers is 33.5 kg y⁻¹

The observed 97.5th percentile rate based on 39 observations is 54.6 kg y⁻¹

Table 22. Adults' consumption rates of domestic fruit (kg y⁻¹) from the Dungeness terrestrial survey area

Person ID number	Apple	Blackberry	Blackcurrant	Blueberry	Damson	Gooseberry	Greengage	Pear	Plum	Raspberry	Redcurrant	Rhubarb	Strawberry	Total
2484/1/1	0.8	-	-	-	-	-	7.4	0.6	7.4	-	-	-	-	16.2
2484/2/1	0.8	-	-	-	-	-	7.4	0.6	7.4	-	-	-	-	16.2
2606/1/1	-	-	-	-	-	-	-	10.0	-	-	2.0	-	3.0	15.0
2606/2/1	-	-	-	-	-	-	-	10.0	-	-	2.0	-	3.0	15.0
2605/1/1	-	-	-	-	-	-	-	-	-	10.2	-	1.1	0.4	11.8
2605/2/1	-	-	-	-	-	-	-	-	-	10.2	-	1.1	0.4	11.8
2482/1/1	-	4.0	-	-	-	-	-	-	-	4.1	2.3	-	1.4	11.7
2482/2/1	-	4.0	-	-	-	-	-	-	-	4.1	2.3	-	1.4	11.7
2478/1/1	-	-	-	-	-	-	-	-	-	8.5	-	-	-	8.5
2478/2/1	-	-	-	-	-	-	-	-	-	8.5	-	-	-	8.5
2528/1/1	-	-	-	-	-	-	-	8.0	-	-	-	-	-	8.0
2528/2/1	-	-	-	-	-	-	-	8.0	-	-	-	-	-	8.0
2475/1/1	-	-	0.1	0.2	-	-	-	2.5	-	2.0	0.1	-	2.4	7.2
2475/2/1	-	-	0.1	0.2	-	-	-	2.5	-	2.0	0.1	-	2.4	7.2
2529/1/1	-	-	0.5	0.2	-	4.1	-	-	-	-	-	2.3	-	7.0
2529/2/1	-	-	0.5	0.2	-	4.1	-	-	-	-	-	2.3	-	7.0
2568/1/1	0.8	-	1.0	-	-	2.0	-	0.5	1.5	-	1.0	-	-	6.8
2568/2/1	0.8	-	1.0	-	-	2.0	-	0.5	1.5	-	1.0	-	-	6.8
2532/1/1	-	-	-	-	-	0.3	-	-	-	-	-	5.9	-	6.2
2532/2/1	-	-	-	-	-	0.3	-	-	-	-	-	5.9	-	6.2
2521/1/1	-	-	-	-	2.8	2.3	-	-	-	-	-	-	-	5.0
2521/2/1	-	-	-	-	2.8	2.3	-	-	-	-	-	-	-	5.0
2554/1/1	3.3	-	0.8	-	0.8	-	-	-	-	-	-	-	-	4.8
2554/2/1	3.3	-	0.8	-	0.8	-	-	-	-	-	-	-	-	4.8
2554/3/1	3.3	-	0.8	-	0.8	-	-	-	-	-	-	-	-	4.8
2528/3/1	-	-	-	-	-	-	-	4.0	-	-	-	-	-	4.0
2548/1/1	-	0.7	1.0	-	-	-	-	-	-	1.3	0.7	-	-	3.7
2548/2/1	-	0.7	1.0	-	-	-	-	-	-	1.3	0.7	-	-	3.7
2548/3/1	-	0.7	1.0	-	-	-	-	-	-	1.3	0.7	-	-	3.7
2487/1/1	0.9	-	-	-	-	-	-	-	-	-	-	2.3	-	3.2
2304/1/1	-	-	-	-	-	-	-	-	-	-	-	-	2.8	2.8
2304/2/1	-	-	-	-	-	-	-	-	-	-	-	-	2.8	2.8
2303/1/1	-	-	-	-	-	2.0	-	-	-	-	-	-	0.4	2.4
2303/2/1	-	-	-	-	-	2.0	-	-	-	-	-	-	0.4	2.4
2483/1/1	-	-	-	-	-	-	-	-	-	-	-	-	2.3	2.3
2477/1/1	-	-	-	-	-	-	-	-	-	-	-	0.9	0.5	1.4
2477/2/1	-	-	-	-	-	-	-	-	-	-	-	0.9	0.5	1.4
2477/3/1	-	-	-	-	-	-	-	-	-	-	-	0.9	0.5	1.4
2506/1/1	-	-	-	-	-	-	-	-	-	-	-	-	0.5	0.5
2506/2/1	-	-	-	-	-	-	-	-	-	-	-	-	0.5	0.5
2476/1/1	-	-	-	-	-	-	-	-	-	-	-	0.4	-	0.4
2476/2/1	-	-	-	-	-	-	-	-	-	-	-	0.4	-	0.4
2476/3/1	-	-	-	-	-	-	-	-	-	-	-	0.4	-	0.4
2476/4/1	-	-	-	-	-	-	-	-	-	-	-	0.4	-	0.4
2476/5/1	-	-	-	-	-	-	-	-	-	-	-	0.4	-	0.4
2476/6/1	-	-	-	-	-	-	-	-	-	-	-	0.4	-	0.4

Notes

Emboldened observations are the high-rate consumers

The mean consumption rate of domestic fruit for adults based on the 20 high-rate consumers is 9.8 kg y⁻¹

The observed 97.5th percentile rate based on 46 observations is 16.1 kg y⁻¹

Table 23. Adults' consumption rates of sheep meat (kg y⁻¹) from the Dungeness terrestrial survey area

Person ID number	Lamb
2521/1/1	5.7
2521/2/1	5.7

Notes

Emboldened observations are the high-rate consumers

The mean consumption rate of sheep meat for adults based on the 2 high-rate consumers is 5.7 kg y⁻¹

The observed 97.5th percentile rate based on 2 observations is 5.7 kg y⁻¹

Table 24. Adults' consumption rates of poultry (kg y⁻¹) from the Dungeness terrestrial survey area

Person ID number	Goose
2483/1/1	6.6

Notes

The emboldened observation is the high-rate consumer

The mean consumption rate of poultry for adults based on the high-rate consumer is 6.6 kg y⁻¹

The observed 97.5th percentile is not applicable for 1 observation

Table 25. Adults' consumption rates of eggs (kg y⁻¹) from the Dungeness terrestrial survey area

Person ID number	Chicken egg	Duck egg	Total
2521/1/1	41.6	-	41.6
2506/2/1	8.9	5.9	14.8
2561/1/1	13.4	-	13.4
2561/2/1	13.4	-	13.4
2528/1/1	8.0	-	8.0
2528/2/1	8.0	-	8.0
2474/1/1	4.4	-	4.4
2474/2/1	4.4	-	4.4
2474/3/1	4.4	-	4.4

Notes

Emboldened observations are the high-rate consumers

The mean consumption rate of eggs for adults based on the 2 high-rate consumers is 28.2 kg y⁻¹

The observed 97.5th percentile rate based on 9 observations is 36.2 kg y⁻¹

Table 26. Adults' consumption rates of wild/free foods (kg y⁻¹) from the Dungeness terrestrial survey area

Person ID number	Blackberry	Elderberry	Sloe	Total
2343/1/1	5.0	-	-	5.0
2554/1/1	5.0	-	-	5.0
2554/2/1	5.0	-	-	5.0
2554/3/1	5.0	-	-	5.0
2473/1/1	2.0	-	2.0	4.0
2319/1/1	2.3	-	-	2.3
2521/1/1	1.8	0.1	-	1.8
2521/2/1	1.8	0.1	-	1.8
2324/1/1	0.9	-	0.9	1.8
2548/1/1	1.1	-	-	1.1
2548/2/1	1.1	-	-	1.1
2548/3/1	1.1	-	-	1.1
2506/2/1	0.9	-	-	0.9
2482/1/1	0.8	-	-	0.8
2482/2/1	0.8	-	-	0.8
2506/1/1	-	-	0.5	0.5
2561/1/1	0.1	-	-	0.1
2561/2/1	0.1	-	-	0.1

Notes

Emboldened observations are the high-rate consumers

The mean consumption rate of wild/free foods for adults based on the 9 high-rate consumers is 3.5 kg y⁻¹

The observed 97.5th percentile rate based on 18 observations is 5.0 kg y⁻¹

Table 27. Adults' consumption rates of honey (kg y^{-1}) from the Dungeness terrestrial survey area

Person ID number	Honey
2847/2/1	10.9
2847/1/1	2.7
2527/1/1	0.2

Notes

The emboldened observation is the high-rate consumer

The mean consumption rate of honey for adults based on the high-rate consumer is 10.9 kg y^{-1}

The observed 97.5th percentile rate based on 3 observations is 10.5 kg y^{-1}

Table 28. Adults' consumption rates of wild fungi (kg y^{-1}) from the Dungeness terrestrial survey area

Person ID number	Mushrooms
2554/1/1	1.5
2554/2/1	1.5
2554/3/1	1.5
2521/1/1	1.5
2521/2/1	1.5
2474/1/1	0.3
2474/2/1	0.3
2474/3/1	0.3
2482/1/1	0.2
2482/2/1	0.2

Notes

Emboldened observations are the high-rate consumers

The mean consumption rate of wild fungi for adults based on the 5 high-rate consumers is 1.5 kg y^{-1}

The observed 97.5th percentile rate based on 10 observations is 1.5 kg y^{-1}

Table 29. Children's and infants' consumption rates of green vegetables (kg y⁻¹) from the Dungeness terrestrial survey area**Child age group (6 - 15 years old)**

Person ID number	Age	Broccoli	Brussels sprout	Cabbage	Cauliflower	Courgette	Cucumber	Lettuce	Total
2484/3/1	11	2.0	1.2	-	1.0	4.0	2.5	0.8	11.6
2484/4/1	6	1.0	0.6	-	0.5	2.0	1.2	0.4	5.8
2476/7/1	13	0.7	-	0.9	0.7	0.9	-	-	3.1
2476/8/1	12	0.7	-	0.9	0.7	0.9	-	-	3.1
2477/4/1	14	-	-	-	0.5	0.7	0.9	-	2.1

Notes

Emboldened observations are the high-rate consumers

The mean consumption rate of green vegetables for the child age group based on the 2 high-rate consumers is 8.7 kg y⁻¹

The observed 97.5th percentile rate based on 5 observations is 11.0 kg y⁻¹

Infant age group (0 - 5 years old)

No consumption rate data obtained for this group.

Table 30. Children's and infants' consumption rates of other vegetables (kg y⁻¹) from the Dungeness terrestrial survey area**Child age group (6 - 15 years old)**

Person ID number	Age	Broad bean	French bean	Pea	Runner bean	Squash	Tomato	Total
2484/3/1	11	2.5	2.9	-	3.7	2.0	-	11.1
2484/4/1	6	1.2	1.5	-	1.9	1.0	-	5.6
2476/7/1	13	0.7	-	-	2.4	-	-	3.2
2476/8/1	12	0.7	-	-	2.4	-	-	3.2
2477/4/1	14	-	-	0.01	1.6	-	1.4	3.1

Notes

Emboldened observations are the high-rate consumers

The mean consumption rate of other vegetables for the child age group based on the 2 high-rate consumers is 8.3 kg y⁻¹

The observed 97.5th percentile rate based on 5 observations is 10.6 kg y⁻¹

Infant age group (0 - 5 years old)

No consumption rate data obtained for this group.

