Radiological Habits Survey: Covid-19 2020

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List of Abbreviations and Definitions

BSS	Basic Safety Standards
EASR18	Environmental Authorisations Scotland Regulation 2018
HSE	Health and Safety Executive
ICRP	International Commission on Radiological Protection
MoD	Ministry of Defence
ONR	Office of Nuclear Regulation
RIFE	Radioactivity in Food and the Environment
RRDL	Rosyth Royal Dockyard Limited
SEPA	Scottish Environment Protection Agency

Units

mSv	milliSievert
L	Litres
%	Percentage
Km	Kilometres
M	Metres
w^{-1}	Per week
d^{-1}	Per day
h^{-1}	Per hour

Summary

This report presents the results of a survey (conducted online and by post) to determine the influence that the first Covid-19 lockdown had on the habits and consumption patterns of people living and undertaking recreational activities in the vicinity of all nuclear sites in Scotland.

The survey targeted three areas for each nuclear site, that had the potential of being influenced by authorised discharges of radioactive effluent, including:

- The aquatic survey area, including the coastal area 10 km along the coastline either side of the nuclear site, with the exception of the Solway Coast which stretches approximately 120 km;
- The terrestrial survey area, within a 10 km radius from the nuclear site; and,
- The direct radiation survey area, accommodating those individuals who live close to a nuclear site.

A normal Habit Survey aims to identify local habits that may contribute to the dose that the general population may receive whilst in the vicinity of a nuclear site. This Covid-19 related survey aimed to establish the impact that the first lockdown (24th March 2020 to 19th June 2020) pandemic had on the habits of individuals, including the time spent at home, undertaking local outdoor activities and spending more time within the vicinity of a nuclear site.

To enable effective comparison, the survey area for each site were consistent with previous habits surveys undertaken in recent years. During the survey, a number of potential exposure pathways were investigated through the postal and an online survey and are summarised in Table A.

Table A Survey response (postal and online combined) and a summary of findings specific to each site.

Survey area	Total survey returns used within report	Most popular terrestrial activity and occupancy	Total number of individuals increasing terrestrial occupancy post lockdown	Most popular intertidal activity and occupancy	Total number of individuals increasing intertidal occupancy post lockdown	Most popular aquatic activity and occupancy	Total number of individuals increasing aquatic occupancy post lockdown	Highest direct radiation occupancy indoors and outdoors of residence
Rosyth	34	Gardening (42 h w^{-1} during lockdown)	24	Beachcombing (6 h w^{-1} during lockdown)	3	Sailing (8 h w^{-1} post lockdown)	0	Indoors 24 h d^{-1} Outdoors 8 h d^{-1}
Chapelcross	48	Gardening 35 h w^{-1} during lockdown)	20	Beachcombing (4 h w^{-1} before and post lockdown) and dog walking (9 h w^{-1} post lockdown)	5	ND	NA	Indoors 24 h d^{-1} Outdoors 14 h d^{-1}
Faslane	67	Gardening (45 h w^{-1} during lockdown)	39	Dog walking (12 h w^{-1} before and post lockdown)	6	Canoeing (3 h w^{-1} before, during and post lockdown)	9	Indoors 24 h d^{-1} Outdoors 16 h d^{-1}
Torness	68	Rambling/walking (28 h w^{-1} before and post lockdown)	33	Beachcombing (8 h w^{-1} during lockdown)	11	Outdoor swimming (2 h w^{-1} before, during and post lockdown)	3	Indoors 24 h d^{-1} Outdoors 12 h d^{-1}
Hunterston	29	Rambling/walking (20 h w^{-1} during lockdown)	15	Dog walking (5 h w^{-1} post lockdown)	4	Canoeing (6 h w^{-1} post lockdown) and sailing (30 h w^{-1} before lockdown)	5	Indoors 24 h d^{-1} Outdoors 14 h d^{-1}
Solway Coast	64	Gardening (42 h w^{-1} during lockdown)	30	Dog walking (13 h w^{-1} before, during and post lockdown)	8	Outdoor swimming (4 h w^{-1} post lockdown)	2	Indoors 24 h d^{-1} Outdoors 13 h d^{-1}
Dounreay	58	Gardening (54 h w^{-1} during lockdown)	32	Dog walking (8 h w^{-1} during lockdown)	6	Outdoor swimming (2 h w^{-1} post lockdown)	4	Indoors 24 h d^{-1} Outdoors 18 h d^{-1}

The most popular food group consumed that was reported within the aggregated data was green vegetables.

1 Introduction

1.1 Regulatory Context

All nuclear sites within Scotland hold an extant authorisation under the Environmental Authorisations Scotland Regulation 2018 (EASR18) to dispose radioactive waste.

The impact of any authorised discharges need to be assessed under the requirements of Article 35 of the Basic Safety Standards (BSS) 96/29 Euratom Treaty to ensure that the total dose to the representative person is below both 1 mSv committed effective dose and the 50 mSv skin annual dose limit.

The site discharges radioactive effluent and gases into the environment that may result in the exposure of the public. The three primary sources of potential exposure to the public are:

(i) discharges to the aquatic environment;
(ii) discharges to the atmosphere; and
(iii) direct exposure from the site.

From these sources, members of the public may be exposed to radiation shine from the licensed site or through inhalation and/or indirectly due to exposure to contaminated materials and primarily foodstuffs (Smith and Jones, 2003). It is also recognised that enhanced doses from external exposure due to authorised discharges and the consumption of locally sourced foods may occur as a result of contemporary and historical discharges being concentrated through natural processes leading to environments with elevated concentrations of anthropogenic and technologically enhanced radioactivity (Dale *et al.,* 2008; Tyler *et al*., 2013).

It is the responsibility of the Scottish Environment Protection Agency (SEPA) to regulate the discharges from site to ensure that the public are not exposed to doses in excess of the legal limits. Exposure to direct shine from nuclear, radiation or waste facilities is the responsibility of the Office of Nuclear Regulation (ONR), (within a nuclear licensed site), and the Health and Safety Executive (HSE), (outside a nuclear licensed site) where any direct exposure impacts on facility workers.

The Covid-19 habits survey aim is to identify if the behaviour of individuals within the survey area near the nuclear sites is different to ‘normal’ because of the restrictions imposed in lockdown one during the Covid-19 pandemic.

1.2 The Aim of the Covid-19 Habits Survey

The aim of the survey is to collect site-specific data to determine whether the period of Covid-19 lockdown has had significant influence on the habits of individuals living near to a nuclear licenced site. This survey will determine the impact of the Covid-19 pandemic has had on their behaviours during and after the first lockdown period. The lockdown period refers to the dates between 24th March and 19th June 2020. In addition, SEPA requested that three individuals from each low, medium, and high occupancy/consumption category (nine in total) be contacted for a follow-up survey to determine if any information had been missed and to validate the survey results. The postal and online surveys are Phase 1 and the follow-up surveys are Phase 2.

The survey was designed to determine whether, due to Covid-19:

(i) The time individuals participated in any outdoor activity and the associated area had changed;
(ii) The amount of fresh food individuals consumed had increased with respect to more locally sourced, home grown or traded/exchanged (bartered) foods during the lockdown; and,
(iii) Individuals had spent more time in and around their home and whether this is likely to continue post Covid-19.

All raw data can be found in Appendix A1.

2 The Survey

2.1 Introduction

This chapter outlines the survey area for all sites. Figure 2.1 shows all nuclear licensed sites under consideration in this survey.

2.2 Survey Areas

The survey area for each site was designed to encompass the marine and terrestrial environments likely to be affected by radioactive discharges from nearby nuclear licensed sites and included the area of potential direct radiation *shine* from ionising radiation emanating a given site where appropriate.

The Covid-19 2020 survey area covers approximately a 10 km radial from all nuclear licensed sites within Scotland and targets approximately a 120 km stretch of the Solway Coast due to the potential effects of Sellafield's licensed discharges. The survey area for each site was determined to allow habit information (activities and consumption of locally sourced foods) to be obtained in areas which may be subject to: ionising radiation directly from a nuclear licensed site; terrestrial areas that could be impacted by gaseous discharges; and, an aquatic area (including intertidal areas) that could be affected by liquid discharges.

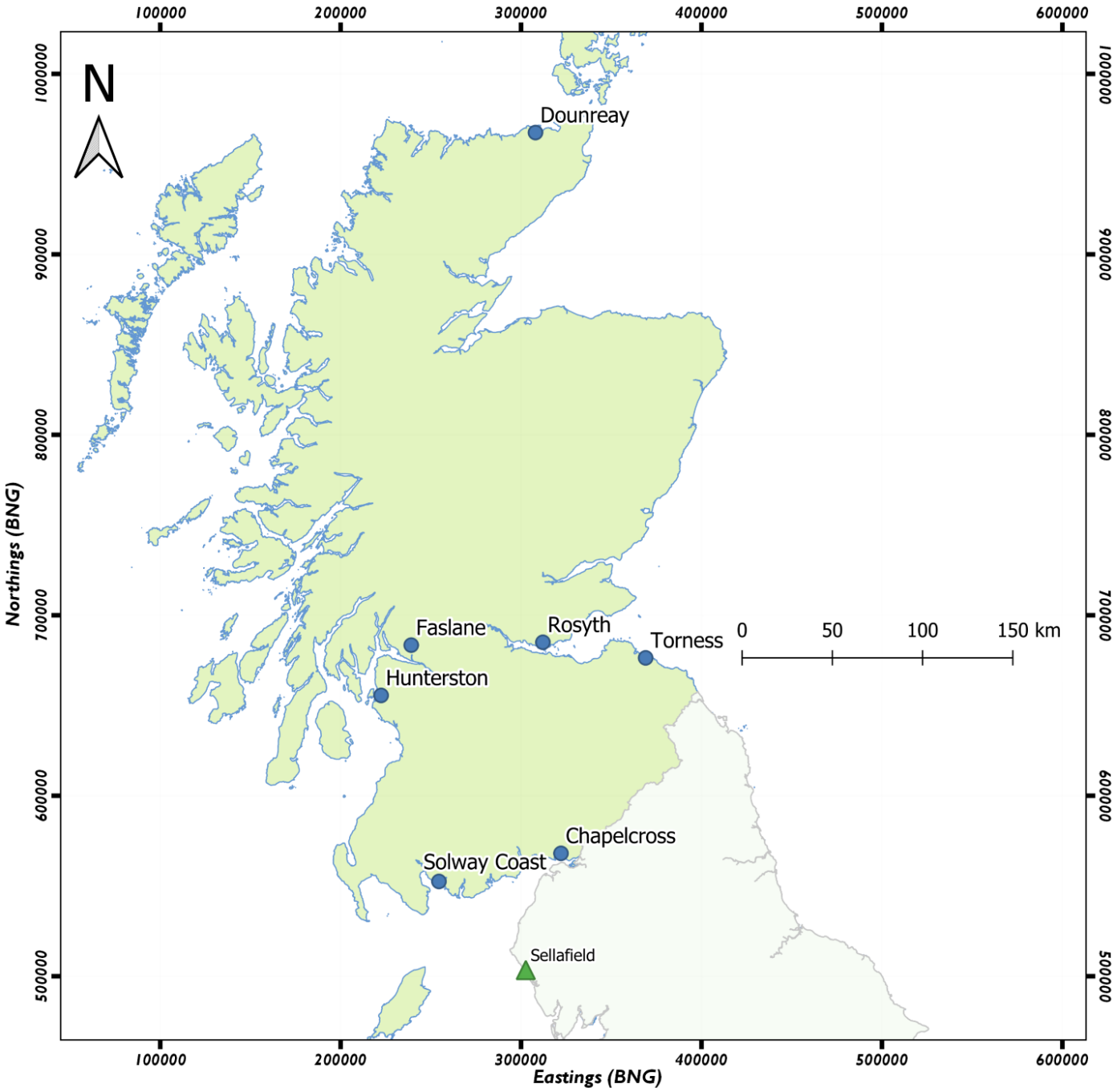


Figure 2.1. Map displaying all nuclear licensed sites under consideration in this survey.

3 Methods

3.1 Introduction

The previous habit surveys of all nuclear licensed sites provided a useful frame of reference for undertaking this survey. They have previously identified the survey area targeted in the Covid-19 survey and the record of previous survey findings provides reference to the range of previously recorded habits that have been encountered. This makes it possible to judge whether the Covid-19 first lockdown has influenced peoples' activities and food consumption habits.

The 2020 Covid-19 Habits Survey covers activities within the survey area and consumption of locally sourced foods. The survey used the following methods:

(i) A postal survey to independently assess people's activity and food consumption habits in the survey area;

(ii) An online survey to support the postal survey as an alternative media in order to independently assess people's activity and food consumption habits in the survey area;

(iii) A desktop study targeting local businesses (retailers of locally sourced food), food banks and local councils to achieve telephone interviews to independently assess activity and food consumption habits in the survey area; and,

(iv) Use of crowd-sourced data from social media platforms and data from mobile phones to determine usage/occupancy in terms of individual visits, repeat visits, total visits, and duration of stay in the survey area.

3.2 Survey Design

3.2.1 Postal Survey

To obtain a provisional independent assessment of the activity and food consumption habits of the local community living within each survey area, a postal questionnaire for households was designed, piloted and distributed to 7 000 households (1 000 postal surveys distributed to each survey area). The postal survey was undertaken using a random selection of 7 000 households, although this was moderated to result in only one postal survey being sent to one household where more than one individual from each household was selected.

The survey included questions on; occupancy at home; food sourcing and consumption; and the types of activities and for how long they were undertaken. The sample included populations living

within approximately 10 km of each nuclear licensed site and from 10 km inland for the 120 km stretch along the Solway Coast.

3.2.2 Online Survey

To support the postal survey, and to provide an alternative media for data collection, an online survey was designed in conjunction with the postal survey. It was indicated in the postal survey that individuals could complete the survey online if that was preferred. The survey mirrored the postal survey and included questions on; occupancy at home; food sourcing and consumption; and activities undertaken and occupancy times of these activities.

3.3 Previous Habits Survey Data

To determine any change in habits, related either to occupancy or consumption, the previous habit survey data for each survey area was extracted from the previous reports and compared with the Covid-19 Habit Survey data. This cross comparison provided some independent validation of the numbers obtained by the Covid-19 survey and allowed the identification of any shifts in habits which may have occurred as a direct impact of the Covid-19 pandemic lockdown. Any significant changes that were identified are discussed in this report and may form the basis for modifications to future environmental monitoring schedules and habit surveys.

3.4 Desktop Directory Survey

In the 2020 Covid-19 Habits Survey, a directory of local businesses and organisations was compiled. A short questionnaire was developed to aid data collection and each contact asked the same questions relevant to their business/organisation interests. Those parties/individuals contacted (in agreement with SEPA) were: fishmongers; butchers; food banks; greengrocers; and, council allotments. These groups were contacted by telephone and by email.

3.5 Crowd Sourced Data Survey

Additional data sources were explored in the bid to determine any activity changes in the survey area both during and after the lockdown period (defined in Section 1.4). To obtain these data and to determine how useful they may be, some online available data sources regarding population mobility were explored and companies were approached. Initially freely available online data sources were considered. These tended to cover broad regions however, which would provide general trends in the activity changes of large groups. Obtaining individual data trends proved more difficult to cost and were bound by Data Protection legislation. It was important to the project that any data collected were viable; of appropriate spatial resolution; available in usable form that provided anonymised

individual mobility data while providing information on occupancy and area to enable GIS mapping; and, of sufficient quality. Costs for these were provided to SEPA who determined whether the approach was viability and of benefit. It was requested by SEPA to explore the availability and viability of individual data trends which may provide usable data.

3.6 Conduct of the Survey

Both the postal and online surveys were designed in collaboration with SEPA. A directory of business/organisation key groups (fishmongers, butchers, food banks, greengrocers and council allotments) was compiled from web searches and from contacting people within the local area with relevant knowledge pertaining to their business.

3.7 Data Conversion & Analyses

The postal and online data on food consumption were requested as a weekly consumption weight recorded in units provided by individuals (e.g. pounds, grams, and ounces). The weights provided are for the fresh weight prepared and consumed. Data from the postal survey and the online survey were transferred to a bespoke database for analysis.

3.8 Data Rounding and Grouping

All data collected from the online and postal surveys are reported to three significant figures. For the food consumption data, the total consumption (kilogram per week) of different food types were quality checked and verified with the individual (where possible) and are presented as a weekly consumption as requested in the survey. For comparison, the previous surveys data of annual consumption, quantity (kg), was divided by 52 to generate comparable data. Food items were placed into groups with similar attributes as identified in Table 3.1. These groups are similar to those used in previous habit survey reports but focussed on the most common food items. Individuals were given the option to add any additional food items in the ‘Other’ food category. Produce that is identified as not being ‘local’ i.e. its source being produced out with the survey area, were removed.

Similarly, the time individuals spent carrying out activities (occupancy (hours per week)) was quality checked and verified with the individual (where possible) and are presented as a weekly occupancy as requested in the survey. For comparison, the previous surveys data of annual occupancy (hours) was divided by 52 to generate comparable data. In the case of the weekly occupancy all data was rounded to the half hour or hour.

Table 3.1 Food groups used in the Covid-19 Habits Survey.

Food group	Example of foods within this group
Green leafy vegetables	Asparagus, broccoli, brussel sprouts, cabbage, calabrese, cauliflower, celery, chard, herbs, kale, kohl rabi, lettuce, pak choi, rhubarb, marrow, spinach
Other domestic vegetables (legumes)	Broad bean, French bean, pea, runner bean
Root vegetables	Beetroot, carrot, celeriac, fennel, garlic, Jerusalem artichoke, leek, onion, parsnip, radish, shallot, spring onion, swede, turnip
Potato	Potato
Domestic fruit	Apple, blackberry, blackcurrant, blueberries, corn, courgette, cucumber, gooseberry, grape, pear, pepper, plum, raspberry, redcurrant, strawberry, tayberry, tomato
Milk	Milk, yoghurt, cheese
Cattle meat	Beef, buffalo
Pig meat	Pork
Sheep meat	Lamb, mutton
Poultry	Chicken, duck, goose, turkey
Eggs	Eggs
Wild/free foods	Blackberry, chestnuts, crab apples, damson, dandelion root, garlic, elderberry, elderflower, nettle, raspberry, rowanberry, sloe, strawberry
Honey	Honey
Venison	Venison
Fish	Bass, cod, dover sole, kipper (herring), mackerel, pollock, salmon, sea trout, trout (freshwater)
Crustaceans	Brown crab, common lobster, shrimps
Molluscs	Mussels, razor clams, scallops, winkles
Wildfowl	Mallard, pink-footed goose, teal, widgeon
Game - bird	Partridge, pheasant, quail

The age groupings used in this report are based on ICRP recommendations and are listed below in Table 3.2. Within this report only Group 3 – Adult has been assessed.

Table 3.2 ICRP age groups used in the dose assessment.

Name of age group	Age range
Group 1 - Infant	0-5 year old
Group 2 - Child	6-15 year old
Group 3 - Adult	16 year old and over

4 RESULTS OF THE POSTAL AND ONLINE SURVEY

4.1 Introduction

This chapter provides the details of the areas surveyed for all nuclear licensed sites considered in this survey. The survey area for each site are illustrated in: Appendix B for Rosyth; Appendix C for Chapelcross; Appendix D for Faslane; Appendix E for Torness; Appendix F for Hunterston; Appendix G for Solway Coast; and Appendix H for Dounreay.

An overview of the postal and online survey is provided with postal returns in Section 4.3 and Figure 4.1.

The results from the Covid-19 survey are reported as the combined postal and online data and presented within this chapter.

4.2 Survey Area Description

The results from the postal and online survey occupancy, land-based, intertidal and aquatic activities and food consumption that are potentially affected by authorised discharges from all nuclear sites under consideration are presented within this chapter.

The survey area for each site is a 10 km radius from all Scottish nuclear sites and a 120 km stretch (and inland 10 km for the full 120 km) extending the Solway Coast due to the potential effects of Sellafield. All site descriptions are detailed as outlined in Section 4.1.

4.3 Postal and online survey response rate and quality assurance

The survey areas were established following the desktop review of the site characteristics and to allow effective comparison and consistency with the previous Habits Survey's undertaken: (Tyler *et al*., 2015; Tyler *et al*., 2015; Dale *et al*., 2016; Dale *et al*., 2016; Dale *et al*., 2017, Smith *et al*., 2017, Dale *et al*., 2018).

Of the 7 000 postal surveys that were sent out to households in the survey area, 368 households returned their surveys within the deadline of which 63 were rejected due to returns being either incomplete or unopened. In total, 305 postal surveys yielded useful information. A total of 15 online surveys were returned within the deadline and yielded useful information. A total of 320 postal and online surveys were valid to use within the survey. The spread of postal returns by study area are displayed in Figure 4.1.

All data entered into the database were quality assured and where clarification of survey data was needed, individuals were contacted if contact details were provided to verify the data entry. In some

cases, information provided was omitted where it did not adhere to predefined criteria for example on what local means in ‘locally produced’ produce. This maintained the authenticity of the dataset providing reliable data.