Table 31. Children's and infants' consumption rates of root vegetables (kg y^{-1}) from the Dungeness terrestrial survey area**Child age group (6 - 15 years old)**

Person ID number	Age	Beetroot	Carrot	Onion	Parsnip	Radish	Shallot	Spring onion	Total
2484/3/1	11	2.5	1.2	-	-	0.5	-	0.5	4.7
2476/7/1	13	0.7	-	1.3	-	-	0.8	-	2.8
2476/8/1	12	0.7	-	1.3	-	-	0.8	-	2.8
2484/4/1	6	1.2	0.6	-	-	0.2	-	0.3	2.4
2477/4/1	14	0.5	0.02	0.1	0.7	0.2	0.3	0.4	2.1

Notes

Emboldened observations are the high-rate consumers

The mean consumption rate of root vegetables for the child age group based on the 5 high-rate consumers is 3.0 kg y^{-1}

The observed 97.5th percentile rate based on 5 observations is 4.5 kg y^{-1}

Infant age group (0 - 5 years old)

No consumption rate data obtained for this group.

Table 32. Children's and infants' consumption rates of potato (kg y^{-1}) from the Dungeness terrestrial survey area**Child age group (6 - 15 years old)**

Person ID number	Age	Potato
2476/7/1	13	12.3
2476/8/1	12	12.3
2484/3/1	11	7.4
2477/4/1	14	4.6
2484/4/1	6	3.7

Notes

Emboldened observations are the high-rate consumers

The mean consumption rate of potato for the child age group based on the 4 high-rate consumers is 9.1 kg y^{-1}

The observed 97.5th percentile rate based on 5 observations is 12.3 kg y^{-1}

Infant age group (0 - 5 years old)

No consumption rate data obtained for this group.

Table 33. Children's and infants' consumption rates of domestic fruit (kg y⁻¹) from the Dungeness terrestrial survey area

Child age group (6 - 15 years old)

Person ID number	Age	Apple	Greengage	Pear	Plum	Rhubarb	Strawberry	Total
2484/3/1	11	0.4	3.7	0.3	3.7	-	-	8.1
2484/4/1	6	0.2	1.9	0.1	1.9	-	-	4.1
2477/4/1	14	-	-	-	-	0.3	0.2	0.5
2476/7/1	13	-	-	-	-	0.4	-	0.4
2476/8/1	12	-	-	-	-	0.4	-	0.4

Notes

Emboldened observations are the high-rate consumers

The mean consumption rate of domestic fruit for the child age group based on the 2 high-rate consumers is 6.1 kg y⁻¹

The observed 97.5th percentile rate based on 5 observations is 7.7 kg y⁻¹

Infant age group (0 - 5 years old)

No consumption rate data obtained for this group.

Table 34. Percentage contribution each food type makes to its terrestrial food group for adults

<p>Green vegetables</p> <p>Cucumber 32.5 % Courgette 27.6 % Cabbage 12.9 % Cauliflower 8.2 % Broccoli 6.0 % Lettuce 2.7 % Calabrese 2.7 % Kale 2.3 % Brussels sprout 1.9 % Pak choi 1.2 % Endive 1.0 % Spinach 0.7 % Parsley 0.1 % Chives 0.1 % Purslane 0.1 % Mint 0.02 % Sea kale 0.02 %</p>	<p>Domestic fruit</p> <p>Raspberry 20.6 % Pear 18.1 % Rhubarb 10.1 % Strawberry 9.8 % Gooseberry 8.2 % Plum 6.9 % Greengage 5.7 % Apple 5.4 % Redcurrant 4.9 % Blackberry 3.8 % Blackcurrant 3.3 % Damson 3.0 % Blueberry 0.2 %</p>
	<p>Sheep meat</p> <p>Lamb 100.0 %</p>
<p>Other vegetables</p> <p>Tomato 35.8 % Runner bean 20.6 % Broad bean 10.6 % Pea 8.7 % Pumpkin 7.7 % Squash 5.8 % Sweetcorn 5.2 % French bean 3.9 % Pepper 1.7 %</p>	<p>Poultry</p> <p>Goose 100.0 %</p>
	<p>Eggs</p> <p>Chicken egg 94.8 % Duck egg 5.2 %</p>
<p>Root vegetables</p> <p>Onion 27.8 % Carrot 17.0 % Leek 14.7 % Parsnip 12.1 % Beetroot 11.5 % Shallot 6.8 % Spring onion 3.0 % Chicory 1.9 % Swede 1.8 % Radish 1.4 % Garlic 0.8 % Turnip 0.7 % Kohl rabi 0.4 % Sweet potato 0.2 % Salsify 0.1 %</p>	<p>Wild/free foods</p> <p>Blackberry 91.1 % Sloe 8.7 % Elderberry 0.3 %</p>
	<p>Honey</p> <p>Honey 100.0 %</p>
<p>Potato</p> <p>Potato 100.0 %</p>	<p>Wild fungi</p> <p>Mushrooms 100.0 %</p>

Notes

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

Table 35. Direct radiation occupancy rates for adults, children and infants ($h\ y^{-1}$) in the Dungeness area

Person ID number	Main activity	Indoor occupancy	Outdoor occupancy	Total occupancy
0 to 0.25 km zone				
2540/1/1	Residing	8076	359	8435
2560/1/1	Residing	7593	731	8324
2506/1/1	Residing	4860	3379	8239
2776/1/1	Residing	6586	1464	8050
2776/3/1	Residing	6586	1464	8050
2776/4/1	Residing	6586	1464	8050
2561/1/1	Residing	7939	91	8030
2561/2/1	Residing	5469	2562	8030
2506/2/1	Residing	5425	2375	7799
2557/1/1	Residing and working	5967	1755	7722
2401/1/1	Residing	7071	444	7515
2343/1/1	Residing	5817	1566	7383
2560/2/1	Residing	6080	640	6719
2560/3/1	Residing	6080	640	6719
2775/3/1	Residing	6298	100	6398
2775/2/1	Residing	6320	50	6370
2776/5/1	Residing	5726	390	6115
2776/2/1	Residing	5405	627	6032
2775/1/1	Residing	5279	100	5379
2540/2/1	Residing	3582	156	3739
2454/1/1	Working	1805	120	1926
2454/2/1	Working	1805	120	1926
2454/1/2	Working	1805	120	1926
2491/2/1	Birdwatching	-	1879	1879
2464/2/1	Residing	1605	234	1839
2454/3/1	Working	1174	78	1252
2454/4/1	Working	1174	78	1252
2454/3/2	Working	1174	78	1252
2454/4/2	Working	1174	78	1252

Table 35. Direct radiation occupancy rates for adults, children and infants ($h\ y^{-1}$) in the Dungeness area

Person ID number	Main activity	Indoor occupancy	Outdoor occupancy	Total occupancy
0 to 0.25 km zone				
2454/3/3	Working	1174	78	1252
2554/1/1	Birdwatching	-	1043	1043
2514/1/1	Angling	-	1002	1002
2491/1/1	Birdwatching	-	939	939
2569/2/1	Working	169	182	351
2464/1/1	Residing	300	45	345
2571/1/1	Angling	-	275	275
2515/1/1	Angling	-	235	235
2569/1/1	Working	117	117	234
2569/3/1	Working	117	117	234
2530/1/1	Angling	-	187	187
2561/3/1	Visiting resident	-	156	156
2551/1/1	Angling	-	135	135
2454/5/1	Working	118	13	131
2438/1/1	Angling	-	108	108
2438/2/1	Angling	-	108	108
2449/1/1	Angling	-	104	104
2521/1/1	Angling	-	104	104
2409/1/1	Angling	-	80	80
2381/1/1	Angling	-	72	72
2392/1/1	Angling	-	72	72
2392/2/1	Angling	-	72	72
2392/3/1	Angling	-	72	72
2402/1/1	Angling	-	72	72
2392/3/2	Angling	-	72	72
2570/3/1	Working	-	65	65
2336/1/1	Angling	-	60	60
2336/2/1	Angling	-	60	60
2490/1/1	Angling	-	48	48

Table 35. Direct radiation occupancy rates for adults, children and infants ($h\ y^{-1}$) in the Dungeness area

Person ID number	Main activity	Indoor occupancy	Outdoor occupancy	Total occupancy
0 to 0.25 km zone				
2490/2/1	Angling	-	48	48
2550/2/1	Angling	-	44	44
2494/2/1	Angling	-	36	36
2335/1/1	Angling	-	30	30
2770/2/1	Angling	-	30	30
2516/1/1	Angling	-	28	28
2516/2/1	Angling	-	28	28
2327/1/1	Angling	-	24	24
2327/2/1	Angling	-	24	24
2406/1/1	Angling	-	23	23
2550/1/1	Angling	-	22	22
2529/1/1	Angling	-	15	15
2526/1/1	Angling	-	12	12
>0.25 to 0.5 km zone				
2453/1/1	Residing and working	6231	1977	8208
2453/2/1	Residing	7001	384	7384
2606/1/1	Residing	6170	912	7083
2606/2/1	Residing	6170	912	7083
2532/1/1	Residing	5967	451	6418
2532/2/1	Residing	5817	100	5917
2324/1/1	Residing	1500	800	2300
2455/1/1	Working	2029	57	2086
2455/1/2	Working	2029	57	2086
2455/1/3	Working	2029	57	2086
2455/1/4	Working	2029	57	2086
2455/1/5	Working	2029	57	2086
2455/1/6	Working	2029	57	2086
2570/1/1	Working	-	1043	1043
2455/2/1	Working	830	57	886

Table 35. Direct radiation occupancy rates for adults, children and infants ($h\ y^{-1}$) in the Dungeness area

Person ID number	Main activity	Indoor occupancy	Outdoor occupancy	Total occupancy
>0.25 to 0.5 km zone				
2455/2/2	Working	830	57	886
2455/2/3	Working	830	57	886
2455/2/4	Working	830	57	886
2570/2/1	Working	-	775	775
2322/1/1	Maintaining a boat	-	72	72
2463/3/1	Sunbathing and walking	-	70	70
2463/4/1	Sunbathing and walking	-	70	70
2463/5/1	Sunbathing and walking	-	70	70
2463/6/1	Walking and playing	-	70	70
2463/7/1	Walking and playing	-	70	70
2463/8/1	Walking and playing	-	70	70
2463/9/1	Walking and playing	-	70	70
2463/10/1	Walking and playing	-	70	70
2463/11/1	Walking and playing	-	70	70
2463/12/1	Walking and playing	-	70	70
2463/13/1	Walking and playing	-	70	70
2463/14/1	Walking and playing	-	70	70
2463/15/1	Walking and playing	-	70	70
2325/1/1	Boat angling	-	42	42
2325/1/2	Boat angling	-	42	42
2325/1/3	Boat angling	-	42	42
2325/1/4	Boat angling	-	42	42
2325/1/5	Boat angling	-	42	42
2325/1/6	Boat angling	-	42	42
2450/1/1	Angling and RNLI duties	-	32	32
2548/1/1	Walking	-	24	24
2548/2/1	Walking	-	24	24
2475/1/1	Walking	-	12	12
2475/2/1	Walking	-	12	12

Table 35. Direct radiation occupancy rates for adults, children and infants ($h\ y^{-1}$) in the Dungeness area

Person ID number	Main activity	Indoor occupancy	Outdoor occupancy	Total occupancy
>0.25 to 0.5 km zone				
2489/1/1	RNLI training	-	12	12
2489/1/2	RNLI training	-	12	12
2489/1/3	RNLI training	-	12	12
2489/1/4	RNLI training	-	12	12
2489/1/5	RNLI training	-	12	12
2489/1/6	RNLI training	-	12	12
2489/1/7	RNLI training	-	12	12
2489/1/8	RNLI training	-	12	12
2489/1/9	RNLI training	-	12	12
2489/1/10	RNLI training	-	12	12
>0.5 to 1.0 km zone				
2321/2/1	Residing	6446	1805	8251
2319/1/1	Residing	7337	641	7978
2512/1/1	Residing	6343	1580	7923
2321/1/1	Residing	7065	155	7220
2541/2/1	Residing	5259	1253	6512
2321/4/1	Residing	6300	103	6404
2321/3/1	Residing	5753	103	5856
2541/1/1	Residing	4747	364	5111
2473/1/1	Residing	3328	1189	4517
2404/1/1	Residing	3711	367	4078
2320/1/1	Residing	2401	85	2486
2512/2/1	Working	1564	261	1825
2512/2/2	Working	1564	261	1825
2512/2/3	Working	1564	261	1825
2512/2/4	Working	1564	261	1825
2603/1/1	Maintaining a fishing boat	417	574	991
2603/2/1	Maintaining a fishing boat	417	574	991
2603/3/1	Maintaining a fishing boat	417	574	991