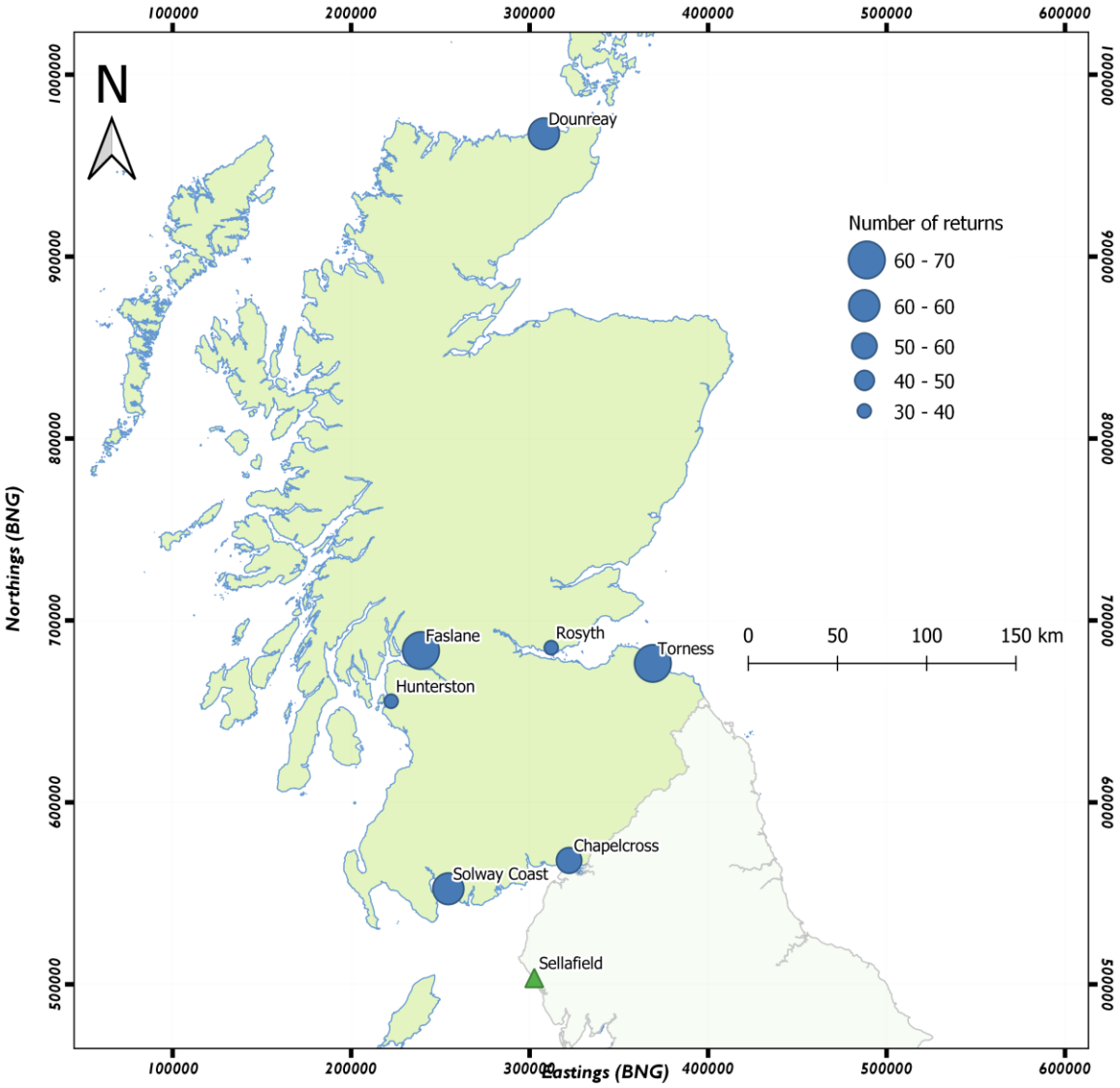


Figure 4.1 Map showing postal returns response at all sites.

4.4 Occupancy, Activities and Food Consumption

Data on occupancy, activities and food consumption are presented in this section. Given the number of responses received, the results have been aggregated across all survey area and the data compared with the previous habit surveys to determine any significant changes which may have occurred as a direct result of the Covid-19 pandemic.

4.4.1 Occupancy Rates

Individuals were asked about the amount of time spent indoors and directly outdoors of their home before, during and post lockdown. It should be taken into consideration that some changes in individual habits may be related to seasonal changes (time of year with more/less time spent indoors and directly outdoors of their home) and may not be a direct effect of the pandemic lockdown due to the timescale restriction of the survey period during the first lockdown.

Table 4.1 presents the summary of time individuals report spending inside and outside their homes before, during and post lockdown. The data are presented in hours per day.

The highest indoor occupancy was 24 hours per day before, during and post lockdown. The highest outdoor occupancy was 18 hours per day before lockdown and 16 hours per day during and post lockdown. All survey area within the Covid-19 survey were of comparable occupancy showing very similar results.

Table 4.1 Mean, median, minimum, maximum and 97.5th percentile occupancy indoors and directly outdoors of their home before, during and post lockdown of the aggregated survey data.

	BEFORE		**DURING**		**POST**	
	INSIDE (h d^{-1})	**OUTSIDE (h d^{-1})**	**INSIDE (h d^{-1})**	**OUTSIDE (h d^{-1})**	**INSIDE (h d^{-1})**	**OUTSIDE (h d^{-1})**
Mean	15.0	3.00	18.0	3.50	16.5	3.00
Maximum	24.0	18.0	24.0	16.0	24.0	16.0
Minimum	0.00	0.00	0.00	0.00	0.00	0.00
Median	15.5	2.00	19.5	3.00	18.0	2.00
97.5th Percentile	22.0	12.0	24.0	10.0	23.0	11.0

Table 4.2 presents the highest indoor and outdoor occupancy spent at home before, during and post lockdown and includes the previous habit survey figures for each site presenting the highest occupancy both indoors and outdoors of their home. There is no further indoor and outdoor occupancy data within the previous habit survey reports to compare the Covid-19 data. The Covid-19 data was multiplied by seven to allow a weekly comparison and is therefore presented in hours per week. The previous habit survey weekly data was achieved by dividing the total annual occupancy by 52 to determine an approximate weekly occupancy that could be compared with the

Covid-19 report figures. The table also includes indoor occupancy of individuals who spent time before lockdown working from home. Individuals asked their intentions to working from home post lockdown, this presented in Figure 4.2.

Table 4.2 Comparison of Covid-19 highest occupancy inside and outside individual's homes with the previous habit survey data.

SITE		Indoor occupancy at home Maximum hours per week	Outdoor occupancy at home Maximum hours per week	Indoor occupancy at work Maximum hours per week	Outdoor occupancy at work Maximum hours per week
Distance from site		1 km	1 km	1 km	1 km
Rosyth	2015	70.0	28.0	81.0	50.0
Chapelcross	2015	147	112	53.0	25.0
Faslane	2016	165	108	37.0	9.00
Torness	2016	133	65.0	44.0	43.0
Hunterston	2017	140	28.0	61.0	84.0
Solway	2017	NA	NA	NA	NA
Dounreay	2018	161	24.0	14.0	70.0
Covid-19	2020				
Distance from site		10 km	10 km	10 km	
Before lockdown		168	126	60.0	
During lockdown		168	112	60.0	
Post lockdown		168	112	ND	

Compared with previous habit surveys the highest indoor and outdoor weekly occupancy is increased, with the exception of Chapelcross outdoors at 112 h w^{-1}. During and before lockdown the highest indoor working from home occupancy is 60 h w^{-1} and is an increase compared to Dounreay, Torness, Faslane and Chapelcross but decreased compared with Hunterston and Rosyth. There is no further indoor and outdoor occupancy data within the previous habit survey reports to compare the Covid-19 data. Previous habit survey data was collated for individuals living within 1 km of the survey area but the Covid-19 data are aggregated for all sites and covers an area of individuals living within approximately 10 km of the survey area. The highest indoor occupancy of 168 h w^{-1}

was for an individual who lived within the 10 km radius of the site before, during and post lockdown. The highest outdoor occupancy of 126 h w^{-1} was for an individual who lived within the 10 km radius of the site before lockdown. The highest outdoor occupancy of 112 h w^{-1} was for an individual who lived within the 10 km radius of the site during and post lockdown.

Figure 4.2 presents the number of individuals who reported to working from home before and during lockdown and their intentions for future working from home.

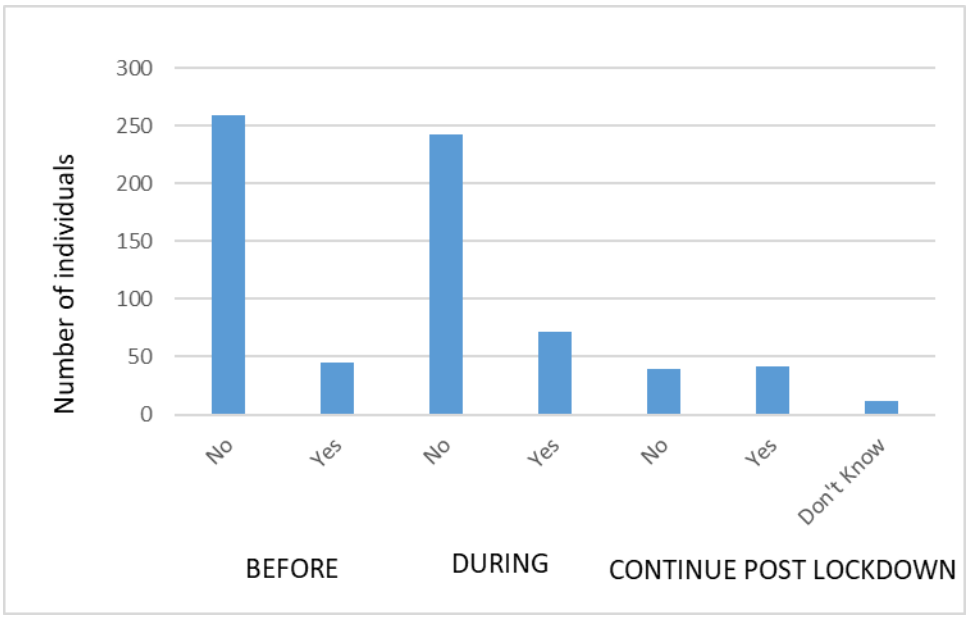


Figure 4.2 Number of individuals working from home before, during and post lockdown.

The number of individuals who said they would continue to work from home post lockdown (42 individuals) decreased by three compared with before lockdown (45 individuals). During lockdown the number of individuals working from home increased to 72. This in part reflects the corresponding decrease in the number of individuals not working from home before lockdown from 259 individuals to 243 individuals. The small decrease from before to post lockdown indicates that there is little change regarding the likelihood of changing their place of work in the future. Twelve individuals, however, did report that they did not know if they would work from home or their place of work post lockdown and into the future. It was anticipated that a greater number of individuals may have been working from home during the first lockdown period and also continuing in the future to work from home. This however is not reflected in the data.

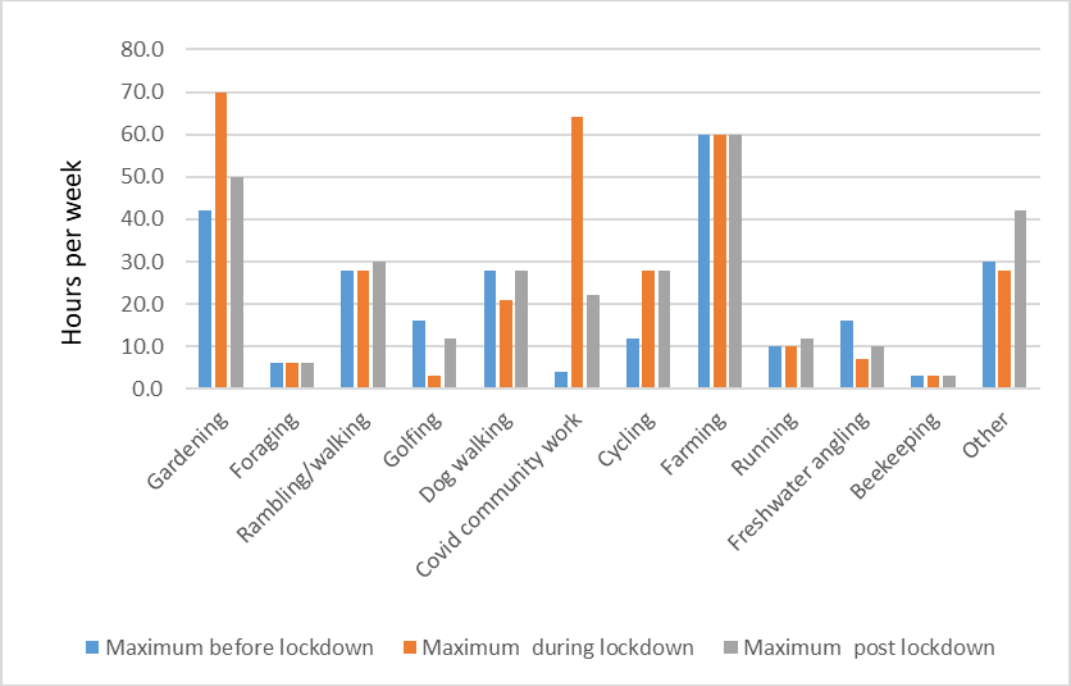
A total number of 214 individuals reported that they were not shielding, 91 individuals were shielding and six individuals preferred not to say.

4.4.2 Land-based Activities

Individuals were asked about the amount of time spent undertaking land-based activities (e.g. gardening, dog walking, rambling/walking, farming and cycling) before, during and post lockdown. It should be noted that some changes in individual habits may be related to seasonal changes (time of year with more/less time spent undertaking specific activities) and may not be a direct effect of the pandemic lockdown due to the restricted timescale of the survey period during the first lockdown.

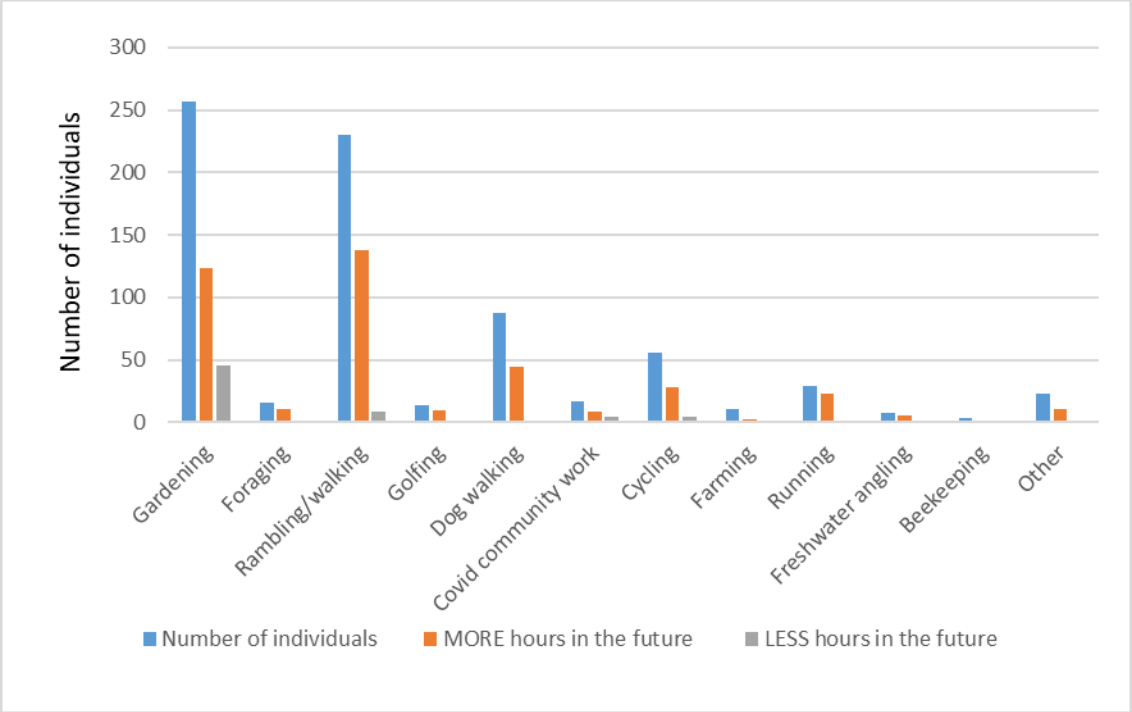
Figure 4.3 shows the maximum occupancy (h w^{-1}) for each activity. The activity with the highest occupancy within the survey area before lockdown was by an individual who spent 60 h w^{-1} farming. The activity with the highest occupancy within the survey area during lockdown was by an individual who spent 70 h w^{-1} gardening. The activity with the highest occupancy within the survey area post lockdown was by an individual who spent 60 h w^{-1} farming. It was determined that for most activities the maximum occupancy spent was the same or fewer hours during the lockdown period than the individual spent before lockdown. However, post lockdown most of the activities show the maximum occupancy undertaken have a similar trend of increased occupancy indicating more time was spent undertaking activities than occurred before the pandemic. Only golfing shows the post lockdown hours were fewer than before lockdown. Foraging, farming, and beekeeping showing the same maximum occupancy before, during and post lockdown. It was noted that 4 h w^{-1} were reported before lockdown for Covid-19 community work. As no contact details were provided, it is assumed that this was undertaking work in preparation for the lockdown period and would therefore have only covered a period of some weeks early in 2020.

Future activity trends were determined and are shown in Figure 4.4. For most activities, with the exception of farming, beekeeping and the ‘other’ category, more than 50 % of individuals for each category stated their intention to continue to spend more time undertaking those activities in the future. It was anticipated that more individuals would have stayed at home during the lockdown period, however, this was not what was reflected as much as was expected. It was also anticipated that greater numbers of individuals would have undertaken outdoor activities post lockdown that was determined. However, this was not reflected in the data.



Note the Other category includes: – Shopping, allotment, bowling, horse-riding/horse care, Tai Chi, football ground maintenance, football spectator, tennis, football, metal detecting, visiting clients, delivering to clients, meeting friends, photography, and birdwatching.

Figure 4.3 Maximum occupancy for land-based activities from the Covid-19 survey.



Note the Other category includes: – Shopping, allotment, bowling, horse-riding/horse care, Tai Chi, football ground maintenance, football spectator, tennis, football, metal detecting, visiting clients, delivering to clients, meeting friends, photography and birdwatching.

Figure 4.4 Future activity trends for individuals undertaking land-based activities for the Covid-19 survey.

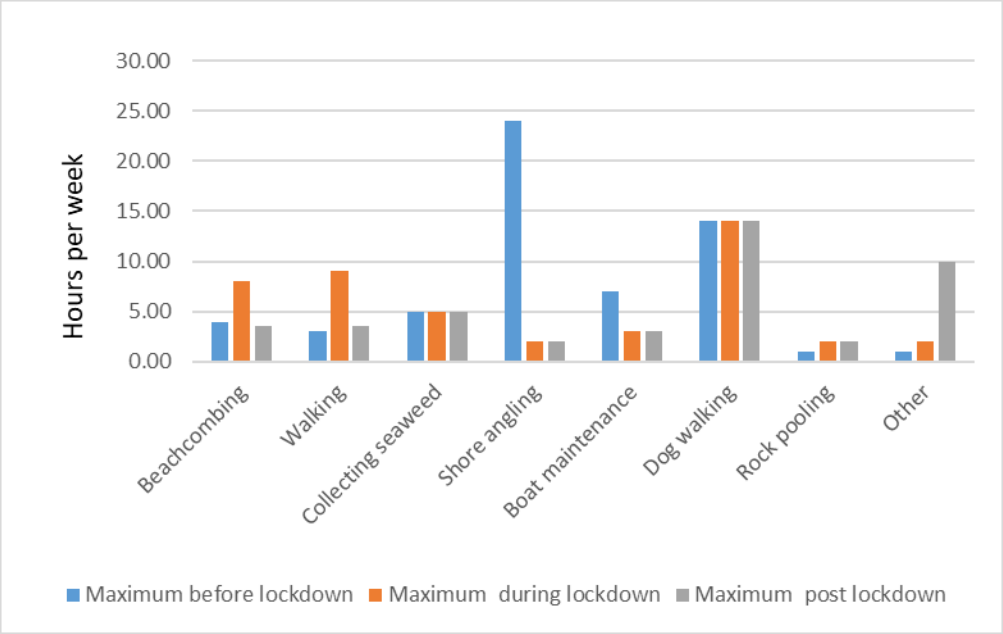
Refer to Appendix A2 for comparison with previous habit surveys.

4.4.3 Intertidal Activities

Individuals were asked about the amount of time spent undertaking intertidal activities (e.g. beachcombing, walking, shore angling and rock pooling) before, during and post lockdown. It should be noted that some changes in individual habits may be related to seasonal changes (time of year with more/less time spent undertaking specific activities) and may not be a direct effect of the pandemic lockdown due to the restricted timescale of the survey period during the first lockdown.

Figure 4.5 shows the maximum occupancy for each intertidal activity. The activity with the highest occupancy within the survey area before lockdown was by an individual who spent 24 h w^{-1} shore angling (unknown area within the Fife area of the Rosyth survey area). The activity with the highest occupancy within the survey area during lockdown was by an individual who spent 14 h w^{-1} dog walking (Garlieston area within the Solway Coast survey area). The same individual had the highest occupancy within the survey area post lockdown spending 14 h w^{-1} dog walking at the same area. It was determined that the maximum occupancy (h w^{-1}) spent beachcombing, shore angling, boat maintenance, cycling, photography and foraging during the lockdown period were fewer post lockdown than before the lockdown period. The activities collecting seaweed and dog walking both show the same occupancy (5 h w^{-1} (unknown area within the Torness survey area) and 14 h w^{-1} (Garlieston within the Solway Coast survey area) respectively) before, during and post lockdown with no increased occupancy anticipated in the future. Walking, rock pooling and haaf netting show the maximum occupancy increased post lockdown than before lockdown.

The total maximum occupancy for an individual undertaking intertidal activities was 15 h w^{-1} for an individual who spent time 14 h w^{-1} dog walking and 1 h w^{-1} collecting seaweed at Garlieston before, during and post lockdown with a total occupancy of 45h w^{-1}.