Table 35. Direct radiation occupancy rates for adults, children and infants ($h\ y^{-1}$) in the Dungeness area

Person ID number	Main activity	Indoor occupancy	Outdoor occupancy	Total occupancy
>0.5 to 1.0 km zone				
2511/1/1	Maintaining a fishing boat	-	782	782
2511/2/1	Maintaining a fishing boat	-	626	626
2511/2/2	Maintaining a fishing boat	-	626	626
2572/1/1	Maintaining a fishing boat	-	417	417
2403/1/1	Visiting the area	52	209	261
2403/2/1	Visiting the area	52	209	261
2511/3/1	Playing	-	156	156
2511/4/1	Playing	-	156	156
2511/5/1	Playing	-	156	156

Table 36. Analysis of direct radiation occupancy rates for adults, children and infants ($h\ y^{-1}$) in the Dungeness area

0 to 0.25 km zone	
Number of hours	Number of observations
>8000 to 8760	8
>7000 to 8000	4
>6000 to 7000	6
>5000 to 6000	1
>4000 to 5000	0
>3000 to 4000	1
>2000 to 3000	0
>1000 to 2000	12
0 to 1000	39
0 to 8760	71

>0.25 to 0.5 km zone	
Number of hours	Number of observations
>8000 to 8760	1
>7000 to 8000	3
>6000 to 7000	1
>5000 to 6000	1
>4000 to 5000	0
>3000 to 4000	0
>2000 to 3000	7
>1000 to 2000	1
0 to 1000	40
0 to 8760	54

>0.5 to 1.0 km zone	
Number of hours	Number of observations
>8000 to 8760	1
>7000 to 8000	3
>6000 to 7000	2
>5000 to 6000	2
>4000 to 5000	2
>3000 to 4000	0
>2000 to 3000	1
>1000 to 2000	4
0 to 1000	12
0 to 8760	27

Table 37. Gamma dose rate measurements (μGyh^{-1}) for the Dungeness direct radiation survey area

Residences

Location	Indoor substrate	Indoor gamma dose rate at 1 metre ^a	Outdoor substrate	Outdoor gamma dose rate at 1 metre ^a
Residence 1	Stone	0.110	Not Taken	Not Taken
Residence 2	Concrete	0.059	Grass	0.053
Residence 3	Concrete	0.056	Grass	0.061
Residence 4	Concrete	0.058	Stones	0.055
Residence 5	Wood	0.077	Grass	0.055
Residence 6	Wood	0.049	Grass	0.053
Residence 7	Wood	0.060	Grass	0.056
Residence 8	Wood	0.053	Grass	0.059
Residence 9	Wood	0.056	Stones	0.049
Residence 10	Wood	0.056	Mud and stones	0.061
Residence 11	Concrete	0.057	Stones	0.059
Residence 12	Stone	0.114	Grass	0.086
Residence 13	Wood	0.060	Grass	0.064
Residence 14	Stone	0.118	Grass	0.074
Residence 15	Wood	0.063	Grass	0.062
Residence 16	Concrete	0.108	Grass	0.076
Residence 17	Wood	0.084	Grass	0.054
Residence 18	Not Taken	Not Taken	Concrete	0.062
Residence 19	Not Taken	Not Taken	Concrete	0.062
Residence 20	Not Taken	Not Taken	Grass	0.049

Businesses

Location	Indoor substrate	Indoor gamma dose rate at 1 metre ^a	Outdoor substrate	Outdoor gamma dose rate at 1 metre ^a
Business 1	Concrete	0.062	Stones	0.063
Business 2	Wood	0.069	Grass	0.054

Backgrounds

Location	National Grid Reference	Substrate	Gamma dose rate at 1 metre	
Background 1	Near Jury's Gap	TQ 995 188	Grass	0.080
Background 2	West of Lydd	TR 004 205	Grass	0.076
Background 3	North-west of Lydd	TR 033 227	Grass	0.080

Notes

^a These measurements have not been adjusted for background dose rates

Table 38. Combinations of adult pathways for consideration in dose assessments in the Dungeness area

Combination number	Fish	Crustaceans	Molluscs	Marine plants/algae	Salt marsh grazed sheep meat	Green vegetables	Other vegetables	Root vegetables	Potato	Domestic fruit	Sheep meat	Poultry	Eggs	Wild/free foods	Honey	Wild fungi	Intertidal occupancy over mud and sand	Intertidal occupancy over rock	Intertidal occupancy over salt marsh	Intertidal occupancy over sand	Intertidal occupancy over sand and stones	Intertidal occupancy over stones	Intertidal occupancy over boat on mud	Handling fishing gear	Handling sediment	Occupancy in water	Occupancy on water	Indoor occupancy within 1 km of the licensed site boundary	Outdoor occupancy within 1 km of the licensed site boundary	
1														X																
2				X																										
3	X	X	X																											
4	X	X				X	X	X	X	X													X	X			X	X	X	
5						X	X	X	X	X		X																		
6				X														X												
7						X	X	X	X	X			X							X									X	
8																				X	X						X	X		
9	X	X	X																	X				X	X			X	X	
10																							X	X					X	
11	X	X	X																	X		X					X	X		
12	X																			X		X					X		X	
13																		X		X		X					X		X	X
14						X	X	X	X	X												X	X						X	X
15																				X		X	X							
16	X																			X	X	X								
17																	X			X	X	X						X		
18																				X	X	X					X		X	X
19	X	X	X														X					X		X	X		X	X	X	X
20	X	X																		X		X		X	X		X	X	X	X
21	X	X	X														X	X		X		X			X	X		X	X	X
22	X	X				X	X	X	X								X			X		X		X	X		X		X	
23							X	X					X	X								X					X	X	X	X
24	X	X				X	X	X	X	X				X								X							X	X
25	X	X				X	X	X	X					X	X										X		X	X	X	X
26	X	X				X	X	X	X	X				X	X															
27	X	X	X			X	X	X	X	X	X	X	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 pathway: honey.

Annex 1. Adults' consumption rates (kg y⁻¹) and occupancy rates (h y⁻¹) in the Dungeness area

Person ID number	Fish	Crustaceans	Molluscs	Marine plants/algae	Salt marsh grazed sheep meat	Green vegetables	Other vegetables	Root vegetables	Potato	Domestic fruit	Sheep meat	Poultry	Eggs	Wild/free foods	Honey	Wild fungi	Intertidal occupancy over mud and sand	Intertidal occupancy over rock	Intertidal occupancy over salt marsh	Intertidal occupancy over sand	Intertidal occupancy over sand and stones	Intertidal occupancy over stones	Intertidal occupancy over boat on mud	Handling fishing gear	Handling sediment	Occupancy in water	Occupancy on water	Indoor occupancy within 1 km of the licensed site boundary	Outdoor occupancy within 1 km of the licensed site boundary	
2303/1/1	-	-	-	-	-	9.1	13.6	13.5	54.6	2.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2303/2/1	-	-	-	-	-	9.1	13.6	13.5	54.6	2.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2304/1/1	-	-	-	-	-	35.4	35.8	12.4	20.5	2.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2304/2/1	-	-	-	-	-	35.4	35.8	12.4	20.5	2.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2306/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	36	-	-	-	-	-	-	-	-	-
2306/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	36	-	-	-	-	-	-	-	-	-
2307/1/1	9.6	-	1.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	56	-	-	1862	-	-	
2307/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	56	-	-	1862	-	-	
2308/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1924	-	-	2503	-	-	
2308/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1924	-	-	2503	-	-	
2310/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	32	-	4	-	-	-	182	-	-	-	
2312/1/1	20.4	3.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2313/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	718	-	-	-	-	-	29	-	-	-	
2313/1/2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	718	-	-	-	-	-	29	-	-	-	
2313/1/3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	718	-	-	-	-	-	29	-	-	-	
2313/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	718	-	-	-	-	-	29	-	-	-	
2313/3/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	718	-	-	-	-	-	29	-	-	-	
2313/3/2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	718	-	-	-	-	-	29	-	-	-	
2313/4/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	718	-	-	-	-	-	29	-	-	-	
2314/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	697	-	-	-	-	-	-	-	-	-	
2314/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	239	-	-	-	-	-	-	-	-	
2314/3/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	246	-	-	-	-	-	-	-	-	-	
2314/4/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	246	-	-	-	-	-	-	-	-	-	
2319/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	2.3	-	-	-	-	-	-	-	104	-	-	-	-	-	7337	641	
2320/1/1	4.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2401	85		
2321/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7065	155	
2321/2/1	4.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6446	1805	
2321/3/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5753	103	
2322/1/1	6.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	72	-	-	-	-	144	-	72	
2323/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	1	-	-	-	24	-	-	-	
2323/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	26	-	26	-	-	-	469	-	-	-	
2323/3/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13	-	7	-	-	-	180	-	-	-	
2324/1/1	3.3	0.4	-	-	-	-	-	-	-	-	-	-	-	1.8	-	-	-	-	-	-	-	-	-	-	-	-	-	1500	800	
2325/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	417	-	42	
2325/1/2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	417	-	42	
2325/1/3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	417	-	42	
2325/1/4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	417	-	42	
2325/1/5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	417	-	42	

Annex 1. Adults' consumption rates (kg y⁻¹) and occupancy rates (h y⁻¹) in the Dungeness area

Person ID number	Fish	Crustaceans	Molluscs	Marine plants/algae	Salt marsh grazed sheep meat	Green vegetables	Other vegetables	Root vegetables	Potato	Domestic fruit	Sheep meat	Poultry	Eggs	Wild/free foods	Honey	Wild fungi	Intertidal occupancy over mud and sand	Intertidal occupancy over rock	Intertidal occupancy over salt marsh	Intertidal occupancy over sand	Intertidal occupancy over sand and stones	Intertidal occupancy over stones	Intertidal occupancy over boat on mud	Handling fishing gear	Handling sediment	Occupancy in water	Occupancy on water	Indoor occupancy within 1 km of the licensed site boundary	Outdoor occupancy within 1 km of the licensed site boundary	
2325/1/6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	417	-	42	
2326/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	33	-	-	-	-	-	7	-	-	
2327/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	156	-	-	-	-	-	-	-	24	
2327/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	156	-	-	-	-	-	-	-	24	
2328/1/1	6.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	182	-	-	-	-	-	-	-	-	
2328/2/1	6.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2329/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18	-	-	-	-	-	-	-	-	
2329/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18	-	-	-	-	-	-	-	-	
2330/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40	-	-	-	-	-	-	-	-	-	
2330/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40	-	-	-	-	-	-	-	-	-	
2331/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	35	-	-	-	
2332/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	42	-	-	-	-	-	-	-	-
2332/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	42	-	-	-	-	-	-	-	-
2333/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	312	-	-	-	-	-	-	-	-
2333/2/1	9.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	288	-	-	-	-	-	-	-	-	-
2334/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	72	-	-	-	-	-	-	-	-	-	-
2334/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	72	-	-	-	-	-	-	-	-	-	-
2335/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	30	-	30	-	-	-	-	-	-	-	30
2336/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	120	-	-	-	-	-	-	-	60
2336/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	120	-	-	-	-	-	-	-	60
2339/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	-	-	-	-	22	-	-	-
2340/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16	-	-	-	-	-	120	-	-	-	-
2342/1/1	-	-	-	-	10.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2342/2/1	-	-	-	-	10.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2342/3/1	-	-	-	-	10.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2342/6/1	-	-	-	-	10.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2342/7/1	-	-	-	-	10.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2342/7/2	-	-	-	-	10.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2342/7/3	-	-	-	-	10.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2342/7/4	-	-	-	-	10.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2342/7/5	-	-	-	-	10.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2342/7/6	-	-	-	-	10.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2342/7/7	-	-	-	-	10.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2343/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	5.0	-	-	-	-	-	-	-	313	-	-	-	-	-	5817	1566	
2347/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	273	-	-	115	-	115	-	-	-	-	-	-	-	-
2349/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-
2349/1/2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-
2349/1/3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-