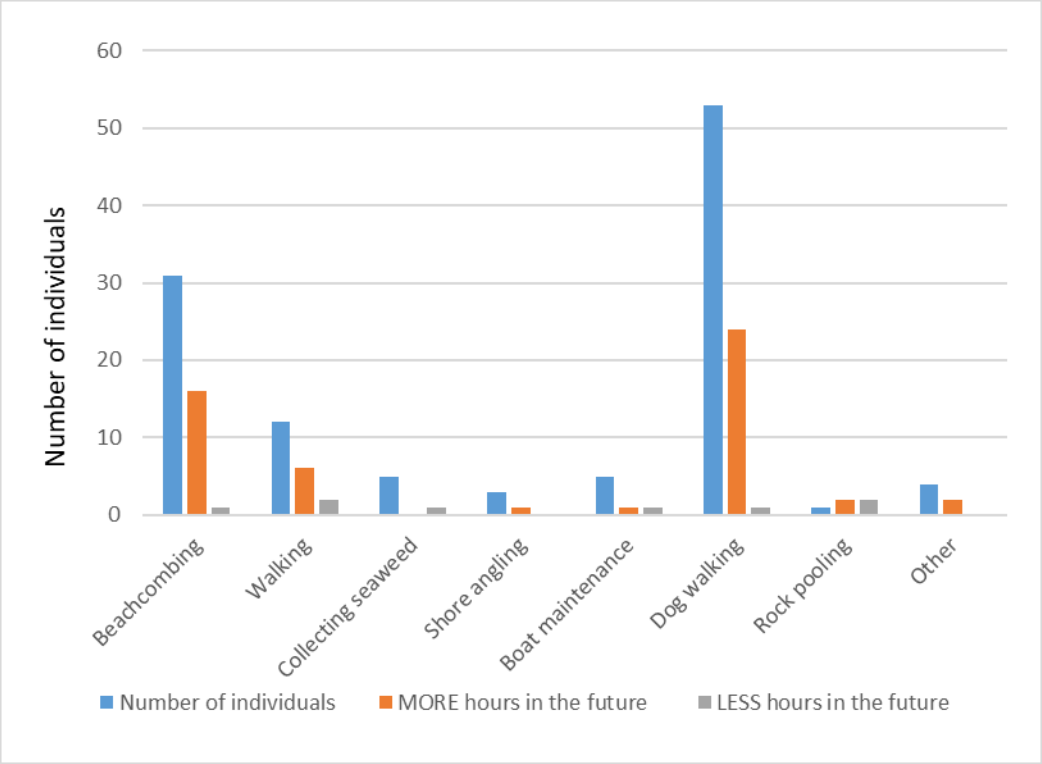
Note the Other category includes: – haaf netting, photography, cycling and foraging.

Figure 4.5 Maximum occupancy for intertidal activities from the Covid-19 survey.

Compared with previous habit surveys (Table 4.3) the Covid-19 survey full dataset mean is comparable for before, during and post lockdown with Hunterston and slightly increased compared with the Solway Coast. There is no full dataset mean for other sites. The full dataset 97.5th percentile is slightly decreased for before, during and post lockdown compared with both Hunterston and the Solway previous habit survey reports. There is no full dataset 97.5th percentile for other sites. The overall maximum occupancy spent by an individual before lockdown is increased compared to Chapelcross previous survey and decreased compared to all other sites. The overall maximum occupancy spent by an individual during and post lockdown is decreased compared to all sites.

Table 4.3 Before, during and post lockdown full dataset median, mean, 97.5th percentile and maximum occupancy compared with previous site habit surveys.

Reports	Year	Activity - type	Number of observations (in the full dataset)	Full dataset observed mean (h w^{-1})	Full dataset 97.5th percentile (h w^{-1})	Observed median for the full dataset (h w^{-1})	Maximum occupancy for the full dataset (h w^{-1})
Rosyth	2015	Intertidal	199	ND	ND	ND	56.0
Chapelcross	2015	Intertidal	134	ND	ND	ND	21.0
Faslane	2016	Intertidal	77	ND	ND	ND	26.0
Torness	2016	Intertidal	224	ND	ND	ND	35.0
Hunterston	2017	Intertidal	221	3.50	17.5	ND	24.5
Solway Coast	2017	Intertidal	247	2.50	24.0	ND	39.5
Dounreay	2018	Intertidal	21	ND	ND	ND	28.0
		Before	91	3.00	12.0	2.00	24.0.
Covid-19	2020	During	91	3.50	11.0	2.00	20.0
		Post	91	3.00	13.5	2.00	15.0



Note the 'Other' category includes: – haaf netting, photography, cycling and foraging.

Figure 4.6 Future activity trends for individuals undertaking intertidal activities for the Covid-19 survey.

Future activity trends (Figure 4.6) were determined and it was reported that for activities beachcombing (16 individuals), walking (six individuals) and dog walking (24 individuals) approximately half the number of individuals reported that they would continue to spend more hours in the future undertaking these activities. Shore angling (one individual), boat maintenance (one individual), haaf netting (one individual) and cycling (one individual) were reported to continue with more hours in the future. A small number of individuals stated that they would spend fewer hours in the future for all activities.

4.4.4 Aquatic Activities (in-water and on-water)

Individuals were asked about the amount of time spent undertaking in-water aquatic activities before, during and post lockdown. It should be noted that some changes in individual habits may be related to seasonal changes (time of year with more/less time spent undertaking specific activities) and may not be a direct effect of the pandemic lockdown due to the restricted timescale of the survey period during the first lockdown.

Figure 4.7 shows the maximum occupancy for each in-water activity. The activity with the highest occupancy within the survey area before lockdown was by an individual who spent 7 h w^{-1} snorkeling (unknown area within the Dounreay survey area). The activity with the highest occupancy within the survey area during lockdown was by an individual who spent 6 h w^{-1} outdoor swimming (unknown area within the Solway Coast survey area). The activity with the highest occupancy within the survey area post lockdown was by an individual who spent 7 h w^{-1} snorkeling (unknown area within the Dounreay survey area). It was determined that the maximum occupancy spent outdoor swimming during the lockdown period increased compared to both before and post lockdown occupancy hours. The occupancy for sub-aqua diving was 2 h w^{-1} before lockdown but none was reported for either during or post lockdown. The maximum occupancy for snorkeling by one individual before and post lockdown was the same (7 h w^{-1}) compared with none reported during the lockdown period.

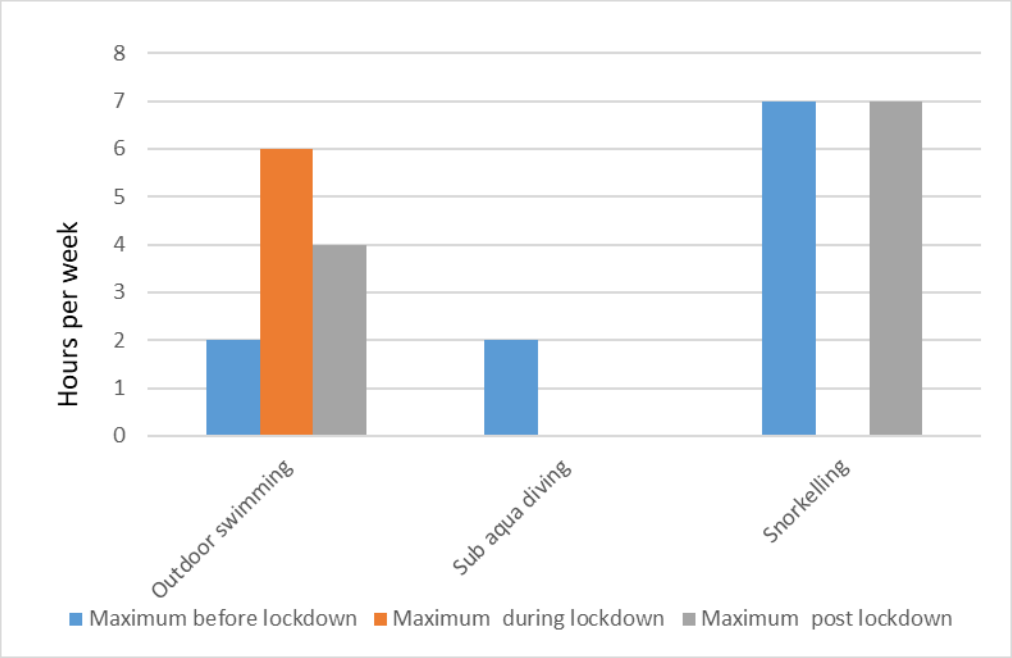


Figure 4.7 Maximum occupancy for in-water activities from the Covid-19 survey.

Table 4.4 Before, during and post lockdown full dataset median, mean, 97.5th percentile and maximum occupancy for in-water activities compared with previous habit surveys.

Reports	Year	Activity - type	Number of observations (in the full dataset)	Full dataset observed mean (h w^{-1})	Full dataset 97.5th percentile (h w^{-1})	Observed median for the full dataset (h w^{-1})	Maximum occupancy for the full dataset (h w^{-1})
Rosyth	2015	Aquatic In-water	43	ND	ND	ND	2.00
Chapelcross	2015	Aquatic In-water	17	ND	ND	ND	28.00
Faslane	2016	Aquatic In-water	6	ND	ND	ND	2.50
Torness	2016	Aquatic In-water	48	ND	ND	ND	26.5
Hunterston	2017	Aquatic In-water	20	0.35	2.30	ND	3.00
Solway Coast	2017	Aquatic In-water	47	1.40	16.0	ND	34.0
Dounreay	2018	Aquatic In-water	10	ND	ND	ND	14.5
		Before	15	1.50	7.00	0.00	7.50
Covid-19	2020	During	15	1.00	4.50	1.00	6.00
		Post	15	1.50	7.00	1.00	7.50

Compared with previous habit surveys (Table 4.4) the Covid-19 survey full dataset mean for before lockdown is comparable with the Solway Coast, during lockdown the full dataset mean decreased compared to the Solway Coast and post lockdown the full data set mean increased compared to the Solway Coast. There are no full dataset mean for other sites from previous reports. The full dataset 97.5th percentile for before, during and post lockdown increased compared with Hunterston and decreased compared with the Solway Coast previous habit survey reports. There are no full

dataset 97.5th percentiles for other sites from previous reports. The overall maximum occupancy spent by an individual before, during and post lockdown are all increased compared to previous surveys for Rosyth, Faslane and Hunterston and significantly decreased compared to Chapelcross, Torness, Solway Coast and Dounreay.

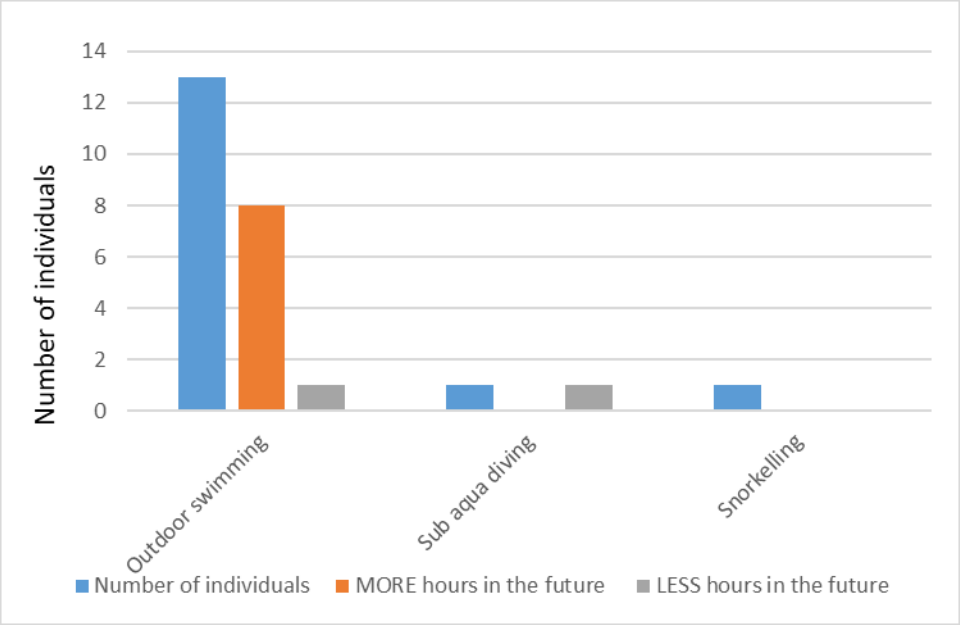


Figure 4.8 Future activity trends for individuals undertaking in-water activities for the Covid-19 survey.

Future activity trends (Figure 4.8) were determined and it was reported that only outdoor swimming (eight individuals) would continue their activity with more hours in the future. Sub-aqua diving (one individual) stated that they would dive for fewer hours in the future. Snorkelling was reported to continue with the same occupancy in the future.

Individuals were asked about the amount of time spent undertaking on-water aquatic activities before, during and post lockdown. It should be noted that some changes in individual habits may be related to seasonal changes (time of year with more/less time spent undertaking specific activities) and may not be a direct effect of the pandemic lockdown due to the restricted timescale of the survey period during the first lockdown.

Figure 4.9 shows the maximum occupancy for each on-water activity. The activity with the highest occupancy within the survey area before lockdown was by an individual who spent 30 h w^{-1} sailing (unknown area within the Hunterston survey area). The activity with the highest occupancy within the survey area during lockdown was by an

individual who spent 20 h w^{-1} commercial fishing (unknown area within the Dounreay survey area). The activity with the highest occupancy within the survey area post lockdown was by an individual who spent 16 h w^{-1} sailing. Commercial fishing and paddle boarding were reported (unknown area within the Hunterston survey area) to increase in occupancy during the lockdown period compared with before lockdown while sea angling showed no change with the same occupancy reported before, during and post lockdown. Canoeing, boat maintenance, sailing and rowing showed a decrease in occupancy during the lockdown period compared with before lockdown. Post lockdown canoeing occupancy increased compared with before lockdown. For boat maintenance and rowing a decrease in occupancy post lockdown compared to before lockdown was reported. Occupancy for sailing post lockdown decreased compared with before lockdown.

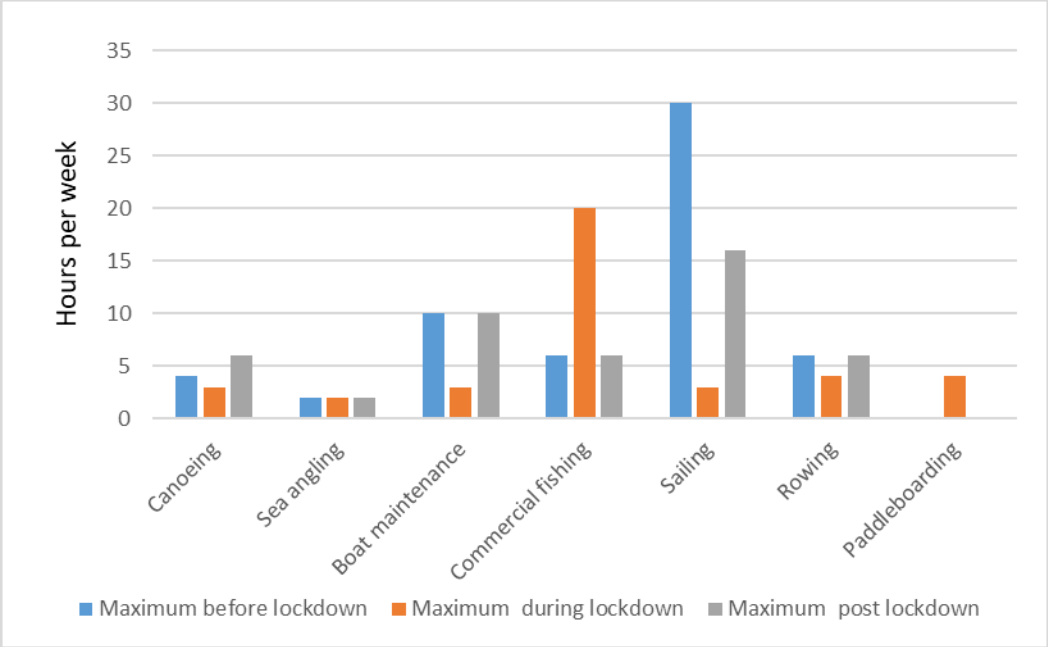


Figure 4.9 Maximum occupancy for on-water activities from the Covid-19 survey.

Table 4.5 Before, during and post lockdown full dataset median, mean, 97.5th percentile and maximum occupancy compared with previous site habit surveys.

Reports	Year	Activity - type	Number of observations (in the full dataset)	Full dataset observed mean (h w^{-1})	Full dataset 97.5th percentile (h w^{-1})	Observed median for the full dataset (h w^{-1})	Maximum occupancy for the full dataset (h w^{-1})
Rosyth	2015	Aquatic On-water	94	ND	ND	ND	66.0
Chapelcross	2015	Aquatic On-water	30	ND	ND	ND	28.0
Faslane	2016	Aquatic On-water	64	ND	ND	ND	36.0
Torness	2016	Aquatic On-water	75	ND	ND	ND	112
Hunterston	2017	Aquatic On-water	61	5.00	26.0	ND	53.0
Solway Coast	2017	Aquatic On-water	70	5.00	30.5	ND	40.0
Dounreay	2018	Aquatic On-water	6	ND	ND	ND	39.5
		Before	23	5.50	29.0	2.00	40.0
Covid-19	2020	During	23	2.00	11.0	1.00	20.0
		Post	23	4.00	18.0	2.00	20.0

Compared with previous habit surveys (Table 4.5) the full dataset mean for the Covid-19 Habit Survey before lockdown increased compared with the Hunterston and Solway Coast previous habit surveys. During lockdown the full dataset mean decreased compared to the Hunterston and Solway Coast previous habit surveys. Post lockdown the full dataset mean is slightly decreased compared to the Hunterston and Solway Coast previous habit surveys. There are no full dataset means for other sites from

previous habit surveys. The full dataset 97.5th percentile before lockdown is increased compared with Hunterston and slightly decreased compared with the Solway Coast previous habit survey reports. The full dataset 97.5th percentile during and post lockdown is decreased to both Hunterston and Solway Coast previous habit surveys. There are no full dataset 97.5th percentiles for previous habit surveys. The overall maximum occupancy spent by an individual before lockdown is decreased compared to Rosyth, Torness and Hunterston previous habit surveys, comparable to the Solway Coast and Dounreay previous habit surveys and increased compared to Chapelcross and Faslane previous habit surveys. The overall maximum occupancy spent by an individual during and post lockdown are significantly decreased compared to all site previous habit surveys.

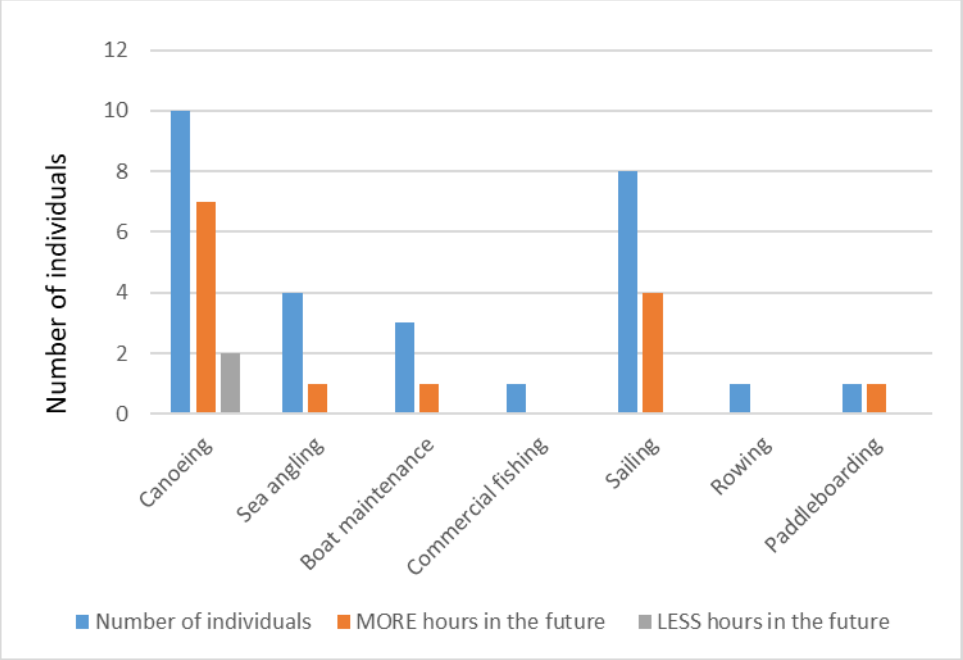


Figure 4.10 Future activity trends for individuals undertaking on-water activities for the Covid-19 survey.

Future activity trends (Figure 4.10) were determined and it was reported that canoeing (seven individuals), sea angling (one individual), boat maintenance (one individual), sailing (four individuals) and paddle boarding (one individual) would continue with more hours in the future. Commercial fishing and rowing reported to continue less hours in the future undertaking this activity. Two individuals canoeing however reported to undertaking fewer hours in the future.

4.4.4 Food Consumption

Individuals were asked about the amount of local produce they consumed and if they had changed the way they had sourced their produce (locally produced, locally reared, own reared, homegrown, self-caught, bartered, gifted and shot) before, during and post lockdown. Individuals were also asked as to whether the method of sourcing their local produce had changed and if they would continue these changes in the future. It should be taken into consideration that some changes in individual consumption habits may be related to seasonal changes (time of year with regard to particular produce not being available/grown during the survey and timescale restrictions indicated) and may not be a direct effect of the pandemic due to the timescale restriction of the survey period during the first lockdown. Terrestrial (land-based) consumption includes all Covid-19 survey site data there is no comparison with the previous Solway Coast habit survey due to it being an aquatic survey only.

The consumption data revealed extremely high quantities of produce for all food groups which were unable to be verified due to the anonymity of the survey and the low number of individuals providing contact details. Some of the produce reported to be consumed is questionable as to whether it is 'local' i.e. its source being produced within the survey area, therefore some data were removed. This was applied to food that was not locally seasonally grown, tinned and recognised as not locally sourced. However there remains some uncertainty regarding whether produce that was sourced 'locally' actually came from a supermarket or other smaller premises where their products came from further afield (out with the survey area). It is also assumed that much of the produce consumption reported may have been overestimated by the survey participants and is actually based on family consumption rather than an individual (based on our understanding of previous survey findings). Consumption data were compared with previous habit surveys revealing consistently high consumption figures in the Covid-19 data. The tables of comparison with the previous habit survey for each site are within Appendix A3 and highlight the full dataset mean, full dataset 97.5th percentile, median, maximum, national mean and the national 97.5th percentile. Corresponding previous habit survey data are within these tables for comparison.

The survey was however able to provide some valuable information regarding the method of sourcing local produce post lockdown (individuals intentions for sourcing produce post lockdown and in the future) and individuals intentions to consume more or less of specific food groups in the future.