Annex 1. Adults' consumption rates (kg y⁻¹) and occupancy rates (h y⁻¹) in the Dungeness area

Person ID number	Fish	Crustaceans	Molluscs	Marine plants/algae	Salt marsh grazed sheep meat	Green vegetables	Other vegetables	Root vegetables	Potato	Domestic fruit	Sheep meat	Poultry	Eggs	Wild/free foods	Honey	Wild fungi	Intertidal occupancy over mud and sand	Intertidal occupancy over rock	Intertidal occupancy over salt marsh	Intertidal occupancy over sand	Intertidal occupancy over sand and stones	Intertidal occupancy over stones	Intertidal occupancy over boat on mud	Handling fishing gear	Handling sediment	Occupancy in water	Occupancy on water	Indoor occupancy within 1 km of the licensed site boundary	Outdoor occupancy within 1 km of the licensed site boundary	
2349/1/4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	
2349/1/5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-
2349/1/6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-
2349/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-
2349/2/2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-
2349/2/3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-
2349/2/4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-
2349/3/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	409	-	409	-	-	-	-	-	-	-	-
2349/3/2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	409	-	409	-	-	-	-	-	-	-	-
2349/3/3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	409	-	409	-	-	-	-	-	-	-	-
2349/3/4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	409	-	409	-	-	-	-	-	-	-	-
2350/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	209	-	-	-	-	156	-	-
2350/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	156	-	-
2350/3/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	156	-	-
2350/4/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	156	-	-
2352/1/1	20.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2352/2/1	20.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2354/1/1	2.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2357/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	85	-	-
2360/1/1	27.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	313	-	-	-	-	-	-	-	-
2360/2/1	27.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2361/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	234	-	-	-	295	-	-	-	-
2363/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	50	-	-	-	-	-	-	-	-
2364/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	33	-	98	-	-	-	-	-	7	-	-
2364/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	33	-	98	-	-	-	-	-	7	-	-
2365/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1695	-	-	-	1564	-	-
2365/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1695	-	-	-	1564	-	-
2367/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18	-	-	-	-	-	262	-	-
2367/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18	-	-	-	-	-	262	-	-
2367/2/2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18	-	-	-	-	-	262	-	-
2367/2/3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18	-	-	-	-	-	262	-	-
2367/7/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52	-	-	-	-	-	156	-	-
2367/7/2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52	-	-	-	-	-	156	-	-
2367/7/3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52	-	-	-	-	-	156	-	-
2367/7/4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52	-	-	-	-	-	156	-	-
2367/7/5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52	-	-	-	-	-	156	-	-
2367/7/6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52	-	-	-	-	-	156	-	-
2367/7/7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52	-	-	-	-	-	156	-	-

Annex 1. Adults' consumption rates (kg y⁻¹) and occupancy rates (h y⁻¹) in the Dungeness area

Person ID number	Fish	Crustaceans	Molluscs	Marine plants/algae	Salt marsh grazed sheep meat	Green vegetables	Other vegetables	Root vegetables	Potato	Domestic fruit	Sheep meat	Poultry	Eggs	Wild/free foods	Honey	Wild fungi	Intertidal occupancy over mud and sand	Intertidal occupancy over rock	Intertidal occupancy over salt marsh	Intertidal occupancy over sand	Intertidal occupancy over sand and stones	Intertidal occupancy over stones	Intertidal occupancy over boat on mud	Handling fishing gear	Handling sediment	Occupancy in water	Occupancy on water	Indoor occupancy within 1 km of the licensed site boundary	Outdoor occupancy within 1 km of the licensed site boundary
2397/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2401/1/1	2.4	0.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	417	1460	-	-	1668	7071	444
2402/1/1	7.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2403/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	72	-	-	-	-	-	-	-
2403/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52	-	-	-	-	-	52	209
2404/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52	-	-	-	-	-	52	209
2406/1/1	2.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	28	48	-	-	-	20	-	3711	367
2407/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17	-	-	-	125	-	-	-
2409/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	168	-	-	-	-	-	-	80
2409/2/1	2.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	160	-	-	-	-	-	-	-
2410/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	20	-	-
2410/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	20	-	-
2410/3/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	20	-	-
2410/4/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	20	-	-
2410/4/2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	20	-	-
2410/4/3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	20	-	-
2410/4/4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	20	-	-
2411/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	50	-	-
2411/2/1	8.9	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	80	-	-
2411/3/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	50	-	-
2411/3/2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	50	-	-
2411/3/3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	50	-	-
2411/3/4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	50	-	-
2411/4/1	8.9	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2411/5/1	8.9	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2411/6/1	8.9	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2412/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	-	-
2412/1/2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	-	-
2412/1/3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	-	-
2412/1/4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	-	-
2412/1/5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	-	-
2412/1/6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	-	-
2412/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16	-	-
2412/2/2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16	-	-
2412/2/3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16	-	-
2412/3/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16	-	-
2412/3/2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16	-	-
2412/4/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16	-	-

Annex 1. Adults' consumption rates (kg y⁻¹) and occupancy rates (h y⁻¹) in the Dungeness area

Person ID number	Fish	Crustaceans	Molluscs	Marine plants/algae	Salt marsh grazed sheep meat	Green vegetables	Other vegetables	Root vegetables	Potato	Domestic fruit	Sheep meat	Poultry	Eggs	Wild/free foods	Honey	Wild fungi	Intertidal occupancy over mud and sand	Intertidal occupancy over rock	Intertidal occupancy over salt marsh	Intertidal occupancy over sand	Intertidal occupancy over sand and stones	Intertidal occupancy over stones	Intertidal occupancy over boat on mud	Handling fishing gear	Handling sediment	Occupancy in water	Occupancy on water	Indoor occupancy within 1 km of the licensed site boundary	Outdoor occupancy within 1 km of the licensed site boundary
2482/2/1	6.8	2.3	-	-	-	7.5	4.1	3.8	5.9	11.7	-	-	-	0.8	-	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-
2483/1/1	-	-	-	-	-	13.6	18.0	10.2	17.9	2.3	-	6.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2484/1/1	-	-	-	-	-	23.2	22.2	9.4	14.9	16.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2484/2/1	-	-	-	-	-	23.2	22.2	9.4	14.9	16.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2487/1/1	-	-	-	-	-	44.7	16.8	5.4	-	3.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2489/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	54	-	12
2489/1/2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	54	-	12
2489/1/3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	54	-	12
2489/1/4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	54	-	12
2489/1/5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	54	-	12
2489/1/6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	54	-	12
2489/1/7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	54	-	12
2489/1/8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	54	-	12
2489/1/9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	54	-	12
2489/1/10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	54	-	12
2490/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	144	-	-	-	-	-	-	48
2490/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	144	-	-	-	-	-	-	48
2491/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	939
2491/2/1	-	-	-	-	-	-	-	1.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1879
2493/1/1	19.0	11.1	0.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	365	-	-	-	-	-	-	-
2493/2/1	19.0	11.1	0.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2493/3/1	-	-	-	2.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2494/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	158	-	-	76	-	-	-	-	234	-	-	-	-
2494/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	36	-	-	-	-	-	-	36
2498/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	548	-	-	-	-	-	-	-
2500/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	54	-	-	-	-	-	-	-
2506/1/1	-	-	-	-	-	-	-	10.1	-	0.5	-	-	-	0.5	-	-	-	-	-	-	-	18	-	-	-	-	2	4860	3379
2506/2/1	-	-	-	-	-	-	-	10.1	-	0.5	-	-	14.8	0.9	-	-	-	-	-	-	-	18	-	-	-	-	2	5425	2375
2510/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	469	1251	-	-	2086	-	-
2510/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	469	1251	-	-	2086	-	-
2511/1/1	2.6	1.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52	-	-	-	-	730	-	1564	-	-	2086	-	782
2511/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	626	-	1564	-	-	2086	-	626
2511/2/2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	626	-	1564	-	-	2086	-	626
2511/5/1	2.6	1.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52	-	-	-	-	104	-	-	-	-	-	-	156
2512/1/1	20.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	130	-	-	-	-	-	6343	1580
2512/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1564	261
2512/2/2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1564	261
2512/2/3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1564	261

Annex 1. Adults' consumption rates (kg y⁻¹) and occupancy rates (h y⁻¹) in the Dungeness area

Person ID number	Fish	Crustaceans	Molluscs	Marine plants/algae	Salt marsh grazed sheep meat	Green vegetables	Other vegetables	Root vegetables	Potato	Domestic fruit	Sheep meat	Poultry	Eggs	Wild/free foods	Honey	Wild fungi	Intertidal occupancy over mud and sand	Intertidal occupancy over rock	Intertidal occupancy over salt marsh	Intertidal occupancy over sand	Intertidal occupancy over sand and stones	Intertidal occupancy over stones	Intertidal occupancy over boat on mud	Handling fishing gear	Handling sediment	Occupancy in water	Occupancy on water	Indoor occupancy within 1 km of the licensed site boundary	Outdoor occupancy within 1 km of the licensed site boundary	
2533/3/6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17	-	-	-	-	-	-	-	
2533/3/7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17	-	-	-	-	-	-	-
2533/3/8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17	-	-	-	-	-	-	-
2533/3/9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17	-	-	-	-	-	-	-
2533/3/10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17	-	-	-	-	-	-	-
2533/4/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17	-	-	-	-	-	-	-
2533/4/2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17	-	-	-	-	-	-	-
2533/4/3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17	-	-	-	-	-	-	-
2533/4/4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17	-	-	-	-	-	-	-
2533/4/5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17	-	-	-	-	-	-	-
2533/4/6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17	-	-	-	-	-	-	-
2533/4/7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17	-	-	-	-	-	-	-
2533/4/8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17	-	-	-	-	-	-	-
2533/4/9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17	-	-	-	-	-	-	-
2533/4/10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17	-	-	-	-	-	-	-
2533/5/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52	-	-	-	-	-	-	-
2533/5/2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52	-	-	-	-	-	-	-
2533/5/3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52	-	-	-	-	-	-	-
2533/5/4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52	-	-	-	-	-	-	-
2533/5/5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52	-	-	-	-	-	-	-
2533/5/6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52	-	-	-	-	-	-	-
2533/5/7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52	-	-	-	-	-	-	-
2533/5/8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52	-	-	-	-	-	-	-
2533/5/9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52	-	-	-	-	-	-	-
2533/5/10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52	-	-	-	-	-	-	-
2538/1/1	4.1	-	0.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	410	-	-	
2538/2/1	-	-	0.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	300	-	-	
2538/3/1	4.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	110	-	-	
2539/1/1	17.0	0.4	12.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18	-	-	120	18	-	2001	-	-	
2539/2/1	17.0	0.4	12.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2539/3/1	8.0	-	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2539/5/1	8.0	-	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2539/6/1	8.0	-	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2539/7/1	8.0	-	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	120	-	-	2001	-	-	
2540/1/1	8.4	6.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8076	359	
2540/2/1	8.4	6.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3582	156	
2541/1/1	10.4	2.8	1.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	183	-	-	-	-	-	4747	364	
2541/2/1	10.4	2.8	1.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5259	1253	

Annex 1. Adults' consumption rates (kg y⁻¹) and occupancy rates (h y⁻¹) in the Dungeness area