Table 4.6 provides an overview of the responses regarding the sourcing of fruit and vegetable produce. Individuals were asked to report on whether fruit, vegetables and wild food sourced was locally produced, home grown, locally foraged, bartered or gifted. Due to the high percentage of individuals responding to sourcing 'local produce' it is believed that many of these individuals may be referring to the place of purchase i.e supermarket where the source of origin is out with the survey area and not locally grown due to some of the produce being tinned and out of season locally. Individuals consuming green vegetables reported increased home grown produce during lockdown compared with before lockdown (271 individuals and 208 individuals respectively) and remained increased post lockdown compared with home grown produce with before lockdown (223 individuals and 208 individuals respectively). Individuals consuming root vegetables reported increased home grown produce during lockdown compared with before lockdown (219 individuals and 154 individuals respectively) and remained increased post lockdown compared with home grown produce before lockdown (186 individuals and 154 individuals respectively). Individuals consuming other vegetables reported increased home grown produce during lockdown compared with before lockdown (49 individuals and 38 individuals respectively) and decreased slightly post lockdown compared with home grown produce with before lockdown (37 individuals and 38 individuals respectively). Individuals consuming potatoes reported increased home grown produce during lockdown compared with before lockdown (63 individuals and 52 individuals respectively) and remained increased post lockdown compared with home grown produce before lockdown (58 individuals and 52 individuals respectively). Individuals consuming domestic fruit reported a small decrease in home grown produce during lockdown compared with before lockdown (270 individuals and 273 individuals respectively) with a small increase post lockdown compared with home grown produce before lockdown (278 individuals and 273 individuals respectively).

In terms of exchanging food, a small increase in the number of individuals gifting produce was also reported post lockdown for green, root, other vegetables and potatoes. Individuals bartering green and root vegetables including potatoes decreased post lockdown and remained the same for other vegetables post lockdown compared with before lockdown. Individuals reported an increase in the number of individuals gifting domestic fruit produce post lockdown compared with before and during lockdown (59, 34 and 36 individuals respectively).

With regard to wildfoods, individuals consuming foraged wild fruits reported a decrease in foraging during lockdown compared with before lockdown (38 individuals and 56 individuals respectively) with an increased post lockdown compared with during lockdown but slightly decreased compared with before lockdown. Only one individual reported gifting foraged produce post lockdown.

Table 4.6 Fruit and vegetable sourcing responses before, during and post lockdown of individuals participating in the Covid-19 survey indicating source of produce method.

	Number of individual responses before lockdown				Number of individual responses during lockdown				Number of individual responses post lockdown			
Food Type	**Local produce**	**Home Grown**	**Bartered**	**Gifted**	**Local Produce**	**Home Grown**	**Bartered**	**Gifted**	**Local Produce**	**Home Grown**	**Bartered**	**Gifted**
Green vegetables	195	208	21	22	194	271	20	30	196	223	19	25
Root vegetables	251	154	21	25	245	219	18	23	256	186	17	27
Other vegetables	28	38	4	2	29	49	5	4	37	37	4	6
Potatoes	71	52	5	8	65	63	4	8	58	58	4	9
Domestic fruit	228	273	299	34	62	270	364	26	278	343	30	59
Wild fruit (foraged)	56	-	-	-	38	-	-	-	52	-	-	1

Future activity trends (Figure 4.11) were determined and it was reported that green vegetables (96 individuals), root vegetables (87 individuals), other vegetables (14 individuals), potatoes (16 individuals), domestic fruit (58 individuals) and wild fruit (2 individuals) would continue with more fruit/vegetable consumption in the future. By comparison, some individuals reported they would consume less fruit/vegetable produce into the future: green vegetable (19 individuals); root vegetables (9 individuals); other vegetables (1 individual); potatoes (4 individuals); domestic fruit (25 individuals); and, wild fruit (2 individuals). No consumption, sourcing or future trend data of wild mushrooms was reported although seven individuals reported consuming them. In addition, no consumption, sourcing or future trend data of honey or water (private source) were reported.

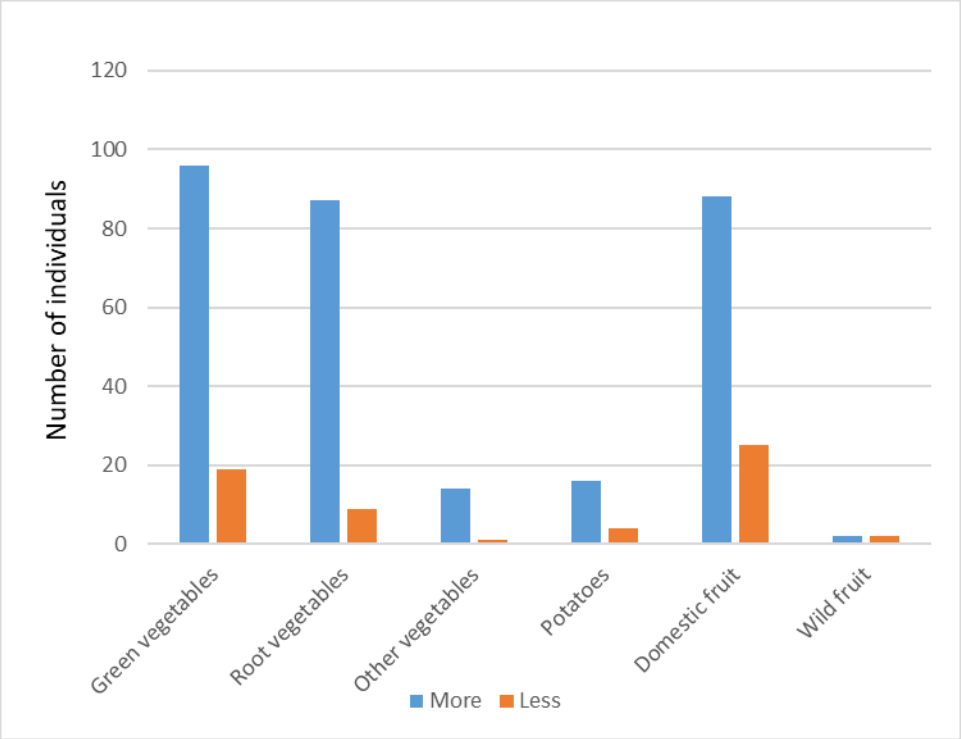


Figure 4.11 Future consumption trends for individuals consuming fruit and vegetables in the Covid-19 survey.

Table 4.7 provides an overview of the responses regarding the sourcing of meat produce. Individuals were asked to report on whether meat produce was sourced as locally reared, home reared, bartered or gifted. It is assumed that when individuals have indicated 'locally reared' produce for some of the meat categories they may be referring to the place of purchase i.e. supermarket, and not from a local source i.e. farmer/game keeper. No general trend was identified with very little variation for individual's intention post lockdown and continuing into the future. Post lockdown three individuals reported to sourcing more gifted meat produce.

Table 4.7 Meat sourcing responses before, during and post lockdown of individuals participating in the Covid-19 survey indicating source of produce.

	Number of individual responses before lockdown				Number of individual responses during lockdown				Number of individual responses post lockdown			
Food Type	**Local Reared**	**Home Reared**	**Bartered**	**Gifted**	**Local Reared**	**Home Reared**	**Bartered**	**Gifted**	**Local Reared**	**Home Reared**	**Bartered**	**Gifted**
Beef	89	-	6	2	87	-	7	2	89	-	6	2
Sheep meat	51	1	3	1	49	1	3	1	52	1	3	1
Pork	55	-	4	1	53	-	5	1	53	-	5	1
Rabbit & hare	6	1	-	1	6	2	-	-	6	1	-	1
Venison	14	-	-	4	11	-	1	3	19	1	-	7
Poultry	67	4	6	3	65	4	6	1	66	3	7	3
Game birds	12	1	-	3	9	1	-	1	11	1	-	3

Future activity trends (Figure 4.12) were determined and it was reported that beef (eight individuals), sheep meat (three individuals), pork (five individuals) and poultry (three individuals) would continue with more meat consumption in the future. Beef, sheep meat, pork and poultry consumers also indicated they would consume less meat in the future (nine, six, two and three individuals respectively).

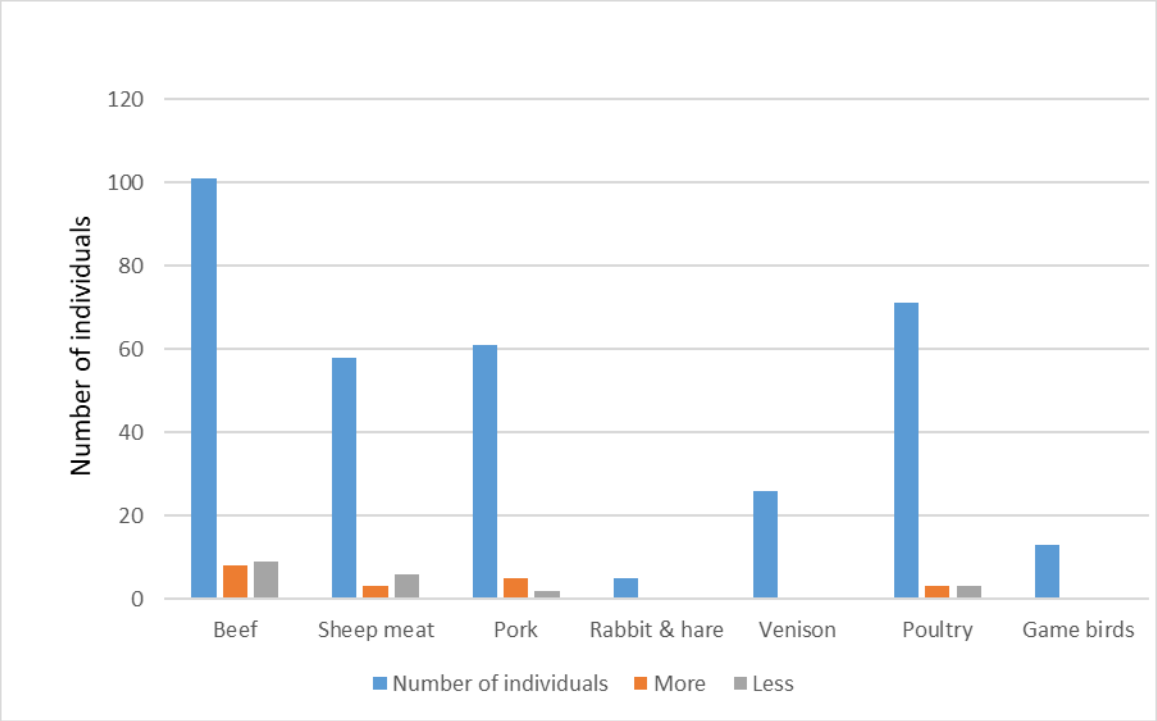


Figure 4.12 Future consumption trends for individuals consuming meat in the Covid-19 survey.

Table 4.8 provides an overview of the responses regarding the sourcing of dairy produce. Individuals were asked to report on whether dairy produce sourced was locally produced, home produced, bartered or gifted. The local production across all sites may be far less than the comparable consumption. It is therefore believed that when individuals have indicated 'locally produced' for some of the dairy products they may be referring to the place of purchase i.e. supermarket and not from a local source i.e. farmer/farm shop from local farm. Individuals consuming milk reported comparable responses of sourcing milk before, during and post lockdown for locally produced, gifted and bartered methods. Individuals consuming cheese reported comparable responses of sourcing cheese before, during and post lockdown. However, locally sourced cheese decreased from 65 individuals before lockdown to 47 individuals during and post lockdown. Individuals consuming eggs reported a significant increase in all sourcing methods during and post lockdown compared with before lockdown.

Table 4.8 Dairy sourcing responses before, during and post lockdown of individuals participating in the Covid-19 survey indicating source of produce.

	Number of individual responses before lockdown				Number of individual responses during lockdown				Number of individual responses post lockdown			
Food Type	**Locally Produced**	**Own Produced**	**Bartered**	**Gifted**	**Locally Produced**	**Own Produced**	**Bartered**	**Gifted**	**Locally Produced**	**Own Produced**	**Bartered**	**Gifted**
Milk	65	0	3	3	66	0	3	3	64	0	3	3
Cheese	65	0	3	3	47	0	3	2	47	0	3	2
Eggs	13	2	1	2	107	9	4	12	107	8	5	11

Future activity trends (Figure 4.13) were determined and it was reported that milk (six individuals), cheese (five individuals) and eggs (fourteen individuals) would continue with more dairy consumption in the future. Milk, cheese, and egg consumers also indicated they would consume less dairy in the future (four, two and eleven individuals respectively).

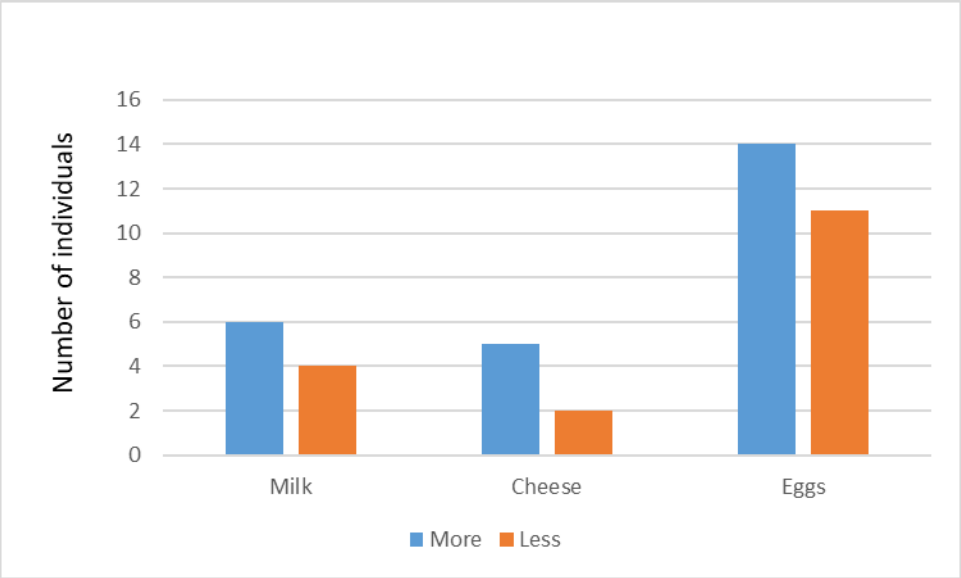


Figure 4.13 Future consumption trends for individuals consuming dairy produce in the Covid-19 survey.

Table 4.9 provides an overview of the responses regarding the sourcing of aquatic produce. Individuals were asked to report on whether aquatic produce sourced was self-caught, bartered or gifted. Individuals consuming fish reported a decrease in self-caught produce post lockdown compared with before lockdown (five individuals and eight individuals respectively) and a decrease in gifting fish produce post lockdown compared with before lockdown (five individuals and seven individuals respectively). Individuals consuming molluscs reported a decrease in self-caught produce post lockdown compared with before lockdown (three individuals and seven individuals respectively) and a decrease in gifting and bartering produce post lockdown compared with before lockdown. Individuals consuming crustaceans reported an increase in gifting and self-caught produce post lockdown (four individuals and five individuals respectively) compared with no individuals sourcing using these methods before lockdown and only three individuals bartering produce during lockdown. No individuals consumed wildfowl or seaweed.

Table 4.9 Aquatic sourcing responses before, during and post lockdown of individuals participating in the Covid-19 survey indicating source of produce.

	Number of individual responses before lockdown				**Number of individual responses during lockdown**				**Number of individual responses post lockdown**			
Food Type	**Local Produce**	**Self-caught**	**Bartered**	**Gifted**	**Local Produce**	**Self-caught**	**Bartered**	**Gifted**	**Local Produce**	**Self-caught**	**Bartered**	**Gifted**
Fish	7	8	18	7	7	4	17	5	7	5	18	5
Molluscs	8	7	11	8	5	2	9	3	7	3	7	2
Crustaceans	0	0	1	0	0	0	3	0	1	5	0	4

Future activity trends (Figure 4.14) were determined and it was reported that fish (two individuals), molluscs (two individuals) and crustaceans (three individuals) consumers would continue with more aquatic consumption in the future. Fish (two individuals) and molluscs (one individual) consumers reported they would continue with less aquatic consumption in the future.

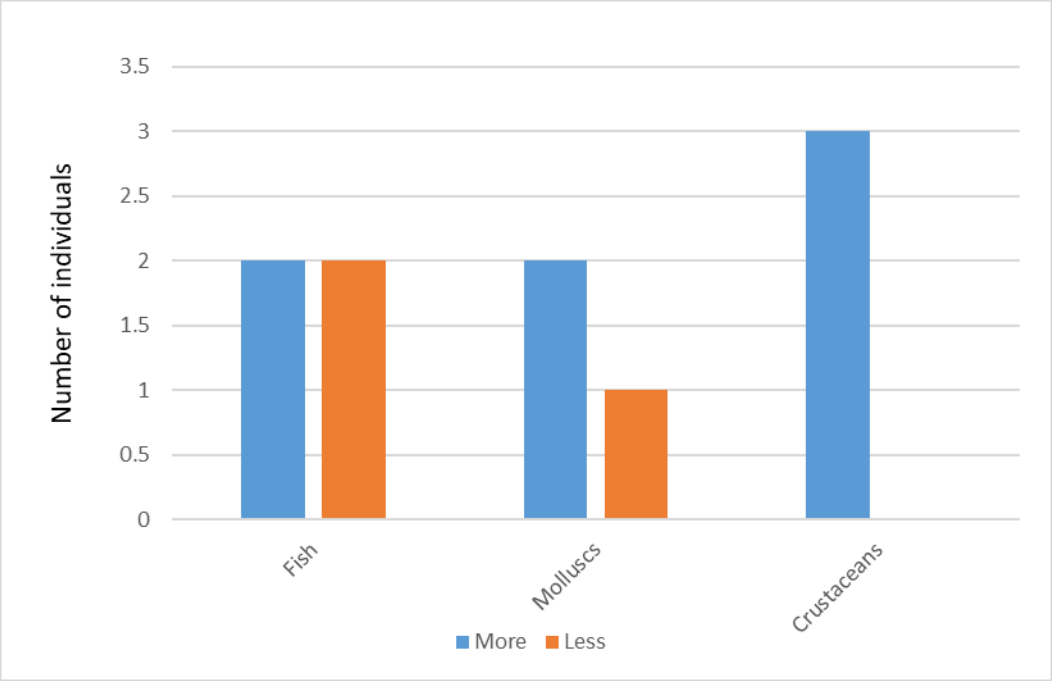


Figure 4.14 Future consumption trends for individuals consuming aquatic produce in the Covid-19 survey.

It was reported that eight individuals sourced seaweed as a fertiliser with the maximum quantities collected before, during and post lockdown 10 kg weekly. All seaweed was sourced within the Hunterston survey area.

4.5 Validating Surveys

Nine individuals were contacted in a follow-up exercise to validate individual's initial habit responses. The initial responses were graded from low to high based upon the number and length of time of activities and/or amount of locally sourced food consumed. Three individuals who had consented to providing their contact details were contacted from each low, medium and high categories. Results of the follow-up survey validations are separated into activity and consumption responses and are displayed in Tables 4.9 and 4.10 respectively.

4.5.1 Validating Survey Results

Of the nine individuals contacted, six clarified their activity habits, most relating to a lack of activity area reported in phase one. For example:

(i) One individual (C), reported a change of substrate from terrestrial to intertidal when walking in the Torness survey area;

(ii) It was unclear from phase one whether Individual D (Dounreay survey area) undertook dog-walking and walking together at the same time or as separate activities. During phase two, it was confirmed that such activities were not undertaken at the same time but separately;

(iii) Individuals B (Faslane) and G (Rosyth) reported walking within their respective survey area in phase one throughout all survey periods. However, when contacted in phase two, both confirmed where they walked in each lockdown period. Individual B confirmed that area varied depending upon the lockdown period clarifying that they only walked within the Faslane survey area before and during the lockdown. Post-lockdown they reported walking outside the Faslane survey area; and,

(iv) Individual G clarified in phase two that they had changed to a more local walking area, within the Rosyth survey, during- and post-lockdown compared to before lockdown (Edinburgh).

Table 4.9 Phase 1 and phase 2 activity habit responses

Individual	Site	Group	Category	Activity	Phase 1 Responses	Phase 2 Responses
A	**Torness**	**High**	Land	Walking	No area info provided	Confirmed as Oldhamstocks & Cockburnspath
			Intertidal	Walking	No area info provided	Confirmed as Torness beach
B	**Faslane**	**High**	Land	Walking	No area info provided	Confirmed walking area: Before: From house During: From house Post: 15 - 20 miles from home
C	**Torness**	**High**	Land	Walking	No area info provided	Confirmed walking on intertidal zone
D	**Dounreay**	**Medium**	Land	Dog-walking	Unclear if undertaken at the same time as walking	Confirmed as a separate activity
				Walking	Unclear if undertaken at the same time dog-walking	Confirmed as a separate activity
E	**Hunterston**	**Medium**	Land	Running	No area info provided	Confirmed as hills around Largs
				Walking	No area info provided	Confirmed as Knock hills
				Cycling	No area info provided	Confirmed as around Greenock
			Intertidal	Rock pooling	No area info provided	Confirmed as Largs by the Pencil
G	**Rosyth**	**Low**	Land	Walking	No area info provided	Confirmed walking area: Before: Edinburgh During: Limekilns & Charlestown Post: Edinburgh, Limekilns & Charlestown

Table 4.10 summaries the issues and responses relating to consumption habits in phase one and phase two. Of the nine individuals contacted, eight clarified issues relating to their consumption habits, all relating to their local source of food types.

Table 4.10 Phase 1 and phase 2 consumption habit responses

Individual	Site	Group	Food Group	Food Type	Phase 1	Phase 2
A	**Torness**	**High**	Fruit & Veg	All	Locally sourced	Bought from local shop
			Meat	All	Locally sourced	Bought from local butcher
			Aquatic	Fish	Locally sourced	Bought from local shop
C	**Torness**	**High**	Fruit	Fruit	Locally sourced	Bought from local greengrocer
			Veg	All	Locally sourced	Bought from local greengrocer
			Meat	All	Locally sourced	Bought from local butcher
			Dairy	Milk	Locally sourced	Bought from a supermarket
			Dairy	Eggs	Locally sourced	Bought from a local greengrocer
			Dairy	Duck eggs	Locally sourced	Sourced from individual in the local village
D	**Dounreay**	**Medium**	Dairy	Duck eggs	Locally sourced	Sourced from a family member
E	**Hunterston**	**Medium**	Dairy	Milk	Locally sourced	Bought locally
F	**Rosyth**	**Medium**	Fruit	Veg	Locally Sourced	All bought from supermarket
			Veg	Fruit	Locally Sourced	All bought from supermarket
			Meat	All	Locally sourced	Bought from local butcher
			Dairy	All	Locally sourced	Bought from local supermarket
G	**Rosyth**	**Low**	Fruit	Pears	Locally sourced	Pear tree in garden
				Apples	Not reported initially	From neighbour's apple tree
H	**Dounreay**	**Low**	Aquatic	Fish	Bartered	Sourced from within 100 miles
				Crabs	Bartered	Sourced from within 100 miles
				Scallops	Bartered	Sourced from Orkney
I	**Chapelcross**	**Low**	Dairy	Milk	Locally sourced	Drinks milk from local farm

The phase two survey provided some insight into individuals' perception of locally sourced food. Individuals A, C and F reported in phase one of buying most of their food from a local source. However, when contacted in phase two, they clarified that such food groups were mainly bought at the local greengrocer; butcher or supermarket where the providence of the food types was unclear.

Individual H initially reported bartering for locally sourced fish, crab, and scallops from within the Dounreay survey area. In phase two it was confirmed that the fish and crab were sourced from an area within 160 km of the Dounreay nuclear licenced site whilst the scallops were sourced from the Orkneys, approximately 30 km from the site.

Phase two surveys therefore proved useful in clarifying sources of locally produced food groups. Individual C and D confirmed that the duck eggs they consumed were sourced from within their respective survey area. Individual G confirmed the source of their locally sourced fruit were from their neighbour (apples) or own garden (pears).

Two individuals contacted in phase two, confirmed the local source of the milk they consumed. Individual E confirmed the milk was bought from a local milk/dairy distributor from within the Hunterston survey area. However, the milk source is stated as Ayrshire on the company's website. Individual I clarified they drank milk from their own herd of cows from a farm within the Chapelcross survey area.

4.6 Desktop Study Trends

This section reports on the information obtained from the desktop study of different businesses and organisations. These groups were comprised of local businesses within the survey area: butchers; fishmongers; greengrocers; the local council regarding allotment demand; and, food banks. Contact was made via email and telephone calls and the information obtained was aggregated across survey area.

4.6.1 Butchers

A total of 29 butchers/markets were identified within the survey area. Of these 15 did not respond or declined to partake in a short survey. Information was obtained from 14 butchers/markets.

Of these 14 respondents, four butchers sourced all their produce from out with the associated survey area. Two butchers source their produce (meat and fresh fruit and vegetables) from out with their associated survey area however some beef is sourced from within the associated survey area. One

butcher sourced all their produce from out with their associated survey area, but a small percentage of their venison was sourced from within their associated survey area. Two butchers sourced their saltmarsh lamb, and one of them also sources beef, from within the associated survey area. Two butchers reported that their meat produce was sourced from within 30 km and 50 km of the associated survey area with no further source information provided. A further butcher sourced all produce from within approximately 40 miles of the associated survey area. One butcher only sources eggs from within the survey area.

Of the butchers who sourced produce from within their associated survey area, eight butchers reported a general increase in demand during the lockdown period. Five of these butchers reported that demand decreased post lockdown however demand for their produce was still increased from pre-Covid levels. Two of the eight butchers reported an increase in demand during the lockdown period but this has now returned to pre-Covid levels.

Five butchers (of which produce is sourced both within and out with the survey area) reported the increase in demand required a change in sales supplies which was reported to be met with no difficulties. It was reported by six butchers that they were of the understanding that customers were preferring to buy from a butcher rather than at a supermarket. Some of these customers were noted to purchase a larger quantity of produce but were visiting less often. One butcher reported some customers travelling much further.

Two butchers reported that a new delivery service had been introduced and it was hoped this would continue in the future.

Two large markets were contacted with information only provided from one. It was reported that all meat produce sold at all their markets, in the associated survey area, is sourced from local producers. These markets were closed until approximately June with an increase in demand reported when they re-opened. This has since decreased; however, it is still at a higher level compared with levels prior to the pandemic. Doorstep deliveries have also greatly increased.

All butcher/market information is within Appendices B2 (Rosyth), C2 (Chapelcross), D2 (Faslane), E2 (Torness), F2 (Hunterston), G2 (Solway Coast) and H2 (Dounreay).

4.6.2 Fishmongers

A total of 22 fishmongers/wholesalers/market businesses were identified within the survey area. Of these premises selling fish products 14 did not respond, were unable to be contacted or declined to partake in a short survey. Information was achieved from eight businesses.

Two fishmongers reported that all their produce is sourced from out with the associated survey area. One fish processing premises reported that it was closed due to Covid-19 during lockdown period. Since re-opening in late summer, it has observed a significant decrease in sales. One fish wholesaler reported that supply was good, but demand had reduced. For example, while some locals normally do visit to purchase produce since Covid-19 this has reduced in frequency. A second fish wholesaler reported that due to a reduction in customer demand from buyers out with the survey area there has been a subsequent reduction in supply. They reported that locally however there was an increase in demand for local seafood produce (which they were able to accommodate) with more local customers rather than individuals purchasing more of a particular produce. A change in services was established to accommodate this. A third wholesaler reported that demand out with the survey area had reduced but that local demand had increased. This increased local demand was met with no difficulties and their fish-van service had increased. They hope this change in service will be sustained. One large market was contacted but the survey team was unable to obtain any relevant information. A second large market reported that local customer demand increased with some small businesses significantly expanded resulting in an increase in fish-van delivery.

All fishmongers/wholesaler/market responses are given within Appendices B3 (Rosyth), C3 (Chapelcross), D3 (Faslane), E3 (Torness), F3 (Hunterston), G3 (Solway Coast) and H3 (Dounreay).

4.6.3 Greengrocers

Twenty greengrocers/wholesalers/market businesses were contacted within the survey area. Of those premises selling fruit and vegetable produce, ten did not respond, were unable to be contacted or declined to partake in a short survey. Information was provided by ten businesses.

Two shops selling fruit and vegetables source all their produce from out with the associated survey area. One shop reported that no fresh produce was sold on its premises. One fruit and vegetable wholesaler reported that most of their fruit and vegetable produce was sourced from out with the associated survey area with a substantial amount of their fruit sourced from out with the United Kingdom. It was reported that during the lockdown period there was an initial increase in demand, but this decreased post lockdown. One large market reported that most of the fruit and vegetable produce was sourced out with the associated survey area with some seasonal produce only being sourced from local growers. Although closed during the lockdown period demand had mainly increased. One greengrocer reported that most of their produce was sourced from a large market out with the associated survey area with a small percentage of produce sourced from local farmers.

A second greengrocer sources some of their produce from within the survey area. A third greengrocer sources their produce from within the associated survey area.

A total of five businesses reported that individuals are preferring to purchase produce from local sources rather than from a supermarket and reported that customer demand had increased during the lockdown period for those premises that were open and in the summer months when re-opened. The same five businesses reported that, during the summer months, many of their customers were tourists. One of these businesses however reported a decrease in customer demand post lockdown. A second of these businesses reported a general decrease in customer demand during the lockdown period compared with the previous year which continued post lockdown. The other three businesses noticed an increased demand which was met. Supply of produce for the increased demand observed was able to be adapted and subsequently met by all three businesses.

Three businesses provide new or adapted services online, home delivery and takeaway services which have been positively received by customers and is hoped that these services will be sustained post lockdown.

One community-based project was contacted and reported an increase of individuals partaking in growing their own vegetables and sourcing locally grown produce. The project hopes and anticipates this to continue in the future.

All greengrocer information is presented within Appendices B4 (Rosyth), C4 (Chapelcross), D4 (Faslane), E4 (Torness), F4 (Hunterston), G4 (Solway Coast) and H4 (Dounreay).

4.6.4 Allotments

Seven councils were contacted to establish allotment use and demand. Three councils reported that they did not hold any allotment sites. One council that does not have any allotments did provide information regarding demand for allotment plots. One council was contacted but no information was obtained. Three councils provided information regarding allotments.

Three councils reported a significant increase in demand for allotment plots during the lockdown period. This demand was unable to be met due to all plots available already allocated. One council is currently looking to providing new sites and this was something that was initiated pre Covid-19. The other two councils are keeping a waiting list of individuals requesting a plot although currently they have no plans to provide further land for allotment sites. Of these three councils, one council

reported that individuals associated with five of their plots within the allotment sites re-focussed their plot to grow more vegetables instead of flowers in order to help provide fresh produce for neighbours during the pandemic. No information was available from the other two council sites to determine if individuals grew more fresh produce during the pandemic.

Despite one council reporting they did not hold any allotment sites they commenced a waiting list at the start of the pandemic in order to help allocate individuals with a plot within an allotment association (privately owned). It was reported by the council that four individuals received an allotment association plot within their council area. The council were unable to determine whether the plot enquiries were greater in demand than normal due to never having created a waiting list system prior to the pandemic.

All details on allotments are given in Appendices B5 (Rosyth), C5 (Chapelcross), D5 (Faslane), E5 (Torness), F5 (Hunterston), G5 (Solway Coast) and H5 (Dounreay).

4.6.5 Food banks

Nineteen food banks were contacted within the associated survey areas. Six food banks did not respond, were unable to be contacted or declined to partake in a short survey. Information was provided by 13 food banks with some of these food banks reported as combined data as they are run by the same provider.

All food banks reported a significant increase in demand during the lockdown period and although this declined post lockdown, they are still experiencing increased levels of demand compared prior to the pandemic. Some of the food banks experienced a reduction in produce donations and where donations were given some were unable to be used due to not having facilities for handling fresh produce. Some food banks also reported donations from local farmers, growers, and allotment plot holders. One food bank reported an increase in financial donations. It was hoped that the new links created with individuals and businesses donating produce/finance would continue to be explored in the future. Some of the food banks have had to adapt to sourcing produce which has been found to be of financial benefit to the food bank and also improved their service.

All food bank details are within Appendices B6 (Rosyth), C6 (Chapelcross), D6 (Faslane), E6 (Torness), F6 (Hunterston), G6 (Solway Coast) and H6 (Dounreay).

5 Crowd Sourced Data Trends

Chapter 5 reports on the potential opportunities that crowd sourced digital data provides for habit surveys. Publicly available, generalised data were initially sourced which provided a broad overview of population habits during the pandemic and this is explained within section 5.1. Further information was also obtained through sourcing more detailed and paid for information which was used to assess the potential for gathering population habit data from around nuclear sites in the future. The data sets are primarily derived from anonymised data from mobile phone signals in everyday usage. Here we explore potential future options for the use of such data.

5.1 Generalised population data

Several data sets are available online, which have generalised data showing countries and cities mobility trends. Despite the data serving to indicate very large areas it does determine that population trends during the lockdown period and indeed post the lockdown period quite significantly observed a decrease in mobility in vehicles and walking. The two cities within Scotland that were determined within the Apple dataset were Edinburgh and Glasgow which have made search data from the Maps app available for research (https://www.apple.com/covid19/mobility). This showed that for individuals driving, in transit (public transport) and walking displayed a similar trend of significantly reduced mobility during the lockdown period (Figure 5.1). This reduced mobility continued in all three categories for some months post lockdown and did not reach similar levels as before lockdown until: early and late July for driving in Glasgow and Edinburgh respectively; and, late July and early August for walking in Glasgow and Edinburgh respectively. The transit category was still not back to before lockdown levels by the middle of October 2020.

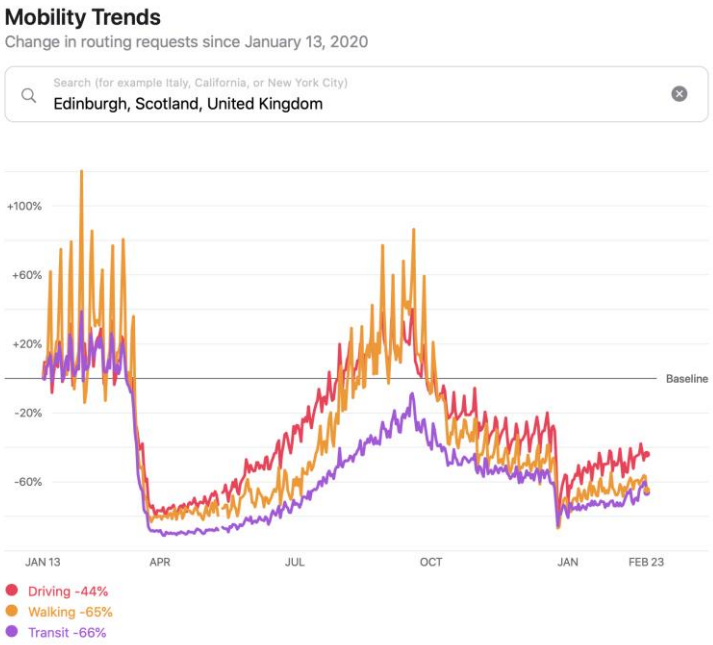


Figure 5.1 Example output from Apple's mobility data for Edinburgh (https://www.apple.com/covid19/mobility).

5.2 Individual mobility trends

This was more difficult to determine therefore a company was approached regarding obtaining appropriate spatial data where the

resolution would show mobility trends within the survey area. It was imperative to ensure individual anonymity while enabling GIS mapping across an appropriate spatial resolution for each study area. Using such data is a novel approach within habit surveys and was explored to assess its potential. Unfortunately, it was not viable for the purpose of this report due to cost. However, all information obtained was reported to SEPA for discussion over potential use in future habit surveys where it could be a valuable tool in determining the occupancy levels within areas within each habits survey. A company was identified who may be able provide the level of detail required for the survey.

An exploratory meeting was held with this company to discuss using their resources for the survey to check whether the necessary data resolution and granularity to display individual mobility mapping around the survey area was feasible. This showed that it would be possible to:

(i) Determine general levels and trends in footfall within the survey area.
(ii) Measure occupancy rates within the survey area.
(iii) Identify catchment areas (i.e., where people come from who pass near or through study area); and,
(iv) Determine general demographic properties.

In utilising mobile-network derived data in such a manner, there are practical aspects to bear in mind:

(i) Typically, mobile network derived data at mid-to-macro level spatial accuracy are used to provide wider context and are often combined with other data sources such as surveys to provide a complete picture.
(ii) The spatial accuracy that can be achieved very much depends on the network mobile radio cell coverage and how these radio cells sit relative to the study area. It may be that the study area either has no mobile network coverage or sits within a radio network cell that has quite large geographic coverage. The practical effect is that it may not be possible to determine how many individuals for example may travel along a particular road; and,
(iii) To protect the privacy of individuals, all analysis needs to be GDPR compliant i.e. that the mobile network data are anonymised and aggregated, before being extrapolated up to represent a sample of the full population. Records would only be provided where there were five or more individuals present during the time period being analysed. Thus, in sparsely populated areas, it may be beneficial to consider longer time frames (e.g. per day) or ‘weekdays’ rather than seeking to understand the data in for example, fifteen minute periods.

Mobile network-derived analysis does however have benefits such as:

(i) It is possible to go back in time with mobile network data to determine past activities;
(ii) Mobile network data have complete breadth of coverage in time and geography. The sample is comprehensive as every day is available, and everyone with a mobile phone is included;
(iii) It often does not suffer from inadvertent bias that may sometimes exist in manual surveys; and,
(iv) It can be gathered remotely without the need to be present, which is particularly important in these socially distanced times.

It was established that to achieve the increased spatial granularity required for the habits surveys, two options are available:

(i) The use of a microcell (approximately £1 000/£2 000 per unit hardware cost) fixed at area of interest (e.g. a specific street etc.) within the study area could be used. If fewer than five individuals are noted within the space of one hour however then these data would not be downloaded from the network for data protection reasons to ensure anonymity and compliance with GDPR. This option only captures individuals however that are connected to one specific mobile network, as opposed to all mobile networks (although this sample can then be extrapolated to represent the whole population). It is possible to determine whether a microcell is required by providing the latitude and longitudes of the site(s) to the organisation for analysis; and,
(ii) The use of a Wi-Fi unit put into a particular area where individuals would be captured if they walked past the unit, but they would remain anonymous, aggregated and GDPR compliant. This option captures all mobile phone subscribers and not just one specific network. The cost of this is to be determined.

Both options did not connect to an individual's mobile phone or provide any service, they simply record, anonymously, the attempted connection to a network.

Proprietary software allows layers of data to be developed and analysed to extract information on the audience of interest. All data can be indexed against national averages and bespoke data can be obtained. A Repeat Visit Index can also be used to determine individuals visiting places of interest on multiple occasions. Note a microcell would most likely be required to achieve this though.

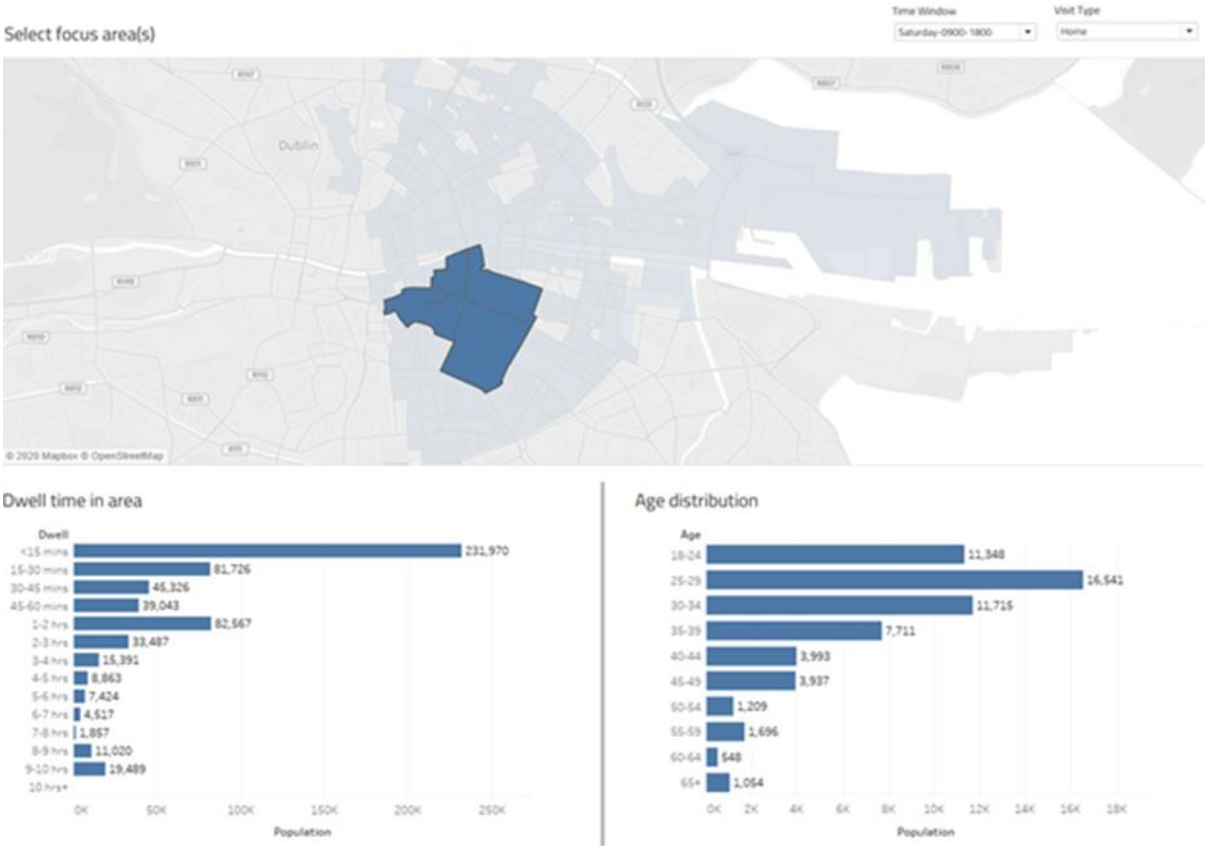


Figure 5.2 An example of the catchment of people passing through an area showing dwell time and age distribution.

6 Recommendations and Suggestions for Monitoring Programme Changes

6.1 Introduction

The Covid-19 Habits Survey presents the results for occupancy, activity and food consumption from three main sources of community engagement: (i) Postal questionnaire (n = 305); (ii) Online questionnaire (n = 15); and, (iii) Desktop study. A further investigation has also demonstrated the potential of crowd sourced digital mobile data to show patterns of the movement of people in the landscape.

6.2 Ongoing Monitoring

Radioactivity in Food and the Environment (RIFE) report demonstrates a comprehensive set of monitoring undertaken annually around all nuclear sites encompassing a range of food types and environmental substrates. The data achieved and reported within standard Habit Surveys are used within the RIFE reports. Samples taken and reported by SEPA are provided within the annual RIFE Report. The impact of Covid-19 should be included in future surveys to establish in greater detail changes in peoples behaviours around nuclear sites.

6.3 Conclusions and Recommendations

This Covid-19 survey was conducted using a combined postal and online survey to maximise the participant inclusion. A total of 7 000 questionnaires were sent out to seven study area around Scotland. Each study area is the subject of routine habits surveys by SEPA that is undertaken every five years to characterise the habits of individuals to assess the impact of authorised discharges from nuclear sites and ensure that the total dose received by the representative person is below both 1 mSv committed effective dose and the 50 mSv skin annual dose limit. A total of 320 questionnaire responses were received.