Person ID number	Fish	Crustaceans	Molluscs	Marine plants/algae	Salt marsh grazed sheep meat	Green vegetables	Other vegetables	Root vegetables	Potato	Domestic fruit	Sheep meat	Poultry	Eggs	Wild/free foods	Honey	Wild fungi	Intertidal occupancy over mud and sand	Intertidal occupancy over rock	Intertidal occupancy over salt marsh	Intertidal occupancy over sand	Intertidal occupancy over sand and stones	Intertidal occupancy over stones	Intertidal occupancy over boat on mud	Handling fishing gear	Handling sediment	Occupancy in water	Occupancy on water	Indoor occupancy within 1 km of the licensed site boundary	Outdoor occupancy within 1 km of the licensed site boundary
2542/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	-	-	-	-	24	15	-	-
2543/1/1	23.4	3.1	0.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	66	-	114	-	-	-	261	50	-	-
2543/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	34	-	17	-	-	-	261	-	-	-
2543/3/1	23.4	3.1	0.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	32	-	98	-	-	-	-	-	-	-
2544/1/1	6.9	-	0.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	-	-	-	180	-	-
2544/2/1	6.9	-	0.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	-	-	-	180	-	-
2548/1/1	0.8	0.4	-	-	-	3.2	11.2	6.8	7.3	3.7	-	-	-	1.1	-	-	-	-	-	-	-	104	-	-	-	-	-	-	24
2548/2/1	0.8	0.4	-	-	-	3.2	11.2	6.8	7.3	3.7	-	-	-	1.1	-	-	-	-	-	-	-	104	-	-	-	-	-	-	24
2548/3/1	0.8	0.4	-	-	-	3.2	11.2	6.8	7.3	3.7	-	-	-	1.1	-	-	-	-	-	-	-	104	-	-	-	-	-	-	-
2550/1/1	1.2	3.9	3.8	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	3	-	22	-	-	5	-	-	-	22
2550/2/1	1.2	3.9	3.8	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	3	-	254	-	-	5	-	84	-	44
2551/1/1	84.9	-	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	585	-	-	387	-	540	-	-	702	-	-	-	135
2551/2/1	84.9	-	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2553/1/1	71.0	9.7	3.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2553/2/1	71.0	9.7	3.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2554/1/1	5.5	6.6	-	-	-	2.0	19.2	-	33.3	4.8	-	-	-	5.0	-	1.5	-	-	-	-	-	-	-	60	-	-	60	-	1043
2554/2/1	5.5	6.6	-	-	-	2.0	19.2	-	33.3	4.8	-	-	-	5.0	-	1.5	-	-	-	-	-	-	-	-	-	-	-	-	-
2554/3/1	5.5	6.6	-	-	-	2.0	19.2	-	33.3	4.8	-	-	-	5.0	-	1.5	-	-	-	-	-	-	-	-	-	-	-	-	-
2555/1/1	31.2	49.4	0.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	678	-	1173	-	-	1695	-	-
2555/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	678	-	1173	-	-	1695	-	-
2555/3/1	31.2	49.4	0.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2557/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	548	-	-	-	-	-	5967	1755
2558/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	104	209	-	-
2558/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52	104	-	-
2558/2/2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52	104	-	-
2558/2/3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52	104	-	-
2558/2/4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52	104	-	-
2558/2/5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52	104	-	-
2558/2/6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52	104	-	-
2558/2/7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52	104	-	-
2558/3/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52	104	-	-
2558/3/2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52	104	-	-
2558/3/3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52	104	-	-
2558/6/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	417	-	-
2558/6/2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	417	-	-
2558/6/3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	417	-	-
2558/6/4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	417	-	-
2558/6/5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	417	-	-

Annex 1. Adults' consumption rates (kg y⁻¹) and occupancy rates (h y⁻¹) in the Dungeness area

Person ID number	Fish	Crustaceans	Molluscs	Marine plants/algae	Salt marsh grazed sheep meat	Green vegetables	Other vegetables	Root vegetables	Potato	Domestic fruit	Sheep meat	Poultry	Eggs	Wild/free foods	Honey	Wild fungi	Intertidal occupancy over mud and sand	Intertidal occupancy over rock	Intertidal occupancy over salt marsh	Intertidal occupancy over sand	Intertidal occupancy over sand and stones	Intertidal occupancy over stones	Intertidal occupancy over boat on mud	Handling fishing gear	Handling sediment	Occupancy in water	Occupancy on water	Indoor occupancy within 1 km of the licensed site boundary	Outdoor occupancy within 1 km of the licensed site boundary		
2558/6/6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	417	-	-		
2558/6/7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	417	-	-	
2558/7/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	417	-	-	
2558/7/2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	417	-	-	
2558/7/3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	417	-	-	
2559/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	313	72	-	-	-	-	336	-	-	
2559/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	313	72	-	-	-	-	336	-	-	
2560/1/1	10.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	90	-	51	-	-	-	-	-	39	7593	731	
2561/1/1	-	-	-	-	-	-	-	-	-	-	-	-	13.4	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7939	91	
2561/2/1	-	-	-	-	-	-	-	-	-	-	-	-	13.4	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5469	2562	
2561/3/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	156	
2562/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	72	-	-	-	-	193	-	-	
2562/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	72	-	-	-	193	-	-		
2562/3/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	235	72	-	-	-	193	-	-		
2563/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2563/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2563/3/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2563/4/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2563/5/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2563/5/2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2563/5/3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2563/5/4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2563/5/5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2563/5/6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2563/5/7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2564/1/1	3.5	0.2	0.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	173	192	-	-
2564/3/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	417	-	-	
2564/3/2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	417	-	-	
2564/3/3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	417	-	-	
2564/3/4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	417	-	-	
2564/3/5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	417	-	-	
2564/3/6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	417	-	-	
2564/3/7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	417	-	-	
2564/3/8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	417	-	-	
2564/3/9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	417	-	-	
2564/3/10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	417	-	-	
2564/4/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	417	-	-	
2564/4/2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	417	-	-	

Annex 1. Adults' consumption rates (kg y⁻¹) and occupancy rates (h y⁻¹) in the Dungeness area

Person ID number	Fish	Crustaceans	Molluscs	Marine plants/algae	Salt marsh grazed sheep meat	Green vegetables	Other vegetables	Root vegetables	Potato	Domestic fruit	Sheep meat	Poultry	Eggs	Wild/free foods	Honey	Wild fungi	Intertidal occupancy over mud and sand	Intertidal occupancy over rock	Intertidal occupancy over salt marsh	Intertidal occupancy over sand	Intertidal occupancy over sand and stones	Intertidal occupancy over stones	Intertidal occupancy over boat on mud	Handling fishing gear	Handling sediment	Occupancy in water	Occupancy on water	Indoor occupancy within 1 km of the licensed site boundary	Outdoor occupancy within 1 km of the licensed site boundary	
2564/4/3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	104	-	-	-	417	-	-	-	
2564/4/4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	104	-	-	-	417	-	-	-
2564/4/5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	104	-	-	-	417	-	-	-
2564/4/6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	104	-	-	-	417	-	-	-
2564/4/7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	104	-	-	-	417	-	-	-
2564/4/8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	104	-	-	-	417	-	-	-
2564/4/9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	104	-	-	-	417	-	-	-
2564/4/10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	104	-	-	-	417	-	-	-
2564/5/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52	-	-	-	
2564/5/2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52	-	-	-	
2564/6/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	30	-	-	-	
2564/6/2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	30	-	-	-	
2564/6/3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	30	-	-	-	
2564/6/4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	30	-	-	-	
2564/6/5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	30	-	-	-	
2564/6/6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	30	-	-	-	
2564/6/7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	30	-	-	-	
2564/6/8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	30	-	-	-	
2564/6/9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	30	-	-	-	
2564/6/10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	30	-	-	-	
2564/7/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52	-	-	-	
2564/7/2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52	-	-	-	
2564/7/3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52	-	-	-	
2564/7/4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52	-	-	-	
2564/7/5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52	-	-	-	
2564/7/6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52	-	-	-	
2564/7/7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52	-	-	-	
2564/7/8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52	-	-	-	
2564/7/9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52	-	-	-	
2564/7/10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52	-	-	-	
2564/8/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	78	-	-	-	
2564/8/2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	78	-	-	-	
2564/8/3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	78	-	-	-	
2564/8/4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	78	-	-	-	
2564/9/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	313	-	-	-
2564/9/2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	313	-	-	-
2564/9/3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	313	-	-	-
2564/9/4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	313	-	-	-

Annex 1. Adults' consumption rates (kg y⁻¹) and occupancy rates (h y⁻¹) in the Dungeness area

Person ID number	Fish	Crustaceans	Molluscs	Marine plants/algae	Salt marsh grazed sheep meat	Green vegetables	Other vegetables	Root vegetables	Potato	Domestic fruit	Sheep meat	Poultry	Eggs	Wild/free foods	Honey	Wild fungi	Intertidal occupancy over mud and sand	Intertidal occupancy over rock	Intertidal occupancy over salt marsh	Intertidal occupancy over sand	Intertidal occupancy over sand and stones	Intertidal occupancy over stones	Intertidal occupancy over boat on mud	Handling fishing gear	Handling sediment	Occupancy in water	Occupancy on water	Indoor occupancy within 1 km of the licensed site boundary	Outdoor occupancy within 1 km of the licensed site boundary
2564/9/5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2564/9/6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	313	-	-
2564/11/1	3.5	0.2	0.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	313	-	-
2564/12/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	102	-	-	-	-	-	-	-	-	-	-	-	-
2564/12/2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	102	-	-	-	-	-	-	-	-	-	-	-	-
2564/12/3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	102	-	-	-	-	-	-	-	-	-	-	-	-
2564/12/4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	102	-	-	-	-	-	-	-	-	-	-	-	-
2564/12/5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	102	-	-	-	-	-	-	-	-	-	-	-	-
2564/12/6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	102	-	-	-	-	-	-	-	-	-	-	-	-
2564/12/7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	102	-	-	-	-	-	-	-	-	-	-	-	-
2564/12/8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	102	-	-	-	-	-	-	-	-	-	-	-	-
2564/12/9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	102	-	-	-	-	-	-	-	-	-	-	-	-
2564/12/10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	102	-	-	-	-	-	-	-	-	-	-	-	-
2566/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	209	-	-	-	-	-
2566/1/2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	209	-	-	-	-	-
2566/1/3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	209	-	-	-	-	-
2566/1/4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	209	-	-	-	-	-
2566/1/5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	209	-	-	-	-	-
2568/1/1	17.7	-	1.5	-	-	-	5.5	4.2	20.5	6.8	-	-	-	-	-	230	-	-	106	-	156	-	84	54	-	48	-	-	
2568/2/1	17.7	-	1.5	-	-	-	5.5	4.2	20.5	6.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2568/3/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	72	-	-	-	-	-	-	72	-	-	24	-	-
2569/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	117	117
2569/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	169	182
2569/3/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	117	117
2570/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	104	-	-	-	-	-	-	1043
2570/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	209	-	-	-	-	-	-	775
2570/3/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	339	-	-	-	-	-	-	65
2571/1/1	6.8	11.8	8.6	-	-	-	-	-	-	-	-	-	-	-	-	54	-	-	-	-	275	-	12	54	-	12	-	275	
2572/1/1	10.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	417	-	-	-	-	780	-	417	
2601/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	289	-	-	-	419	130	-	-	-	1182	-	-	-
2601/1/2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	289	-	-	-	419	130	-	-	-	1182	-	-	-
2601/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	289	-	-	-	419	130	-	-	-	1182	-	-	-
2601/2/2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	289	-	-	-	419	130	-	-	-	1182	-	-	-
2601/2/3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	289	-	-	-	419	130	-	-	-	1182	-	-	-
2601/2/4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	289	-	-	-	419	130	-	-	-	1182	-	-	-
2601/2/5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	289	-	-	-	419	130	-	-	-	1182	-	-	-
2601/2/6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	289	-	-	-	419	130	-	-	-	1182	-	-	-
2601/2/7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	289	-	-	-	419	130	-	-	-	1182	-	-	-