The Covid-19 survey response rate was lower than anticipated when compared with previous habits focussed postal surveys. An assessment of the responses received suggests that the survey questions may have been too complex or too time consuming for respondents to complete. Given the complexity of habits survey data collection requirements, it may be that this form of postal/online survey is a less effective approach to collect the types of quantitative data required, especially around food production and consumption. In the routine habit surveys, simple postal surveys are used to gather an overview of any changes that might have occurred. However, given the limited ability for face-to-face surveys to be conducted due to the Covid-19 pandemic, postal/online surveys

were the only available option. The low response rate highlights the need for the face-to-face approach in future surveys. Postal surveys should be reviewed to make them as simple as possible.

It was anticipated that the survey data would display a greater number of individuals staying at home during the Covid-19 lockdown period. Several land-based activities showed a greater number of individuals undertaking activities during the lockdown period e.g. rambling/walking and cycling, and there was only a small difference between individuals partaking in outdoor land-based activities before and during lockdown. This was also reflected in the intertidal, in-water and on-water activities. However, in-water and on-water activities did show a more general trend of fewer individuals undertaking aquatic activities, which may reflect the closure of some club activities during the lockdown period.

Some key findings from this Covid-19 survey of changes to people's habits arising from the pandemic's first lockdown (24th March to 19th June 2020) are:

(i) There were more individuals sourcing produce e.g. home grown produce (especially root vegetables and domestic fruit) and eggs. The findings showed individuals intend to continue sourcing local produce in the future;
(ii) Information obtained from greengrocers/wholesalers/markets also showed that customer demand increased both during and post lockdown;
(iii) The changes identified in occupancy rates within the Covid-19 survey were still typically within the range of occupancy rates that have been observed within previous routine habit surveys. However, some of the consumption data was not as reliable which may be in part due to there being no face-to-face survey;
(iv) The findings of the Covid-19 survey show that the routine monitoring of food products for radioactivity in the study area remains fit for purpose as no new habits were identified. We can therefore conclude that the existing monitoring programmes remain fit for purpose;
(v) Some commercial fishing increased during the lockdown period which also reflected the desktop survey highlighting that fishmongers/wholesalers also experienced greater customer demand; and,
(vi) Some activities show an increase post lockdown with the intention to continue in the future e.g. canoeing and outdoor swimming and would therefore be recommended to review in forthcoming habit surveys due to the possibility of the longer-term implications on individual behaviours.

The use of digital crowd sourced data was also explored. These data show great utility for future habit surveys. Such data may be valuable and provide reliable quantitative information which can be extrapolated to look at occupancy rates, dwell times and frequencies in different areas. This method of data collection removes any individual interpretation in terms of time spent in an area and solely relies on the digital data collected. It does not though provide information on what activities are being conducted during this time when the individual is present at the area. It is recommended that the use of such digitally collected data be explored further with the possibility of including it within routine habit surveys in the future.

It is recommended that Covid-19 related questions on behavioural change be asked within future habit surveys to identify any longer-term changes in individual behaviours as a result of the Covid-19 lockdown(s). Several areas are recognised that would benefit from future reviews within the habit surveys, e.g. a shift to growing own food, outdoor activities, wild food collection.

Finally, the survey reported here was a reflection of the changes in habits due to the first Covid-19 lockdown period (24th March to 19th June 2020). It should be noted that an individual's habits may have been altered further due to subsequent lockdowns during the pandemic.

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Appendices

Appendix A1 Raw Data

See supplementary file for raw data.

Appendix A2 Land-based Activities Comparison Tables

Gardening, cycling, freshwater angling and horse-riding show significantly greater occupancy post lockdown than was reported within the previous habit surveys (Table A2i). Of these activities however, the individual horse riding reported to continue with the same occupancy in the future as undertaken post lockdown.

'Other' activities category shows 23 individuals partaking in activities of which 11 reported to continue with more hours in the future. These were for bowling, football ground maintenance, football spectator, tennis, metal detecting, allotments, visiting clients, photography, and birdwatching. Of these, bowling, football ground maintenance, football spectator, tennis, metal detecting and photography exceed the maximum occupancy of all sites in the previous habit surveys. Table A2ii show each activity category mean, median and 97.5th percentile.

Table A2i Before, during and post lockdown maximum occupancy compared with previous site habit surveys.

	Previous habit survey data from all survey sites ($h\ w^{-1}$)							**Covid-19 survey data**		
Activities	**Rosyth**	**Chapelcross**	**Faslane**	**Torness**	**Hunterston**	**Solway Coast**	**Dounreay**	**Before lockdown ($h\ w^{-1}$)**	**During lockdown ($h\ w^{-1}$)**	**Post lockdown ($h\ w^{-1}$)**
Gardening	14.0	41.0	40.0	24.0	21.0	NA	21.0	42.0	70.0	50.0
Foraging	2.00	2.00	ND	1.00	5.00	NA	0.50	6.00	6.00	6.00
Rambling/walking	42.0	24.0	14.0	7.00	21.0	NA	21.0	28.0	28.0	30.0
Golfing	28.0	12.0	ND	ND	0.08	NA	15.0	16.0	3.00	12.0
Dog walking	35.0	28.0	21.0	21.0	14.5	NA	29.0	28.0	21.0	28.0
Covid community work	NA	NA	NA	NA	NA	NA	NA	4.00	64.0	22.0
Cycling	14.0	14.0	8.00	7.00	4.00	NA	3.50	12.0	28.0	28.0

	Previous habit survey data from all survey sites (h w^{-1}) (continued)							Covid-19 survey data (continued)		
Activities	**Rosyth**	**Chapelcross**	**Faslane**	**Torness**	**Hunterston**	**Solway Coast**	**Dounreay**	**Before lockdown (h w^{-1})**	**During lockdown (h w^{-1})**	**Post lockdown (h w^{-1})**
Farming	ND	ND	78.0	84.0	108	NA	91.0	60.0	60.0	60.0
Running	17.5	7.00	4.50	1.00	17.5	NA	0.50	10.0	10.0	12.0
Freshwater angling	ND	ND	ND	ND	ND	NA	0.10	16.0	7.00	10.0
Beekeeping	1.50	3.50	3.00	1.50	8.00	NA	1.00	3.00	3.00	3.00
Other (activities breakdown below)	ND	ND	ND	ND	ND	NA	ND	30.0	28.0	42.0
Shopping	ND	ND	ND	ND	ND	NA	ND	5.00	2.00	5.00
Allotment	35.0	12.0	0.50	ND	42.0	NA	ND	30.0	3.00	30.0
Bowling	6.00	2.00	4.00	ND	4.50	NA	ND	9.00	0.00	8.00
Horse riding	4.00	12.0	21.0	28.0	4.00	NA	7.00	28.0	28.0	42.0
Tai Chi	ND	ND	ND	ND	ND	NA	ND	2.00	6.00	6.00
Football ground maintenance	ND	ND	ND	ND	ND	NA	ND	1.00	20.0	6.00
Football spectator	ND	ND	ND	ND	ND	NA	ND	3.00	0.00	0.00
Tennis	ND	ND	ND	ND	ND	NA	ND	8.00	0.00	8.00
Football	ND	ND	ND	ND	ND	NA	ND	2.00	0.00	0.00
Metal detecting	ND	ND	ND	ND	ND	NA	ND	20.0	0.00	30.0
Visiting clients	ND	ND	ND	ND	ND	NA	ND	15.0	0.00	0.00
Delivering to clients	ND	ND	ND	ND	ND	NA	ND	0.00	15.0	15.0
Meeting friends	ND	ND	ND	ND	ND	NA	ND	0.00	6.00	0.00
Photography	ND	ND	ND	ND	ND	NA	0.50	4.00	0.00	6.00
Bird watching	14.0	28.0	20.0	28.0	21.0	NA	7.00	3.00	8.00	7.00

Table A2ii Land-based activities mean, median and 97.5th percentile before, during and post lockdown.

		Before (hours per week)			During (hours per week)			Post (hours per week)		
Activity	**Number of individuals**	**Mean**	**Median**	**97.5th percentile**	**Mean**	**Median**	**97.5th percentile**	**Mean**	**Median**	**97.5th percentile**
Gardening	257	6.00	4.00	28.0	9.50	6.00	42.0	7.03	4.00	30.0
Foraging	16	2.00	1.00	5.5	1.50	1.00	5.5	1.61	1.00	5.50
Rambling/walking	230	5.50	4.00	15.5	6.50	6.00	20.0	6.04	5.00	20.0
Golfing	14	7.50	8.00	14.5	0.50	0.00	2.50	6.64	8.00	12.0
Dog walking	88	5.50	4.00	20.0	6.50	5.00	20.0	6.18	5.00	29.0
Covid community work	17	0.50	0.00	4.00	9.00	3.00	47.0	4.09	1.50	21.0
Cycling	56	2.50	1.00	10.0	5.00	3.00	17.0	3.75	2.00	14.5
Farming	11	23.	16.0	58.0	24.0	20.0	58.0	28.5	21.0	57.5
Running	29	2.50	2.00	8.00	3.50	3.00	7.00	3.00	3.00	9.00
Freshwater angling	8	7.00	6.50	15.5	1.50	0.00	7.00	5.50	5.00	9.50
Beekeeping	3	2.50	3.00	3.00	2.50	3.00	3.00	2.50	3.00	3.00
Other activities	23	8.30	4.00	29.0	6.50	2.50	28.5	9.5	6.00	35.5

Appendix A3 Consumption Comparison Tables

Table A3i Summary of adult consumption rate of green vegetables from the Covid-19 survey and previous habit report surveys.

Reports	Year	Number of observations (in the full dataset)	Full dataset observed mean (kg w^{-1})	Full dataset 97.5th percentile (kg w^{-1})	Observed median for the full dataset (kg w^{-1})	Maximum consumption for the full dataset (kg w^{-1})	National mean (kg w^{-1})	National 97.5th percentile (kg w^{-1})
Rosyth	2015	22	0.42	1.39	ND	1.43	0.29	0.87
Chapelcross	2015	17	0.11	0.32	ND	0.33	0.29	0.87
Faslane	2016	70	0.15	0.67	ND	0.90	0.29	0.87
Torness	2016	32	0.27	0.79	ND	0.86	0.29	0.87
Hunterston	2017	37	0.29	1.01	ND	1.07	0.29	0.87
Dounreay	2018	26	0.27	0.85	ND	0.85	0.29	0.87
	2020 Before	35	1.02	3.06	0.91	5.00	0.29	0.87
Covid-19	2020 During	38	1.26	5.11	0.98	6.45	0.29	0.87
	2020 Post	37	0.97	3.21	0.62	3.50	0.29	0.87

Compared with previous habit surveys (Table A3i) the Covid-19 survey full dataset mean and the full dataset 97.5th percentile is increased for before, during and post lockdown compared with all other previous site habit surveys. The Covid-19 full dataset mean and full dataset 97.5th percentile is increased compared with the national mean and the national 97.5th percentile. The maximum consumption for the Covid-19 survey is significantly increased for before, during and post lockdown compared with all other previous site habit surveys. The maximum consumption (cabbage) before lockdown was reported to be locally sourced from within the Dounreay survey area. The maximum consumption (kale, lettuce, rhubarb) during lockdown was reported to be home grown from within the Solway Coast survey area. The maximum consumption (broccoli, cabbage, herbs, lettuce, rhubarb) post lockdown was reported to be locally sourced from within the Solway Coast survey area.

Table A3ii Summary of adult consumption rate of root vegetables from the Covid-19 survey and previous habit report surveys.

Reports	Year	Number of observations (in the full dataset)	Full dataset observed mean (kg w^{-1})	Full dataset 97.5th percentile (kg w^{-1})	Observed median for the full dataset (kg w^{-1})	Maximum consumption for the full dataset (kg w^{-1})	National mean (kg w^{-1})	National 97.5th percentile (kg w^{-1})
Rosyth	2015	21	0.43	0.81	ND	0.81	0.19	0.77
Chapelcross	2015	16	0.14	0.33	ND	0.38	0.19	0.77
Faslane	2016	59	0.19	1.10	ND	2.52	0.19	0.77
Torness	2016	30	0.21	0.64	ND	0.76	0.19	0.77
Hunterston	2017	32	0.28	0.89	ND	0.89	0.19	0.77
Dounreay	2018	30	0.22	0.67	ND	0.67	0.19	0.77
	2020 Before	32	1.54	3.68	1.07	3.86	0.19	0.77
Covid-19	2020 During	36	1.57	4.46	1.25	5.50	0.19	0.77
	2020 Post	38	1.55	4.43	1.07	5.90	0.19	0.77

Compared with previous habit surveys (Table A3ii) the Covid-19 survey full dataset mean and the full dataset 97.5th percentile is significantly increased for before, during and post lockdown compared with all other previous site habit surveys. The Covid-19 full dataset mean and full dataset 97.5th percentile is significantly increased compared with the national mean and the national 97.5th percentile. The maximum consumption for the Covid-19 survey is significantly increased for before, during and post lockdown compared with all other previous site habit surveys. The maximum consumption (beetroot, carrots, leek, onion, swede) before lockdown was reported to be locally sourced and home grown from within the Torness survey area. The maximum consumption (beetroot, carrots, leek, onion, swede) during lockdown was reported to be locally sourced and home grown from within the Faslane survey area. The maximum consumption (beetroot, carrots, leek, onion, swede) post lockdown was reported to be locally sourced and home grown from within the Torness survey area.

Table A3iii Summary of adult consumption rate of other vegetables from the Covid-19 survey and previous habit report surveys.

Reports	Year	Number of observations (in the full dataset)	Full dataset observed mean (kg w^{-1})	Full dataset 97.5th percentile (kg w^{-1})	Observed median for the full dataset (kg w^{-1})	Maximum consumption for the full dataset (kg w^{-1})	National mean (kg w^{-1})	National 97.5th percentile (kg w^{-1})
Chapelcross	2015	13	0.11	0.43	ND	0.55	0.38	0.96
Faslane	2016	53	0.11	0.46	ND	0.52	0.38	0.96
Torness	2016	21	0.05	0.16	ND	0.16	0.38	0.96
Hunterston	2017	31	0.17	0.72	ND	0.84	0.38	0.96
Dounreay	2018	19	0.24	0.52	ND	0.52	0.38	0.96
	2020 Before	10	0.58	1.61	0.45	1.81	0.38	0.96
Covid-19	2020 During	11	0.59	1.81	0.45	1.81	0.38	0.96
	2020 Post	17	0.68	1.81	0.45	1.81	0.38	0.96

Compared with previous habit surveys (Table A3iii) the Covid-19 survey full dataset mean and the full dataset 97.5th percentile is increased for before, during and post lockdown compared with all other previous site habit surveys. The Covid-19 full dataset mean and full dataset 97.5th percentile is increased compared with the national mean and the national 97.5th percentile. The maximum consumption for the Covid-19 survey is increased for before, during and post lockdown compared with all other previous site habit surveys. No 'other' vegetable category was determined within the previous Rosyth habit survey. The maximum consumption (peas and beans) before lockdown was reported to be home grown from within the Solway Coast survey area. The maximum consumption (peas and beans) during lockdown was reported to be home grown from within the Solway Coast survey area. The maximum consumption (peas and beans) post lockdown was reported to be home grown from within the Solway Coast survey area.

Table A3iv Summary of adult consumption rate of potatoes from the Covid-19 survey and previous habit report surveys.

Reports	Year	Number of observations (in the full dataset)	Full dataset observed mean (kg w^{-1})	Full dataset 97.5th percentile (kg w^{-1})	Observed median for the full dataset (kg w^{-1})	Maximum consumption for the full dataset (kg w^{-1})	National mean (kg w^{-1})	National 97.5th percentile (kg w^{-1})
Rosyth	2015	14	0.47	0.94	ND	0.96	0.96	2.31
Chapelcross	2015	15	0.69	3.60	ND	3.60	0.96	2.31
Faslane	2016	66	0.39	3.19	ND	3.85	0.96	2.31
Torness	2016	25	0.52	2.27	ND	2.27	0.96	2.31
Hunterston	2017	44	0.29	0.94	ND	0.96	0.96	2.31
Dounreay	2018	34	0.38	1.48	ND	1.48	0.96	2.31
	2020 Before	36	1.95	5.20	1.36	13.6	0.96	2.31
Covid-19	2020 During	36	1.58	3.68	1.36	4.00	0.96	2.31
	2020 Post	34	1.69	4.70	1.18	8.00	0.96	2.31

Compared with previous habit surveys (Table A3iv) the Covid-19 survey full dataset mean and the full dataset 97.5th percentile is increased for before, during and post lockdown compared with all other previous site habit surveys. The Covid-19 full dataset mean and full dataset 97.5th percentile is increased compared with the national mean and the national 97.5th percentile. The maximum consumption is increased for before, during and post lockdown compared with all other previous site habit surveys. The maximum consumption before lockdown was reported to be locally sourced from within the Dounreay survey area. The maximum consumption during lockdown was reported to be locally sourced from within the Dounreay survey area. The maximum consumption post lockdown was sourced from within the Solway Coast survey area. No sourcing method was given.

Table A3v Summary of adult consumption rate of domestic fruit from the Covid-19 survey and previous habit report surveys.

Reports	Year	Number of observations (in the full dataset)	Full dataset observed mean (kg w^{-1})	Full dataset 97.5th percentile (kg w^{-1})	Observed median for the full dataset (kg w^{-1})	Maximum consumption for the full dataset (kg w^{-1})	National mean (kg w^{-1})	National 97.5th percentile (kg w^{-1})
Rosyth	2015	19	0.26	0.73	ND	0.75	0.38	1.44
Chapelcross	2015	24	0.11	0.55	ND	0.82	0.38	1.44
Faslane	2016	82	0.41	1.74	ND	3.87	0.38	1.44
Torness	2016	30	0.78	2.39	ND	2.56	0.38	1.44
Hunterston	2017	41	0.42	0.95	ND	1.43	0.38	1.44
Dounreay	2018	40	0.53	3.10	ND	3.29	0.38	1.44
	2020 Before	46	1.20	5.48	0.45	14.4	0.38	1.44
Covid-19	2020 During	46	1.64	7.14	0.91	7.71	0.38	1.44
	2020 Post	46	1.61	6.21	1.12	6.80	0.38	1.44

Compared with previous habit surveys (Table A3v) the Covid-19 survey full dataset mean and the full dataset 97.5th percentile is increased for before, during and post lockdown compared with all other previous site habit surveys. The Covid-19 full dataset mean and full dataset 97.5th percentile is increased compared with the national mean and the national 97.5th percentile. The maximum consumption for the Covid-19 survey is increased for before, during and post lockdown compared with all other previous site habit surveys. The maximum consumption (apples, courgette, marrow, gooseberries, raspberries, peppers and tomatoes) before lockdown was reported to be locally sourced and home grown from within the Chapelcross survey area. The maximum consumption (apples) during lockdown was reported to be gifted from within the Torness survey area. The maximum consumption (apples) post lockdown was reported to be gifted from within the Torness survey area.

Table A3vi Summary of adult consumption rate of wild fruit from the Covid-19 survey and previous habit report surveys.

Reports	Year	Number of observations (in the full dataset)	Full dataset observed mean (kg w^{-1})	Full dataset 97.5th percentile (kg w^{-1})	Observed median for the full dataset (kg w^{-1})	Maximum consumption for the full dataset (kg w^{-1})	National mean (kg w^{-1})	National 97.5th percentile (kg w^{-1})
Chapelcross	2015	41	0.10	0.31	ND	0.46	0.13	0.48
Faslane	2016	52	0.03	0.14	ND	0.31	0.13	0.48
Torness	2016	28	0.12	0.75	ND	1.79	0.13	0.48
Hunterston	2017	38	0.06	0.23	ND	0.27	0.13	0.48
Dounreay	2018	13	0.01	0.02	ND	0.02	0.13	0.48
	2020 Before	4	1.02	2.97	0.34	3.18	0.13	0.48
Covid-19	2020 During	2	1.13	1.35	1.13	1.36	0.13	0.48
	2020 Post	9	2.18	4.80	1.36	50.34	0.13	0.48

Compared with previous habit surveys (Table A3vi) the Covid-19 survey full dataset mean and the full dataset 97.5th percentile is significantly increased before, during and post lockdown compared with all other previous site habit surveys. The Covid-19 full dataset mean and full dataset 97.5th percentile is significantly increased compared with the national mean and the national 97.5th percentile. The maximum consumption for the Covid-19 survey is significantly increased before and post lockdown compared with all previous site habit surveys. The maximum consumption for the Covid-19 survey during lockdown is increased compared with all previous site habit surveys with the exception of Torness. There was no consumption determined for the previous Rosyth habit survey. The maximum consumption (brambles, elderflowers, damsons) before lockdown was reported to foraged from within the Chapelcross survey area. The maximum consumption (brambles and elderflowers) during lockdown was reported to be foraged from within the Chapelcross survey area. The maximum consumption (brambles and sloe berries) post lockdown was reported to be foraged from within the Solway Coast survey area.

Table A3vii Summary of adult consumption rate of beef from the Covid-19 survey and previous habit report surveys.

Reports	Year	Number of observations (in the full dataset)	Full dataset observed mean (kg w^{-1})	Full dataset 97.5th percentile (kg w^{-1})	Observed median for the full dataset (kg w^{-1})	Maximum consumption for the full dataset (kg w^{-1})	National mean (kg w^{-1})	National 97.5th percentile (kg w^{-1})
Rosyth	2015	1	0.4	0.4	ND	0.4	0.29	0.87
Chapelcross	2015	40	0.25	0.77	ND	1.40	0.29	0.87
Faslane	2016	10	0.36	0.63	ND	0.66	0.29	0.87
Torness	2016	2	0.90	0.90	ND	0.90	0.29	0.87
Hunterston	2017	8	0.12	0.48	ND	0.54	0.29	0.87
Dounreay	2018	3	0.35	0.95	ND	1	0.29	0.87
	2020 Before	31	0.66	1.14	0.50	1.36	0.29	0.87
Covid-19	2020 During	30	0.69	1.54	0.48	2	0.29	0.87
	2020 Post	29	0.65	1.16	0.50	1.36	0.29	0.87

Compared with previous habit surveys (Table A3vii) the Covid-19 survey full dataset mean is increased for before, during and post lockdown compared with all other previous site habit surveys, with the exception of Torness. the Covid-19 survey full dataset 97.5th percentile is increased for before, during and post lockdown compared with all other previous site habit surveys, The Covid-19 full dataset mean and full dataset 97.5th percentile is increased compared with the national mean and the national 97.5th percentile. The maximum consumption for the Covid-19 survey is increased before, during and post lockdown compared with all other previous site habit surveys with the exception of Chapelcross, where the Covid 19 survey before and post lockdown consumption is slightly decreased. The maximum consumption before lockdown was reported to be locally sourced from within the Solway Coast survey area. The maximum consumption during lockdown was reported to be locally sourced from within the Torness survey area. The maximum consumption post lockdown was reported to be locally sourced from within the Solway Coast survey area.

Table A3viii Summary of adult consumption rate of game from the Covid-19 survey and previous habit report surveys.

* game meat consists of venison, rabbit and hare and was reported together as game within the Chapelcross 2015 habit survey

Reports	Year	Game categories	Number of observations (in the full dataset)	Full dataset observed mean (kg w^{-1})	Full dataset 97.5th percentile (kg w^{-1})	Observed median for the full dataset (kg w^{-1})	Maximum consumption for the full dataset (kg w^{-1})	National mean (kg w^{-1})	National 97.5th percentile (kg w^{-1})
Chapelcross	2015	Game*	11	0.04	0.20	ND	0.24	ND	ND
Faslane	2016	Game – birds	5	0.14	0.35	ND	0.58	ND	ND
Torness	2016	Game – birds	17	0.06	0.22	ND	0.22	ND	ND
Torness	2016	Game – rabbit & hare	8	0.01	0.25	ND	0.25	ND	ND
Hunterston	2017	Game – birds	11	0.05	0.17	ND	0.19	ND	ND
Dounreay	2018	Game – birds	10	0.05	0.13	ND	0.13	ND	ND
	2020 Before	Rabbit, hare and game birds	1	0.45	NA	0.45	0.45	ND	ND
Covid-19	2020 During	Rabbit, hare and game birds	1	0.45	NA	0.45	0.45	ND	ND
	2020 Post	Rabbit, hare and game birds	0	NA	NA	NA	NA	ND	ND
Faslane	2016	Game – venison	7	0.16	0.53	ND	0.58	ND	ND
Torness	2016	Game – venison	12	0.12	0.50	ND	0.50	ND	ND
Hunterston	2017	Game – venison	5	0.04	0.06	ND	0.06	ND	ND
Dounreay	2018	Game – venison	17	0.23	0.83	ND	0.83	ND	ND
	2020 Before	Game – venison	1	0.45	NA	0.45	0.45	ND	ND
Covid-19	2020 During	Game – venison	3	0.39	0.50	0.45	0.50	ND	ND
	2020 Post	Game – venison	4	0.41	0.50	0.45	0.50	ND	ND

Compared with previous habit surveys (Table A3viii) the Covid-19 survey full dataset mean for game birds, hare and rabbit is increased before and during lockdown compared with all other previous site habit surveys. The maximum consumption for the Covid-19 survey is

increased before and during lockdown compared with Chapelcross, Torness, Hunterston and Dounreay but decreased compared with Faslane and comparable with the Torness previous habit surveys. No consumption was determined in the previous Rosyth habit survey. The maximum consumption (pheasant) before lockdown was reported to be locally sourced/shot from within the Solway Coast survey area. The maximum (pheasant) consumption during lockdown was reported to be locally sourced/shot from within the Solway Coast survey area.

Compared with previous habit surveys (Table A3viii) the Covid-19 survey full dataset mean for venison is increased before, during and post lockdown compared with all other previous site habit surveys. The full dataset 97.5th percentile during and post lockdown is decreased compared with Dounreay, increased compared with the Hunterston and comparable with the Faslane and Torness previous habit surveys. The maximum consumption for the Covid-19 survey decreased before, during and post lockdown compared with Dounreay, Faslane and Torness but increased compared with the Hunterston (and Chapelcross) previous habit surveys. No consumption was determined in the previous Rosyth habit survey. The maximum consumption before lockdown was reported to be locally sourced/shot from within the Dounreay survey area. The maximum consumption during lockdown was reported to be locally sourced/shot from within the Dounreay survey area. The maximum consumption post lockdown was reported to be locally sourced/shot from within the Dounreay survey area.

Table A3ix Summary of adult consumption rate of poultry from the Covid-19 survey and previous habit report surveys.

Reports	Year	Number of observations (in the full dataset)	Full dataset observed mean (kg w^{-1})	Full dataset 97.5th percentile (kg w^{-1})	Observed median for the full dataset (kg w^{-1})	Maximum consumption for the full dataset (kg w^{-1})	National mean (kg w^{-1})	National 97.5th percentile (kg w^{-1})
Rosyth	2015	1	0.20	NA	ND	0.20	0.19	0.58
Chapelcross	2015	25	0.28	0.48	ND	0.6	0.19	0.58
Faslane	2016	1	0.07	NA	ND	0.07	0.19	0.58
Torness	2016	5	0.17	0.17	ND	0.17	0.19	0.58
Hunterston	2017	5	0.03	0.04	ND	0.04	0.19	0.58
	2020 Before	18	0.91	2.68	0.70	3.18	0.19	0.58
Covid-19	2020 During	19	0.96	3.10	0.75	3.18	0.19	0.58
	2020 Post	17	0.96	2.43	0.91	2.72	0.19	0.58

Compared with previous habit surveys (Table A3ix) the Covid-19 survey full dataset mean and the full dataset 97.5th percentile is significantly increased before, during and post lockdown compared with all other previous site habit surveys. The Covid-19 full dataset mean and full dataset 97.5th percentile is significantly increased compared with the national mean and the national 97.5th percentile. The maximum consumption for the Covid-19 survey is significantly increased for before, during and post lockdown compared with all other previous site habit surveys. There was no consumption determined for the previous Dounreay habit survey. The maximum consumption (chicken) before lockdown was reported to be locally sourced from within the Solway Coast survey area. The maximum consumption (chicken) during lockdown was reported to be locally sourced from within the Solway Coast survey area. The maximum consumption (chicken) post lockdown was reported to be locally sourced from within the Solway Coast survey area.

Table A3x Summary of adult consumption rate of sheep meat (and saltmarsh lamb) from the Covid-19 survey and previous habit report surveys.

Reports	Year	Number of observations (in the full dataset)	Full dataset observed mean (kg w^{-1})	Full dataset 97.5th percentile (kg w^{-1})	Observed median for the full dataset (kg w^{-1})	Maximum consumption for the full dataset (kg w^{-1})	National mean (kg w^{-1})	National 97.5th percentile (kg w^{-1})
Chapelcross	2015	12	0.13	0.38	ND	0.40	0.15	0.48
Faslane	2016	9	0.46	0.64	ND	0.66	0.15	0.48
Torness	2016	2	0.05	0.09	ND	0.09	0.15	0.48
Hunterston	2017	9	0.19	0.42	ND	0.46	0.15	0.48
Solway Coast	2017	6	0.19	0.19	ND	0.19	ND	ND
Dounreay	2018	5	0.15	0.46	ND	0.50	0.15	0.48
	2020 Before	16	0.54	1.19	0.45	1.36	0.15	0.48
Covid-19	2020 During	16	0.52	1.19	0.45	1.36	0.15	0.48
	2020 Post	16	0.56	1.23	0.45	1.36	0.15	0.48

Compared with previous habit surveys (Table A3x) the Covid-19 survey full dataset mean and the full dataset 97.5th percentile is significantly increased before, during and post lockdown compared with all other previous site habit surveys. The Covid-19 full dataset mean and full dataset 97.5th percentile is significantly increased compared with the national mean and the national 97.5th percentile. The maximum consumption for the Covid-19 survey is significantly increased for before, during and post lockdown compared with all other previous site habit surveys. There was no consumption determined for the previous Rosyth habit survey. The maximum consumption before lockdown was reported to be locally sourced from within the Solway Coast survey area. The maximum consumption during lockdown was reported to be locally sourced from within the Solway Coast survey area. The maximum consumption post lockdown was reported to be locally sourced from within the Solway Coast survey area.

Table A3xi Summary of adult consumption rate of pork from the Covid-19 survey and previous habit report surveys.

Reports	Year	Number of observations (in the full dataset)	Full dataset observed mean (kg w^{-1})	Full dataset 97.5th percentile (kg w^{-1})	Observed median for the full dataset (kg w^{-1})	Maximum consumption for the full dataset (kg w^{-1})	National mean (kg w^{-1})	National 97.5th percentile (kg w^{-1})
Dounreay	2018	3	0.77	0.77	ND	0.77	0.29	0.77
	2020 Before	16	0.58	1	0.48	1	0.29	0.77
Covid-19	2020 During	17	0.56	0.96	0.45	1	0.29	0.77
	2020 Post	16	0.57	0.97	0.48	1	0.29	0.77

Compared with previous habit surveys (Table A3xi) the Covid-19 survey full dataset mean is decreased compared with the previous Dounreay habit survey. The Covid-19 survey full dataset 97.5th percentile is increased before, during and post lockdown compared with the previous Dounreay habit survey. The Covid-19 full dataset mean and full dataset 97.5th percentile is increased compared with the national mean and the national 97.5th percentile. The maximum consumption for the Covid-19 survey is increased for before, during and post lockdown compared with the previous Dounreay habit survey. There was no consumption determined for the previous Rosyth, Chapelcross, Faslane, Torness and Hunterston habit surveys. The maximum consumption before lockdown was reported to be locally sourced from within the Solway Coast and Torness survey area. The maximum consumption during lockdown was reported to be locally sourced from within the Torness survey area. The maximum consumption post lockdown was reported to be locally sourced from within the Torness survey area.

Table A3xii Summary of adult consumption rate of eggs from the Covid-19 survey and previous habit report surveys.

Reports	Year	Number of observations (in the full dataset)	Full dataset observed mean (kg w^{-1})	Full dataset 97.5th percentile (kg w^{-1})	Observed median for the full dataset (kg w^{-1})	Maximum consumption for the full dataset (kg w^{-1})	National mean (kg w^{-1})	National 97.5th percentile (kg w^{-1})
Chapelcross	2015	11	0.23	0.39	ND	0.41	0.16	0.48
Faslane	2016	42	0.21	0.69	ND	0.70	0.16	0.48
Torness	2016	28	0.24	0.51	ND	0.51	0.16	0.48
Hunterston	2017	29	0.28	0.72	ND	0.72	0.16	0.48
Dounreay	2018	24	0.23	0.57	ND	0.82	0.16	0.48
	2020 Before	58	0.56	1.39	0.44	1.39	0.16	0.48
Covid-19	2020 During	57	0.55	1.39	0.38	1.43	0.16	0.48
	2020 Post	57	0.54	1.32	0.38	1.39	0.16	0.48

Compared with previous habit surveys (Table A3xii) the Covid-19 survey full dataset mean and the full dataset 97.5th percentile is increased before, during and post lockdown compared with all other previous site habit surveys. The Covid-19 full dataset mean and full dataset 97.5th percentile is increased compared with the national mean and the national 97.5th percentile. The maximum consumption for the Covid-19 survey is increased for before, during and post lockdown compared with all other previous site habit surveys. There was no consumption determined for the previous Rosyth habit survey. The maximum consumption (hen eggs) before lockdown was reported to be locally produced, own reared and gifted from within the Dounreay and Solway Coast survey area. The maximum consumption (hen and duck eggs) during lockdown was reported to be locally produced from within the Solway Coast survey area. The maximum consumption (hen eggs) post lockdown was reported to be locally produced and gifted from within the Dounreay and Solway Coast Survey area.

Table A3xiii Summary of adult consumption rate of milk from the Covid-19 survey and previous habit report surveys.

Reports	Year	Number of observations (in the full dataset)	Full dataset observed mean (l w^{-1})	Full dataset 97.5th percentile (l w^{-1})	Observed median for the full dataset (l w^{-1})	Maximum consumption for the full dataset (l w^{-1})	National mean (l w^{-1})	National 97.5th percentile (l w^{-1})
Chapelcross	2015	20	5.40	10.9	ND	13.9	1.83	4.62
	2020 Before	30	2.54	5.94	1.89	6.62	1.83	4.62
Covid-19	2020 During	28	2.65	6.78	1.89	7.10	1.83	4.62
	2020 Post	30	2.69	6.73	2.13	7.10	1.83	4.62

Compared with previous habit surveys (Table A3xiii) the Covid-19 survey full dataset mean and the full dataset 97.5th percentile is decreased before, during and post lockdown compared with the previous Chapelcross habit surveys. The Covid-19 full dataset mean and full dataset 97.5th percentile is decreased compared with the national mean and the national 97.5th percentile. The maximum consumption for the Covid-19 survey is decreased for before, during and post lockdown compared with all other previous site habit surveys. There was no consumption determined for the previous Rosyth, Faslane, Torness, Hunterston and Dounreay habit survey. The maximum consumption (cow milk) before lockdown was reported to be locally produced from within the Solway Coast survey area. The maximum consumption (cow milk) during lockdown was reported to be locally produced from within the Hunterston survey area. The maximum consumption (cow milk) post lockdown was reported to be locally produced from within the Hunterston survey area.

Table A3xiv Summary of adult consumption rate of cheese from the Covid-19 survey and previous habit report surveys.

Reports	Year	Number of observations (in the full dataset)	Full dataset observed mean (kg w^{-1})	Full dataset 97.5th percentile (kg w^{-1})	Observed median for the full dataset (kg w^{-1})	Maximum consumption for the full dataset (kg w^{-1})	National mean (kg w^{-1})	National 97.5th percentile (kg w^{-1})
	2020 Before	13	0.96	2.59	0.91	2.72	ND	ND
Covid-19	2020 During	13	0.76	2.59	0.45	2.72	ND	ND
	2020 Post	13	0.71	2.12	0.45	2.72	ND	ND

No consumption of cheese was determined during the previous site habit surveys therefore there is no comparison. The maximum consumption (goat cheese) before, during and post lockdown was reported to be locally produced from within the Dounreay survey area.

Table A3xv Summary of adult consumption rate of fish from the Covid-19 survey and previous habit report surveys.

Reports	Year	Number of observations (in the full dataset)	Full dataset observed mean (kg w^{-1})	Full dataset 97.5th percentile (kg w^{-1})	Observed median for the full dataset (kg w^{-1})	Maximum consumption for the full dataset (kg w^{-1})	National mean (kg w^{-1})	National 97.5th percentile (kg w^{-1})
Rosyth	2015	42	0.25	2.04	ND	2.10	0.29	0.77
Chapelcross	2015	25	0.20	0.88	ND	0.90	0.29	0.77
Faslane	2016	41	0.22	0.92	ND	3.87	0.29	0.77
Torness	2016	95	0.39	2.13	ND	4.00	0.29	0.77
Hunterston	2017	46	0.22	1.04	ND	1.81	0.29	0.77
Solway Coast	2017	50	0.14	0.58	ND	1.03	0.29	0.77
Dounreay	2018	110	0.30	0.98	ND	1.80	0.29	0.77
	2020 Before	64	0.63	1.31	0.45	1.36	0.29	0.77
Covid-19	2020 During	52	0.79	1.33	0.68	1.36	0.29	0.77
	2020 Post	52	0.90	2.15	0.82	2.45	0.29	0.77

Compared with previous habit surveys (Table A3xv) the Covid-19 survey full dataset mean is increased for before, during and post lockdown compared with all other previous site habit surveys. The Covid-19 survey full dataset 97.5th percentile before and during lockdown is increased compared with Chapelcross, Faslane, Hunterston, Solway Coast and Dounreay previous habit surveys and decrease compared with Rosyth and Torness. The Covid-19 full dataset 97.5th percentile post lockdown is comparable with the Torness previous habit survey and increased compared with the other site habit surveys. The Covid-19 full dataset mean and full dataset 97.5th percentile is increased compared with the national mean and the national 97.5th percentile. The maximum consumption is increased for before, during and post lockdown compared with the Solway Coast and Chapelcross previous habit surveys. The maximum consumption for the Covid-19 survey is decreased before, during and post lockdown compared with Faslane and Torness previous habit surveys. The maximum consumption for before and during lockdown is decreased from the previous Rosyth, Hunterston and Dounreay survey maximum consumptions however the

consumption post lockdown is increased compared with the Rosyth, Hunterston and Dounreay survey maximum consumptions. The maximum consumption (haddock and salmon) before lockdown was reported to be locally sourced from a fishshop within the Dounreay survey area. The maximum consumption (haddock and salmon) during lockdown was reported to be locally sourced from a fishshop within the Dounreay survey area. The maximum consumption (haddock and salmon) post lockdown was reported to be locally sourced from a fishshop within the Dounreay survey area.

Table A3xvi Summary of adult consumption rate of crustaceans from the Covid-19 survey and previous habit report surveys.

Reports	Year	Number of observations (in the full dataset)	Full dataset observed mean (kg w^{-1})	Full dataset 97.5th percentile (kg w^{-1})	Observed median for the full dataset (kg w^{-1})	Maximum consumption for the full dataset (kg w^{-1})	National mean (kg w^{-1})	National 97.5th percentile (kg w^{-1})
Rosyth	2015	16	0.13	0.58	ND	0.60	0.07	0.19
Chapelcross	2015	2	0.21	0.38	ND	0.40	0.07	0.19
Faslane	2016	4	0.07	0.23	ND	0.25	0.07	0.19
Torness	2016	54	0.18	0.70	ND	0.91	0.07	0.19
Hunterston	2017	13	0.26	0.50	ND	0.50	0.07	0.19
Solway Coast	2017	17	0.25	1.33	ND	1.40	0.07	0.19
Dounreay	2018	45	0.14	0.48	ND	0.67	0.07	0.19
	2020 Before	21	0.67	1.00	0.91	1.00	0.07	0.19
Covid-19	2020 During	20	0.49	0.88	0.45	0.91	0.07	0.19
	2020 Post	19	0.94	1.34	1.00	1.36	0.07	0.19

Compared with previous habit surveys (Table A3xvi) the Covid-19 survey full dataset mean is increased for before, during and post lockdown compared with all other previous site habit surveys. The Covid-19 survey full dataset 97.5th percentile is increased with all previous site habit surveys with the exception of the Solway Coast. The Covid-19 survey full dataset 97.5th percentile before and during the lockdown period is decreased compared with the previous Solway Coast habit survey however the post lockdown 97.5th percentile is increased compared with the previous Solway Coast habit survey. The Covid-19 full dataset mean and full dataset 97.5th percentile is increased compared with the national mean and the national 97.5th percentile. The maximum consumption is increased before and post lockdown with all previous site habit surveys with the exception of the Solway Coast. The maximum consumption for the Covid-19 habit survey during lockdown is increased with Rosyth, Chapelcross, Faslane, Hunterston and Dounreay previous habit surveys, comparable with Torness and decreased compared with the Solway Coast. The maximum consumption (crab) before lockdown was reported to be bartered from within the Dounreay survey area. The maximum consumption (prawns) during lockdown was reported to be bartered from

within the Torness survey area. The maximum consumption (prawns) post lockdown was reported to be bartered from within the Torness survey area.

Table A3xvii Summary of adult consumption rate of molluscs from the Covid-19 survey and previous habit report surveys.

Reports	Year	Number of observations (in the full dataset)	Full dataset observed mean (kg w^{-1})	Full dataset 97.5th percentile (kg w^{-1})	Observed median for the full dataset (kg w^{-1})	Maximum consumption for the full dataset (kg w^{-1})	National mean (kg w^{-1})	National 97.5th percentile (kg w^{-1})
Rosyth	2015	4	0.15	0.29	ND	0.31	0.07	0.19
Chapelcross	2015	2	0.04	0.06	ND	0.06	0.07	0.19
Faslane	2016	3	0.01	0.02	ND	0.02	0.07	0.19
Torness	2016	10	0.14	0.78	ND	0.87	0.07	0.19
Hunterston	2017	10	0.12	0.49	ND	0.55	0.07	0.19
Solway Coast	2017	23	0.08	0.37	ND	0.53	0.07	0.19
Dounreay	2018	21	0.05	0.41	ND	0.41	0.07	0.19
	2020 Before	5	0.10	0.10	0.10	0.10	0.07	0.19
Covid-19	2020 During	3	0.10	0.10	0.10	0.10	0.07	0.19
	2020 Post	5	0.22	0.30	0.25	0.30	0.07	0.19

Compared with previous habit surveys (Table A3xvii) the Covid-19 survey full dataset mean is increased for before and during lockdown compared with Chapelcross, Faslane, Solway Coast and Dounreay previous habit surveys and decreased compared with Rosyth, Torness and Hunterston previous habit surveys. The Covid-19 survey full dataset 97.5th percentile before and during lockdown is increased compared with Chapelcross and Faslane previous site habit surveys and decreased compared with all other site habit surveys. The Covid-19 survey full dataset 97.5th percentile post lockdown is increased compared with Chapelcross and Faslane, comparable with Rosyth and decreased compared with Torness, Hunterston, Solway Coast and Dounreay previous habit surveys. The maximum consumption for the Covid-19 survey before, during and post lockdown is increased with Chapelcross and Faslane previous habit surveys. The maximum consumption for the Covid-19 survey before and during lockdown is decreased compared with Rosyth, Torness, Hunterston, Solway Coast and Dounreay previous habit surveys. The maximum consumption for the Covid-19

survey post lockdown is comparable with Rosyth and decreased compared with Torness, Hunterston, Solway Coast and Dounreay previous habit surveys. The maximum consumption (scallops) before lockdown was reported to be bartered from within the Dounreay survey area. The maximum consumption (scallops) during lockdown was reported to be bartered from within the Dounreay survey area. The maximum consumption (scallops) post lockdown was reported to be bartered from within the Chapelcross survey area.