Annex 1. Adults' consumption rates (kg y⁻¹) and occupancy rates (h y⁻¹) in the Dungeness area

Person ID number	Fish	Crustaceans	Molluscs	Marine plants/algae	Salt marsh grazed sheep meat	Green vegetables	Other vegetables	Root vegetables	Potato	Domestic fruit	Sheep meat	Poultry	Eggs	Wild/free foods	Honey	Wild fungi	Intertidal occupancy over mud and sand	Intertidal occupancy over rock	Intertidal occupancy over salt marsh	Intertidal occupancy over sand	Intertidal occupancy over sand and stones	Intertidal occupancy over stones	Intertidal occupancy over boat on mud	Handling fishing gear	Handling sediment	Occupancy in water	Occupancy on water	Indoor occupancy within 1 km of the licensed site boundary	Outdoor occupancy within 1 km of the licensed site boundary
2601/2/8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	289	-	-	-	419	130	-	-	-	1182	-	-	
2601/2/9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	289	-	-	-	419	130	-	-	-	1182	-	-	
2601/2/10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	289	-	-	-	419	130	-	-	-	1182	-	-	
2601/3/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52	52	-	-	-	417	-	-
2601/3/2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52	52	-	-	-	417	-	-
2601/3/3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52	52	-	-	-	417	-	-
2601/3/4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52	52	-	-	-	417	-	-
2601/3/5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52	52	-	-	-	417	-	-
2601/3/6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52	52	-	-	-	417	-	-
2601/3/7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52	52	-	-	-	417	-	-
2601/3/8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52	52	-	-	-	417	-	-
2601/3/9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52	52	-	-	-	417	-	-
2601/3/10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52	52	-	-	-	417	-	-
2601/4/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	12	-	-	-	72	-	-
2601/4/2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	12	-	-	-	72	-	-
2601/4/3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	12	-	-	-	72	-	-
2601/4/4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	12	-	-	-	72	-	-
2601/4/5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	12	-	-	-	72	-	-
2601/4/6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	12	-	-	-	72	-	-
2601/4/7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	12	-	-	-	72	-	-
2601/4/8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	12	-	-	-	72	-	-
2601/4/9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	12	-	-	-	72	-	-
2601/4/10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	12	-	-	-	72	-	-
2601/5/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52	52	-	-	-	313	-	-
2603/1/1	20.0	3.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1527	-	-	1908	417	574
2603/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1527	-	-	1908	417	574
2603/3/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1527	-	-	1908	417	574
2604/1/1	4.9	3.8	7.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	30	-	-
2605/1/1	-	2.5	-	-	-	21.3	41.3	-	-	11.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	-	-
2605/2/1	-	2.5	-	-	-	21.3	41.3	-	-	11.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2606/1/1	8.4	12.8	-	-	-	21.8	25.0	31.0	25.0	15.0	-	-	-	-	-	-	-	-	-	-	-	-	-	50	-	-	50	6170	912
2606/2/1	8.4	12.8	-	-	-	21.8	25.0	31.0	25.0	15.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6170	912
2607/2/1	32.2	8.5	1.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2607/3/1	32.2	8.5	1.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	54	-	-	-	-	-	-	-
2607/4/1	13.8	8.5	1.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2607/5/1	32.2	8.5	1.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	54	-	-	-	-	-	-	-
2607/6/1	32.2	8.5	1.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	54	-	-	-	-	-	-	-
2609/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	104	-	-	-

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

Person ID number	Fish	Crustaceans	Molluscs	Marine plants/algae	Salt marsh grazed sheep meat	Green vegetables	Other vegetables	Root vegetables	Potato	Domestic fruit	Sheep meat	Poultry	Eggs	Wild/free foods	Honey	Wild fungi	Intertidal occupancy over mud and sand	Intertidal occupancy over rock	Intertidal occupancy over salt marsh	Intertidal occupancy over sand	Intertidal occupancy over sand and stones	Intertidal occupancy over stones	Intertidal occupancy over boat on mud	Handling fishing gear	Handling sediment	Occupancy in water	Occupancy on water	Indoor occupancy within 1 km of the licensed site boundary	Outdoor occupancy within 1 km of the licensed site boundary	
2779/3/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1095	469	-	-	626	-	-	
2779/4/1	-	-	25.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2847/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2847/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Notes

U = Unknown

Emboldened observations are the high-rate individuals

Annex 2. Children's and infants' consumption rates (kg y⁻¹) and occupancy rates (h y⁻¹) in the Dungeness area

Person ID number	Fish	Crustaceans	Molluscs	Salt marsh grazed sheep meat	Green vegetables	Other vegetables	Root vegetables	Potato	Domestic fruit	Intertidal occupancy over mud and sand	Intertidal occupancy over sand	Intertidal occupancy over sand and stones	Intertidal occupancy over stones	Occupancy in water	Occupancy on water	Indoor occupancy within 1 km of the licensed site boundary	Outdoor occupancy within 1 km of the licensed site boundary
Child age group (6 - 15 years old)																	
2321/4/1	-	-	-	-	-	-	-	-	-	156	-	-	-	-	-	6300	103
2326/4/1	-	-	-	-	-	-	-	-	-	-	-	-	33	7	-	-	-
2326/5/1	-	-	-	-	-	-	-	-	-	-	-	-	33	7	-	-	-
2329/3/1	-	-	-	-	-	-	-	-	-	-	-	-	18	-	-	-	-
2342/4/1	-	-	-	8.0	-	-	-	-	-	-	-	-	-	-	-	-	-
2342/5/1	-	-	-	10.6	-	-	-	-	-	-	-	-	-	-	-	-	-
2367/3/1	-	-	-	-	-	-	-	-	-	-	-	-	52	-	156	-	-
2367/4/1	-	-	-	-	-	-	-	-	-	-	-	-	52	-	156	-	-
2367/5/1	-	-	-	-	-	-	-	-	-	-	-	-	52	-	156	-	-
2367/6/1	-	-	-	-	-	-	-	-	-	-	-	-	52	-	156	-	-
2367/6/2	-	-	-	-	-	-	-	-	-	-	-	-	52	-	156	-	-
2367/6/3	-	-	-	-	-	-	-	-	-	-	-	-	52	-	156	-	-
2367/6/4	-	-	-	-	-	-	-	-	-	-	-	-	52	-	156	-	-
2385/3/1	-	-	-	-	-	-	-	-	-	-	21	-	7	-	-	-	-
2385/4/1	-	-	-	-	-	-	-	-	-	-	21	-	7	-	-	-	-
2412/6/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16	-	-
2412/7/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16	-	-
2412/8/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16	-	-
2412/9/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16	-	-
2412/10/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16	-	-
2412/11/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16	-	-
2436/2/1	-	-	-	-	-	-	-	-	-	-	80	1	1	-	-	-	-
2463/6/1	3.2	2.9	-	-	-	-	-	-	-	-	-	-	70	-	-	-	70
2463/7/1	4.2	3.8	-	-	-	-	-	-	-	-	-	-	70	-	-	-	70
2463/8/1	4.2	3.8	-	-	-	-	-	-	-	-	-	-	70	-	-	-	70

Annex 2. Children's and infants' consumption rates (kg y⁻¹) and occupancy rates (h y⁻¹) in the Dungeness area

Person ID number	Fish	Crustaceans	Molluscs	Salt marsh grazed sheep meat	Green vegetables	Other vegetables	Root vegetables	Potato	Domestic fruit	Intertidal occupancy over mud and sand	Intertidal occupancy over sand	Intertidal occupancy over sand and stones	Intertidal occupancy over stones	Occupancy in water	Occupancy on water	Indoor occupancy within 1 km of the licensed site boundary	Outdoor occupancy within 1 km of the licensed site boundary
2463/9/1	4.2	3.8	-	-	-	-	-	-	-	-	-	-	70	-	-	-	70
2463/10/1	4.2	3.8	-	-	-	-	-	-	-	-	-	-	70	-	-	-	70
2463/11/1	4.2	3.8	-	-	-	-	-	-	-	-	-	-	70	-	-	-	70
2463/12/1	4.2	3.8	-	-	-	-	-	-	-	-	-	-	70	-	-	-	70
2463/13/1	4.2	3.8	-	-	-	-	-	-	-	-	-	-	70	-	-	-	70
2476/7/1	-	-	-	-	3.1	3.2	2.8	12.3	0.4	-	-	-	-	-	-	-	-
2476/8/1	-	-	-	-	3.1	3.2	2.8	12.3	0.4	-	-	-	-	-	-	-	-
2477/4/1	-	-	-	-	2.1	3.1	2.1	4.6	0.5	-	-	-	-	-	-	-	-
2484/3/1	-	-	-	-	11.6	11.1	4.7	7.4	8.1	-	-	-	-	-	-	-	-
2484/4/1	-	-	-	-	5.8	5.6	2.4	3.7	4.1	-	-	-	-	-	-	-	-
2500/2/1	-	-	-	-	-	-	-	-	-	-	-	-	54	-	-	-	-
2511/3/1	2.0	1.3	-	-	-	-	-	-	-	52	-	-	104	-	-	-	156
2528/4/1	-	-	-	-	-	-	-	-	-	-	54	-	-	-	18	-	-
2530/3/1	3.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2539/4/1	8.0	-	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2543/4/1	23.4	3.1	0.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2543/5/1	23.4	3.1	0.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2560/2/1	-	-	-	-	-	-	-	-	-	-	90	-	51	-	39	6080	640
2560/3/1	-	-	-	-	-	-	-	-	-	-	90	-	51	-	39	6080	640
2564/2/1	3.5	0.2	0.6	-	-	-	-	-	-	-	-	-	209	24	-	-	-
2564/10/1	3.5	0.2	0.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2607/1/1	24.2	6.4	1.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2609/4/1	-	-	-	-	-	-	-	-	-	-	-	-	-	104	-	-	-
2609/4/2	-	-	-	-	-	-	-	-	-	-	-	-	-	104	-	-	-
2609/4/3	-	-	-	-	-	-	-	-	-	-	-	-	-	104	-	-	-
2609/4/4	-	-	-	-	-	-	-	-	-	-	-	-	-	104	-	-	-

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

Person ID number	Fish	Crustaceans	Molluscs	Salt marsh grazed sheep meat	Green vegetables	Other vegetables	Root vegetables	Potato	Domestic fruit	Intertidal occupancy over mud and sand	Intertidal occupancy over sand	Intertidal occupancy over sand and stones	Intertidal occupancy over stones	Occupancy in water	Occupancy on water	Indoor occupancy within 1 km of the licensed site boundary	Outdoor occupancy within 1 km of the licensed site boundary
2609/4/5	-	-	-	-	-	-	-	-	-	-	-	-	-	104	-	-	-
Infant age group (0 - 5 years old)																	
2775/3/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6298	100
2776/5/1	-	-	-	-	-	-	-	-	-	-	12	-	-	-	-	5726	390
2326/2/1	-	-	-	-	-	-	-	-	-	-	-	-	33	-	7	-	-
2326/3/1	-	-	-	-	-	-	-	-	-	-	-	-	33	-	7	-	-
2329/4/1	-	-	-	-	-	-	-	-	-	-	-	-	18	-	-	-	-
2364/3/1	-	-	-	-	-	-	-	-	-	-	33	-	98	-	7	-	-
2364/4/1	-	-	-	-	-	-	-	-	-	-	33	-	98	-	7	-	-
2364/5/1	-	-	-	-	-	-	-	-	-	-	33	-	98	-	7	-	-
2370/2/1	-	-	-	-	-	-	-	-	-	-	39	39	-	-	-	-	-
2379/3/1	-	-	-	-	-	-	-	-	-	-	104	209	-	52	52	-	-
2385/5/1	-	-	-	-	-	-	-	-	-	-	21	-	7	-	-	-	-
2385/6/1	-	-	-	-	-	-	-	-	-	-	21	-	7	-	-	-	-
2421/3/1	-	-	-	-	-	-	-	-	-	-	10	10	-	-	-	-	-
2421/4/1	-	-	-	-	-	-	-	-	-	-	10	10	-	-	-	-	-
2511/4/1	1.3	0.9	-	-	-	-	-	-	-	52	-	-	104	-	-	-	156
2776/3/1	-	-	-	-	-	-	-	-	-	-	12	-	-	-	-	6586	1464
2776/4/1	-	-	-	-	-	-	-	-	-	-	12	-	-	-	-	6586	1464
2778/2/1	-	-	-	-	-	-	-	-	-	-	209	-	-	-	-	-	-

Notes

U = Unknown

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

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

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

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

Notes

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

^bRatios were derived from Smith and Jones, (2003) which presented data for infants and children of unspecified ages.

^cRatios were derived from FSA data for wild fruit and nuts for infants and 10-year-old children.

^dGame includes rabbits/hares and venison.

^eNote that the age ranges within the age groups in this table do not correspond exactly with the age ranges within the age groups used throughout the rest of this report.

Annex 5. Consumption rates (kg y⁻¹) and occupancy rates (h y⁻¹) for women of childbearing age in the Dungeness area for use in dose assessments for prenatal children

Person ID number	Fish	Crustaceans	Molluscs	Salt marsh grazed sheep meat	Green vegetables	Other vegetables	Root vegetables	Potato	Domestic fruit	Eggs	Wild/free foods	Honey	Wild fungi	Intertidal occupancy over mud and sand	Intertidal occupancy over salt marsh	Intertidal occupancy over sand	Intertidal occupancy over sand and stones	Intertidal occupancy over stones	Occupancy in water	Occupancy on water	Indoor occupancy within 1 km of the licensed site boundary	Outdoor occupancy within 1 km of the licensed site boundary
2313/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	718	-	-	29	-	-	-
2313/3/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	718	-	-	29	-	-	-
2313/3/2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	718	-	-	29	-	-	-
2314/3/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	246	-	-	-	-	-	-
2328/2/1	6.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2329/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18	-	-	-	-
2334/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	72	-	-	-	-	-	-
2342/3/1	-	-	-	10.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2349/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-
2349/2/2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-
2349/2/3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-
2349/2/4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-
2364/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	33	-	98	-	7	-	-
2367/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18	-	262	-	-
2367/2/2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18	-	262	-	-
2367/2/3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18	-	262	-	-
2377/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17	100	-	-	-
2401/1/1	2.4	0.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7071	444
2411/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	50	-	-
2412/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	-	-
2412/1/2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	-	-
2412/1/3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	-	-
2412/1/4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	-	-
2412/1/5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	-	-
2412/1/6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	-	-
2412/3/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16	-	-
2412/3/2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16	-	-
2412/5/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16	-	-

Annex 5. Consumption rates (kg y⁻¹) and occupancy rates (h y⁻¹) for women of childbearing age in the Dungeness area for use in dose assessments for prenatal children

Person ID number	Fish	Crustaceans	Molluscs	Salt marsh grazed sheep meat	Green vegetables	Other vegetables	Root vegetables	Potato	Domestic fruit	Eggs	Wild/free foods	Honey	Wild fungi	Intertidal occupancy over mud and sand	Intertidal occupancy over salt marsh	Intertidal occupancy over sand	Intertidal occupancy over sand and stones	Intertidal occupancy over stones	Occupancy in water	Occupancy on water	Indoor occupancy within 1 km of the licensed site boundary	Outdoor occupancy within 1 km of the licensed site boundary
2412/5/2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16	-	-
2414/2/1	4.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52	-	34	-	50	-	-
2415/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	114	-	-
2415/2/2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	114	-	-
2420/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	3	-	26	-	-	-
2421/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	10	-	-	-	-	-
2422/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	18	-	-	-
2442/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	152	-	-	-	-
2450/2/1	1.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2454/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1805	120
2454/1/2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1805	120
2454/3/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1174	78
2454/3/2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1174	78
2454/3/3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1174	78
2454/5/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	118	13
2457/3/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	235	-	-	-	-
2464/1/1	2.5	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	-	-	300	45
2474/3/1	3.9	1.4	-	-	-	-	-	-	-	4.4	-	-	0.3	-	-	-	-	-	-	-	-	-
2476/3/1	-	-	-	-	3.1	3.2	2.8	12.3	0.4	-	-	-	-	-	-	-	-	-	-	-	-	-
2476/4/1	-	-	-	-	3.1	3.2	2.8	12.3	0.4	-	-	-	-	-	-	-	-	-	-	-	-	-
2476/5/1	-	-	-	-	3.1	3.2	2.8	12.3	0.4	-	-	-	-	-	-	-	-	-	-	-	-	-
2476/6/1	-	-	-	-	3.1	3.2	2.8	12.3	0.4	-	-	-	-	-	-	-	-	-	-	-	-	-
2484/2/1	-	-	-	-	23.2	22.2	9.4	14.9	16.2	-	-	-	-	-	-	-	-	-	-	-	-	-
2493/2/1	19.0	11.1	0.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2498/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	548	-	-	-	-	-
2511/5/1	2.6	1.7	-	-	-	-	-	-	-	-	-	-	-	52	-	-	-	104	-	-	-	156
2512/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1564	261
2512/2/2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1564	261

Annex 5. Consumption rates (kg y⁻¹) and occupancy rates (h y⁻¹) for women of childbearing age in the Dungeness area for use in dose assessments for prenatal children

Person ID number	Fish	Crustaceans	Molluscs	Salt marsh grazed sheep meat	Green vegetables	Other vegetables	Root vegetables	Potato	Domestic fruit	Eggs	Wild/free foods	Honey	Wild fungi	Intertidal occupancy over mud and sand	Intertidal occupancy over salt marsh	Intertidal occupancy over sand	Intertidal occupancy over sand and stones	Intertidal occupancy over stones	Occupancy in water	Occupancy on water	Indoor occupancy within 1 km of the licensed site boundary	Outdoor occupancy within 1 km of the licensed site boundary	
2512/2/3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1564	261	
2512/2/4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1564	261
2516/4/1	5.2	2.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2539/3/1	8.0	-	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2539/5/1	8.0	-	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2539/6/1	8.0	-	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2543/3/1	23.4	3.1	0.4	-	-	-	-	-	-	-	-	-	-	-	-	32	-	98	-	-	-	-	-
2551/2/1	84.9	-	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2554/3/1	5.5	6.6	-	-	2.0	19.2	-	33.3	4.8	-	5.0	-	1.5	-	-	-	-	-	-	-	-	-	-
2555/3/1	31.2	49.4	0.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2558/3/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52	104	-	-	-
2558/3/2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52	104	-	-	-
2558/3/3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52	104	-	-	-
2560/1/1	10.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	90	-	51	-	39	7593	731	-
2561/3/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	156
2563/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52	-	132	104	-	-	-	-	-
2564/11/1	3.5	0.2	0.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2601/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	289	-	-	419	130	1182	-	-	-	-
2601/1/2	-	-	-	-	-	-	-	-	-	-	-	-	-	289	-	-	419	130	1182	-	-	-	-
2601/5/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52	52	313	-	-	-	-
2607/2/1	32.2	8.5	1.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2609/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	208	-	-	-
2609/3/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	208	-	-	-
2610/2/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	-	8	88	-	-	-	-
2610/3/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	-	8	75	-	-	-	-
2610/3/2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	-	8	75	-	-	-	-
2610/3/3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	-	8	75	-	-	-	-
2610/4/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	-	8	75	-	-	-	-

Annex 5. Consumption rates (kg y⁻¹) and occupancy rates (h y⁻¹) for women of childbearing age in the Dungeness area for use in dose assessments for prenatal children

Person ID number	Fish	Crustaceans	Molluscs	Salt marsh grazed sheep meat	Green vegetables	Other vegetables	Root vegetables	Potato	Domestic fruit	Eggs	Wild/free foods	Honey	Wild fungi	Intertidal occupancy over mud and sand	Intertidal occupancy over salt marsh	Intertidal occupancy over sand	Intertidal occupancy over sand and stones	Intertidal occupancy over stones	Occupancy in water	Occupancy on water	Indoor occupancy within 1 km of the licensed site boundary	Outdoor occupancy within 1 km of the licensed site boundary
2610/4/2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	-	8	75	-	-	-
2610/4/3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	-	8	75	-	-	-
2610/4/4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	-	8	75	-	-	-
2610/4/5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	-	8	75	-	-	-
2610/4/6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	-	8	75	-	-	-
2610/4/7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	-	8	75	-	-	-
2611/4/1	20.9	-	3.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2611/5/1	20.9	-	3.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2775/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5279	100
2776/1/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	-	-	-	-	6586	1464
2779/4/1	-	-	25.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2847/2/1	-	-	-	-	-	-	-	-	-	-	-	10.9	-	-	-	-	-	-	-	-	-	-

Notes

U = Unknown

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

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

Profile Name	Number of individuals	Pathway Name																									
		Crustacea		Direct	Eggs	Fish - Sea	Fruit - Domestic	Fruit and nuts - Wild	Gamma ext - Boat on Mud	Gamma ext - Salt Marsh	Gamma ext - Sediments	Honey	Marine plants/algae	Meat - Poultry	Meat - Salt Marsh Grazed Sheep Meat	Meat - Sheep	Mollusca	Mushrooms	Occupancy In water	Occupancy On water	Plume (IN; 0-0.25 km)	Plume (MID; 0.25-0.5 km)	Plume (OUT; 0.5-1.0 km)	Vegetables - Green	Vegetables - Other Domestic	Vegetables - Potatoes	Vegetables - Root
		Notes:	1	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Units:	kg	-	kg	kg	kg	kg	h	h	h	kg	kg	kg	kg	kg	kg	kg	kg	h	h	h	h	h	h	kg	kg	kg	kg
Crustacean Consumers	5	34.1	-	-	18.9	-	-	220	-	250	-	-	-	-	-	10.4	-	-	770	-	-	-	-	-	-	-	-
Occupants for Direct Radiation	135	0.90	1.00	0.62	2.8	0.61	0.18	-	-	110	-	-	-	-	0.04	0.19	0.02	<1	140	830	560	540	0.85	2.0	1.4	2.1	
Egg Consumers	2	1.4	1.00	28.2	2.1	2.7	1.4	-	-	110	-	-	-	-	2.8	0.42	0.75	-	1	3950	-	-	1.9	11.6	-	9.9	
Sea Fish Consumers	11	14.6	0.18	-	48.7	-	-	-	-	310	-	-	-	-	1.3	-	-	-	160	100	-	-	-	-	-	-	
Domestic Fruit Consumers	20	1.8	0.35	0.80	3.8	9.8	0.08	-	-	53	-	-	-	-	0.15	0.02	-	7	<1	1330	-	14.4	24.2	21.9	18.1		
Wild fruit and Nut Consumers	9	3.0	0.67	4.6	3.3	2.7	3.5	-	-	78	-	-	-	-	1.3	0.09	0.84	-	7	950	260	1390	1.5	12.4	11.1	2.1	
Occupants over Boat on Mud	7	2.6	-	-	1.0	-	-	630	-	-	-	-	-	-	-	-	-	-	1730	-	-	-	-	-	-	-	
Occupants over Salt Marsh	6	-	-	-	-	-	-	-	53	280	-	-	-	3.5	-	-	-	-	-	-	-	-	-	-	-	-	
Occupants over Sediment	46	2.2	0.15	-	4.4	-	-	-	2	820	-	-	-	-	0.11	-	-	310	270	200	-	44	-	-	-	-	
Honey Consumers	1	-	-	-	-	-	-	-	-	-	10.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Consumers of Marine Plants and Algae	1	-	-	-	-	-	-	-	-	-	-	2.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Poultry Meat Consumers	1	-	-	-	-	2.3	-	-	-	-	-	-	6.6	-	-	-	-	-	-	-	-	-	13.6	18.0	17.9	10.2	
Consumers of Salt Marsh Grazed Sheep Meat	11	-	-	-	-	-	-	-	9	-	-	-	10.6	-	-	-	-	-	-	-	-	-	-	-	-	-	
Sheep Meat Consumers	2	2.9	0.50	20.8	4.2	5.0	1.8	-	-	100	-	-	-	5.7	0.42	1.5	-	-	52	-	-	-	3.7	23.2	-	9.7	
Mollusc Consumers	6	8.2	0.17	-	10.4	-	-	180	-	58	-	-	-	-	18.2	-	-	440	46	-	-	-	-	-	-	-	
Mushroom Consumers	5	5.1	0.40	8.3	5.0	4.9	3.7	-	-	42	-	-	-	2.3	0.17	1.5	-	12	230	-	-	2.7	20.8	20.0	3.9		
Occupants In Water	45	-	-	-	-	-	-	-	-	300	-	-	-	-	-	-	-	630	9	-	-	-	-	-	-	-	
Occupants On Water	28	3.3	0.25	-	4.7	-	-	78	-	170	-	-	-	-	0.70	-	-	1960	-	1	180	-	-	-	-	-	
Local Inhabitants (0 - 0.25 km)	14	0.93	1.00	3.0	2.1	0.06	0.47	-	-	76	-	-	-	-	-	-	-	3	7220	-	-	-	-	-	-	1.4	
Local Inhabitants (0.25 - 0.5 km)	6	4.3	1.00	-	2.9	7.1	-	-	-	180	-	-	-	-	-	-	-	8	-	7020	-	11.5	21.7	8.4	23.8		
Local Inhabitants (0.5 - 1.0 km)	9	0.72	1.00	-	5.2	-	0.70	-	-	55	-	-	-	-	0.35	-	-	-	-	-	6380	0.01	0.80	-	-		
Green Vegetable Consumers	13	2.3	0.23	1.2	1.3	9.6	-	-	-	14	-	-	-	-	-	-	-	7	1	1090	-	26.6	33.1	23.1	18.0		
Other Domestic Vegetable Consumers	16	2.3	0.38	3.6	1.6	9.0	0.23	-	-	48	-	-	-	0.71	0.05	0.19	-	6	7	1660	-	20.8	33.7	18.8	20.5		
Potato Consumers	20	2.3	0.30	0.80	3.9	6.7	0.75	-	-	35	-	-	-	-	0.15	0.23	-	9	53	710	-	13.1	21.8	33.5	15.9		
Root Vegetable Consumers	10	2.6	0.70	1.6	2.6	8.7	-	-	-	58	-	-	-	-	-	-	-	7	2	2650	-	16.9	31.1	28.7	32.0		

Notes

- Expressed as the proportion of the profile members who are exposed to direct radiation.
 - Gamma ext - Sediments represents exposure over all substrates (except rock, salt marsh and boat on mud).
 - 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 highlighted on the diagonal.

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

Profile Name	Number of individuals	Pathway Name																
		Notes:	Crustacea	Direct	Fish - Sea	Fruit - Domestic	Gamma ext - Sediments	Meat - Salt Marsh Grazed Sheep Meat	Mollusca	Occupancy In water	Occupancy On water	Plume (IN; 0-0.25 km)	Plume (MID; 0.25-0.5 km)	Plume (OUT; 0.5-1.0 km)	Vegetables - Green	Vegetables - Other Domestic	Vegetables - Potatoes	Vegetables - Root
		Units:	kg	-	kg	kg	h	kg	kg	h	h	h	h	h	kg	kg	kg	kg
Crustacean Consumers	11	3.8	0.73	9.4	-	51	-	0.17	-	-	-	51	-	-	-	-	-	-
Occupants for Direct Radiation	14	2.2	1.00	2.5	-	83	-	-	-	6	1850	40	470	-	-	-	-	-
Sea Fish Consumers	3	4.2	-	23.7	-	-	-	0.61	-	-	-	-	-	-	-	-	-	-
Domestic Fruit Consumers	2	-	-	-	6.1	-	-	-	-	-	-	-	-	8.7	8.3	5.6	3.5	-
Occupants over Sediment	14	2.2	0.86	2.7	-	100	-	0.04	2	6	960	40	470	-	-	-	-	-
Consumers of Salt Marsh Grazed Sheep Meat	2	-	-	-	-	-	9.3	-	-	-	-	-	-	-	-	-	-	-
Mollusc Consumers	6	2.2	-	14.3	-	35	-	0.58	4	-	-	-	-	-	-	-	-	-
Occupants In Water	5	-	-	-	-	-	-	-	100	-	-	-	-	-	-	-	-	-
Occupants On Water	7	-	-	-	-	52	-	-	-	160	-	-	-	-	-	-	-	-
Local Inhabitants (0 - 0.25 km)	4	-	1.00	-	-	74	-	-	-	20	6490	-	-	-	-	-	-	-
Local Inhabitants (0.25 - 0.5 km)	8	3.7	1.00	4.1	-	70	-	-	-	-	-	70	-	-	-	-	-	-
Local Inhabitants (0.5 - 1.0 km)	1	-	1.00	-	-	160	-	-	-	-	-	-	6400	-	-	-	-	-
Green Vegetable Consumers	2	-	-	-	6.1	-	-	-	-	-	-	-	-	8.7	8.3	5.6	3.5	-
Other Domestic Vegetable Consumers	2	-	-	-	6.1	-	-	-	-	-	-	-	-	8.7	8.3	5.6	3.5	-
Potato Consumers	4	-	-	-	2.4	-	-	-	-	-	-	-	-	5.0	5.1	9.1	3.1	-
Root Vegetable Consumers	5	-	-	-	2.7	-	-	-	-	-	-	-	-	5.1	5.2	8.1	3.0	-

Notes

1. Expressed as the proportion of the profile members who are exposed to direct radiation.
 2. Gamma ext - Sediments represents exposure over all substrates (except rock).
 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 highlighted on the diagonal.

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

Profile Name	Number of individuals	Pathway Name							
		Crustacea	Direct	Fish - Sea	Gamma ext - Sediments	Occupancy In water	Occupancy On water	Plume (IN; 0-0.25 km)	Plume (OUT; 0.5-1.0 km)
		Notes: Units: kg	1 -	kg	2 h	h	h	3 h	3 h
Crustacean Consumers	1	0.86	1.00	1.3	160	-	-	-	160
Occupants for Direct Radiation	3	0.29	1.00	0.44	60	-	-	5370	52
Sea Fish Consumers	1	0.86	1.00	1.3	160	-	-	-	160
Occupants over Sediment	6	0.14	0.17	0.22	180	9	12	-	26
Occupants In Water	1	-	-	-	310	52	52	-	-
Occupants On Water	1	-	-	-	310	52	52	-	-
Local Inhabitants (0 - 0.25 km)	2	-	1.00	-	12	-	-	8050	-
Local Inhabitants (0.5 - 1.0 km)	1	0.86	1.00	1.3	160	-	-	-	160

Notes

1. Expressed as the proportion of the profile members who are exposed to direct radiation.
 2. Gamma ext - Sediments represents exposure over all substrates (except rock).
 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 highlighted on the diagonal.

Annex 9. Summary of profiles for women of childbearing age in the Dungeness area, for use in assessments of total dose to prenatal children

Profile Name	Number of individuals	Pathway Name																					
		Notes:	Crustacea	Direct	Eggs	Fish - Sea	Fruit - Domestic	Fruit and nuts - Wild	Gamma ext - Salt marsh	Gamma ext - Sediments	Honey	Meat - Salt Marsh Grazed Sheep Meat	Mollusca	Mushrooms	Occupancy IN water	Occupancy ON water	Plume (IN; 0-0.25 km)	Plume (MID; 0.25-0.5 km)	Plume (OUT; 0.5-1.0 km)	Vegetables - Green	Vegetables - Other Domestic	Vegetables - Potatoes	Vegetables - Root
		Units:	kg	1	kg	kg	kg	kg	h	h	kg	kg	kg	h	h	h	h	h	h	kg	kg	kg	kg
Crustacean Consumers	1	49.4	-	-	31.2	-	-	-	-	-	-	0.36	-	-	-	-	-	-	-	-	-	-	-
Occupants for Direct Radiation	17	0.15	1.00	-	1.1	-	-	-	19	-	-	-	-	-	2	1750	460	440	-	-	-	-	-
Egg Consumers	1	1.4	-	4.4	3.9	-	-	-	-	-	-	0.30	-	-	-	-	-	-	-	-	-	-	-
Sea Fish Consumers	3	19.3	-	-	49.4	-	-	-	-	-	-	0.74	-	-	-	-	-	-	-	-	-	-	-
Domestic Fruit Consumers	1	-	-	-	-	16.2	-	-	-	-	-	-	-	-	-	-	-	-	23.2	22.2	14.9	9.4	
Wild Fruit and Nut Consumers	1	6.6	-	-	5.5	4.8	5.0	-	-	-	-	1.5	-	-	-	-	-	-	2.0	19.2	33.3	-	
Occupants over Salt marsh	1	-	-	-	-	-	-	52	240	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Occupants over Sediment	6	-	-	-	-	-	-	-	730	-	-	-	-	410	-	-	-	-	-	-	-	-	-
Honey Consumers	1	-	-	-	-	-	-	-	-	10.9	-	-	-	-	-	-	-	-	-	-	-	-	-
Consumers of Salt Marsh Grazed Sheep Meat	1	-	-	-	-	-	-	-	-	-	10.6	-	-	-	-	-	-	-	-	-	-	-	-
Mollusc Consumers	1	-	-	-	-	-	-	-	-	-	-	25.6	-	-	-	-	-	-	-	-	-	-	-
Mushroom Consumers	1	6.6	-	-	5.5	4.8	5.0	-	-	-	-	1.5	-	-	-	-	-	-	2.0	19.2	33.3	-	
Occupants In Water	2	-	-	-	-	-	-	-	840	-	-	-	-	1180	-	-	-	-	-	-	-	-	-
Occupants On Water	8	-	-	-	-	-	-	-	7	-	-	-	-	20	170	-	-	-	-	-	-	-	-
Local Inhabitants (0 - 0.25 km)	4	0.18	1.00	-	3.2	-	-	-	38	-	-	-	-	-	10	7320	-	-	-	-	-	-	-
Local Inhabitants (0.25 - 0.5 km)	5	-	1.00	-	-	-	-	-	-	-	-	-	-	-	-	-	1520	-	-	-	-	-	-
Local Inhabitants (0.5 - 1.0 km)	4	-	1.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1830	-	-	-	-	-
Green Vegetable Consumers	1	-	-	-	-	16.2	-	-	-	-	-	-	-	-	-	-	-	-	23.2	22.2	14.9	9.4	
Other Domestic Vegetable Consumers	2	3.3	-	-	2.8	10.5	2.5	-	-	-	-	0.76	-	-	-	-	-	-	12.6	20.7	24.1	4.7	
Potato Consumers	6	1.1	-	-	0.92	3.8	0.83	-	-	-	-	0.25	-	-	-	-	-	-	6.3	9.0	16.2	3.5	
Root Vegetable Consumers	1	-	-	-	-	16.2	-	-	-	-	-	-	-	-	-	-	-	-	23.2	22.2	14.9	9.4	

Notes

1. Expressed as the proportion of the profile members who are exposed to direct radiation.
2. Gamma ext - Sediments represents exposure over all substrates (except rock and salt marsh).
3. Plume times are the sums of individuals' indoor and outdoor occupancy rates in each of the direct radiation zones. The means of the high-rate groups are determined by the 'cut-off' method and are highlighted on the diagonal.

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