Appendix B Rosyth

B1 Survey area description

The survey area extends approximately 20 km of coastline on the north side of the Firth of Forth and extends approximately a 10 km radial inland from Rosyth Naval Dockyard (Figure B i). In agreement with SEPA the survey team contacted boating clubs situated on the south side of the Firth of Forth to determine any changes in occupancy time spent on the water during the pandemic. Boating details are presented in Appendix B7.

The marine (aquatic and intertidal) survey area covered a stretch of the Firth of Forth and its intertidal areas (from west to east) stretching from the Torryburn area and extending to east of Aberdour. The Fife Coastal Path runs along the coast of the survey area. The coastal survey area substrate is a mixture of: sandy beaches; mud and sand flats; rock, sand and pebble beaches; and, rocky outcrops.

The terrestrial survey area extends approximately a 10 km radial inland from the Rosyth Naval Dockyard. Much of the land within the terrestrial survey area is agricultural. The terrestrial survey area comprises of populated urban town, country villages and industry.

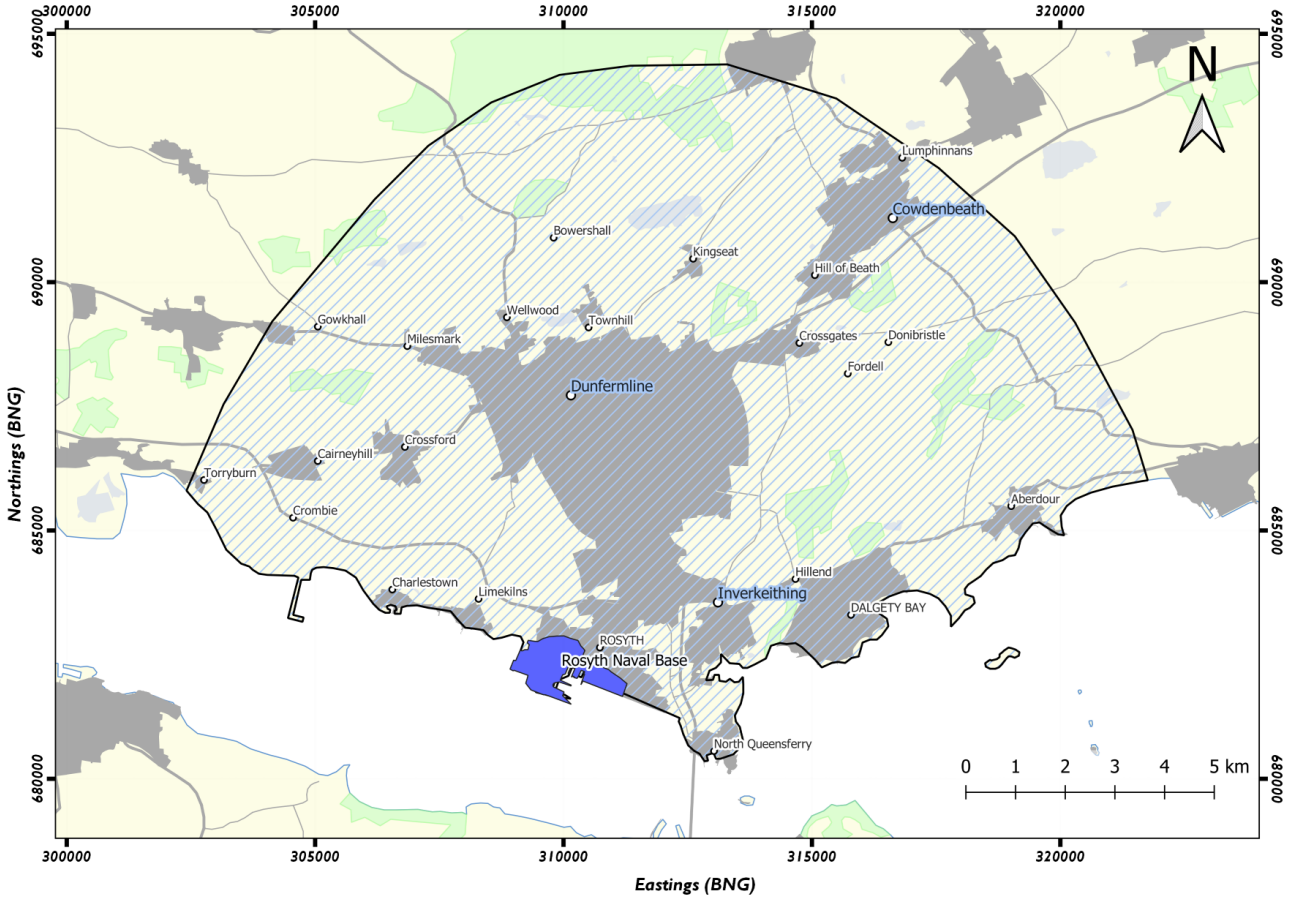

Figure B i The Rosyth survey area

B2 Butchers

Four butchers were contacted within the survey area. Information was obtained from three butchers (Butcher A, B and C) and are reported on. Butcher D was contacted by telephone but they declined and no information was obtained.

Butcher A sources all meat and fresh fruit and vegetable produce from out with the survey area, however some beef is sourced from within the survey area. Customer demand increased during the lockdown period and this is reported to have continued post lockdown. A change in sales supplies therefore was required which was met with no difficulties. It was reported that customer increase was thought to be due to individuals choosing to prefer visiting and buying produce at a butchers rather than visit a supermarket with some customers travelling as far as from Edinburgh. A new service introduced during the lockdown period was a home delivery service and it is hoped that this will continue in the future.

Butcher B and C sourced all produce from out with the survey area.

B3 Fishmongers

Two fishmongers were contacted by telephone and by email (by request) within the survey area with no information obtained from either.

B4 Greengrocers

Two greengrocers were contacted within the survey area but the survey team were unable to receive a response and no information was obtained. A wholesale fruit and vegetable company was contacted within the survey area and provided information. The company reported that they sourced most of their fruit and vegetables from out with the survey area mainly within the Fife area though a substantial amount of fruit is sourced from the European Union. During the lockdown period there was initially an increase in demand, but this has now decreased post lockdown. It has been reported that prior to lockdown that individuals are preferring and are more interested in purchasing produce that is more locally sourced and not from supermarkets.

B5 Allotments

The local council authority was contacted regarding the use of allotments in the survey area to determine the demand and any change in use of allotments throughout the lockdown period and post lockdown. It was reported that since the beginning of the pandemic to present there has been a 40 % increase in demand for allotment plots from members of the public. During the same period normally it would be expected to have a 10 % increase in demand. Due to normal practice of a waiting list for plots the demand has not been able to be met but the council are currently looking at providing a number of new sites throughout Fife which have been surveyed for this purpose. It will however take approximately two years to achieve due to planning permission and to undertake correct procedure required in fulfilling legal requirements. However, two sites (Inverkeithing and Rosyth) have been identified providing 70 plots with contractor work due to have commenced at the beginning of the Covid-19 pandemic in Scotland. Due to national restrictions this work was unable to begin but will commence in the future.

It was reported that there have been approximately five plots within Fife that emailed to state that they would be refocussing their plot in order to grow more vegetables instead of flowers so that they could provide fresh produce for neighbours that were unable to get out during the pandemic.

B6 Food Banks

Three food banks were contacted within the Fife survey area reporting changes due to the Covid-19 pandemic. Food Bank A runs five food banks which covers the area around Inverkeithing, Rosyth, Dunfermline, Cowdenbeath and Benarty. Food Bank B is locally based in Rosyth. Information was not achieved from Food Bank C.

Food Bank A initially increased in demand during lockdown but this demand reduced in May. Demand however started to increase again mid October and this is thought to be because of furlough ending. All produce is non-perishable and is sourced via a waste reduction scheme. Donations occasionally do come in (locally home grown apples, cabbages, onions and potatoes) but due to Covid-19 donations have been refused due to no storage facilities. However, one local farmer donated onions and potatoes and this was distributed to individuals/families.

Food Bank B reported a 100 % increase in demand during the lockdown period. Prior to the pandemic approximately 50 % of produce was sourced and purchased from local growers but this has now changed to being supermarket sourced due to cost. Donations from local growers makes up about 10 % of produce that is distributed.

B7 Boating

Two boating clubs were contacted on the south side of the Firth of Forth: one club whose main activity is rowing; and, a second club whose main activity is cruising. During the lockdown period, no boating was undertaken and in one club only restricted access was allowed for boat maintenance only. It is anticipated that boating will go back to their normal numbers and occupancy on-water post the pandemic. Both clubs have a substantial membership with many members being in the older vulnerable category and therefore have not been out boating since the beginning of the pandemic in March 2019. Both clubs have had an increase in enquiries regarding membership, but no new applications are currently being accepted. It is not anticipated that individuals will spend more time on the water post lockdown but that individuals will partake as before the lockdown.

A third club was contacted with no response.

Appendix C CHAPELCROSS

C1 Survey area description

The survey area extends approximately 20 km of coastline and extends approximately a 10 km radial inland from Chapelcross (Figure C i).

The marine (aquatic and intertidal) survey area covered a stretch of the Solway Firth and its intertidal areas stretching along the coast from west of Powfoot in the west extending to Gretna in the east. There are several watercourses that run into the Solway Firth within the survey area. These are the rivers Annan, Eden, Esk and the Pow Water. The coastal survey area substrate is a mixture of: salt marsh; mud and rocks; large sandy beaches and sand, mud and stones.

The terrestrial survey area extends approximately 10 km radius from Chapelcross. Much of the land within the survey area is agricultural, predominantly livestock (mostly cattle and sheep). The terrestrial survey area comprises of populated urban towns, country villages and industry.

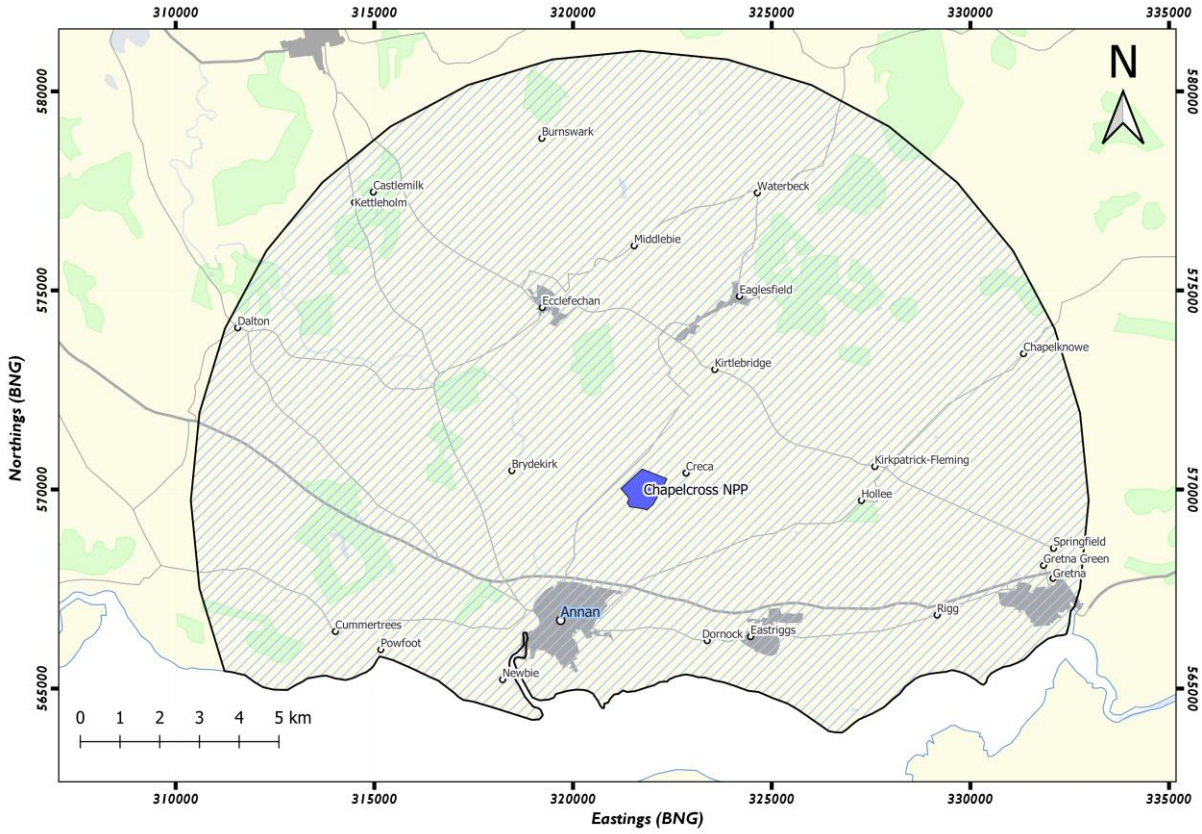

Figure C i The Chapelcross survey area

C2 Butchers

Two butchers were contacted within the survey area. The butchers source meat produce from within a 30 km and 50 km radius of their premises within the survey area. For both butchers, customer demand increased significantly during the lockdown period and this has continued post lockdown. It was reported that the increase was due to customers preferring to buy locally and also not having to visit a supermarket. One of the butchers commenced a new service of home delivery during the lockdown period which is hoped to continue in the future. One large market provider was contacted, refer to Appendix G2.

C3 Fishmongers

Two fishmongers were contacted within the survey area but no information was obtained. One fish processing premise within the survey area was contacted and it was reported that the company was closed during and following the lockdown period and that sales since re-opening late summer were significantly down. No further information was obtained. One large market provider was contacted, refer to Appendix G3.

C4 Greengrocers

No local greengrocers were identified in the survey area. One large market provider was contacted, refer to Appendix G4.

C5 Allotments

The local council authority was contacted regarding the use of allotments in the survey area to determine the demand and any change in use of allotments throughout the lockdown period and post lockdown. It was reported that there had been an increase demand for plots of about 10 – 15 % during the lockdown period. Post lockdown there have been a few enquiries and not as significant a demand. Each council allotment has a waiting list and therefore if individuals cannot be provided with a plot then they are placed on the waiting list. There is no plan at present for the council to provide more allotment sites with no change of use in land. It was not reported if individuals were growing more produce for consumption on their plots. No further information was provided.

C6 Food Banks

Two food banks (A and B) were contacted within the Chapelcross survey area and information was obtained from one food bank. Food Bank A noticed a decrease in demand during the lockdown period with the period between April to September being particularly quiet but increasing slightly in October. It is thought the increase was due to redundancy

and the initial decrease due to council provisions aiding individuals and families. All produce is sourced from a waste reduction scheme and then distributed. Donations from local growers and home gardens do occasionally come in and this year apples were donated and distributed.

APPENDIX D FASLANE

D1 Survey area description

The survey area included approximately a 20 km stretch on the eastern side of the Gare Loch and extending approximately a 10 km radial inland from the naval base. The Rosneath Peninsula was also included (Figure D i).

The marine (aquatic and intertidal) survey area covered all intertidal areas from Helensburgh Pier in the eastern side of Gare Loch stretching to Rosneath Point in the western side and to Garelochhead at the northern end of Gare Loch. Rosneath Point to Cove Bay on the Rosneath Peninsula was also covered within the survey area. The coastal survey area substrate around the most western point of the aquatic survey area at Cove Bay stretching round to include the southern-most part of the Rosneath peninsula where Loch Long meets the Firth of Clyde is a mixture of: pebbles and rock; rocky outcrops covered with seaweed and some saltmarsh vegetation; and sand and pebbles. Eastwards of Rosneath Point and stretching round to Helensburgh Pier the substrate is a mixture of; rock, pebble and sand; shingle mixed with finer silty sediment; large expanses of mud and rocks exposed at low tide (on the eastern stretch of the Rosneath Peninsula); and sand, shingle and shell.

The terrestrial survey area consisted largely of the Rosneath Peninsula to the west of Gare Loch which predominately consists of small towns with some small conurbations with much of the peninsula woodland. Much of the land within the survey area is agricultural with either cattle or crops. The terrestrial survey also included Glen Fruin, which had several houses and farms scattered throughout north and east from HMNB Clyde. The Glenn Fruin area was characterised by small conurbations with communities ranging from as small as single houses within the farming areas to villages.

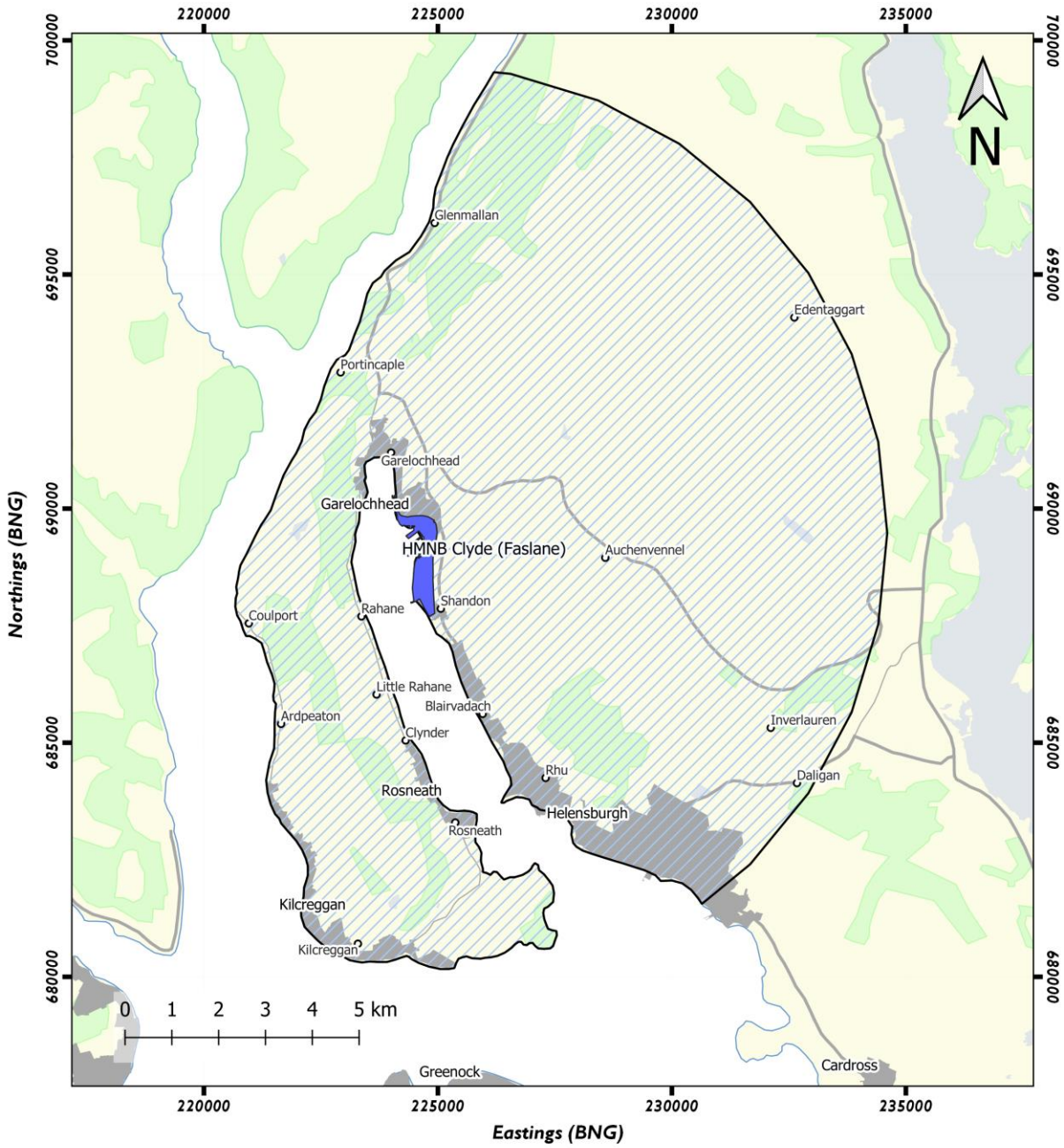

Figure D i The HMNB Clyde survey area

D2 Butchers

Five butchers were contacted within the survey area (Butcher A, B, C, D and E) however the survey team were unable to obtain information from four of the butchers. All four butchers were telephoned on several occasions and where available a message was left and were either unable to be contacted or declined. Butcher A provided information and reported that most produce is sourced from out with the survey area however beef is sourced from within the survey area. It was reported that local customer demand did increase during the lockdown period and this has continued post lockdown due to individuals

preferring to shop locally rather than visiting a supermarket. An increase in sales supplies was met to accommodate this increase with no difficulties.

One large market out with the survey area was contacted but no information was obtained.

D3 Fishmongers

One fishmonger was contacted within the survey area but all fish produce is sourced from Glasgow markets from fish landed mainly in Peterhead. No produce is locally sourced. One large market was contacted for information but despite several attempts the survey team were unable to obtain a response.

One large market out with the survey area was contacted but no information was obtained.

D4 Greengrocers

One large market supplier out with the survey area and one retail premises were contacted. Both requested to be emailed with a survey, no information was obtained.

One local greengrocer within the survey area provided information. It was reported from the greengrocer that the majority of their produce is sourced from Glasgow markets with only a very small percentage supplied by local farmers. During the lockdown period it was noticed that it was mainly locals that purchased produce but during the summer months there were many tourists from within the United Kingdom and overseas who purchased from their premises. During the lockdown period sales increased by approximately double and although it has since decreased sales are still increased. It was noted that some products were not available some weeks but would then become available the following week therefore, it was reported, it did not really affect the shops supply and demand. Sourcing more locally grown produce was explored but the supply was not meeting the demand and produce choice was at times limited. Produce supplied by local growers e.g. carrots, leek and onions tended to be seasonal and they were only able to supply the shop with a small percentage of produce. It was reported that some customers bought more produce and new young family customers bought some different produce than the shop normally supplied but did not sell so much of e.g. large cabbages. It is thought this was due to preparing food for more people and perhaps having relatives living with one another to help and care for throughout the pandemic.

One large market out with the survey area was contacted but information was not obtained.

D5 Allotments

The local council authority was contacted regarding the use of allotments in the survey area to determine the demand and any change in use of allotments throughout the lockdown period and post lockdown. It was reported that the council does not run any allotments however, due to the pandemic they have commenced a waiting list and try to allocate land/plots to those who request it. During the lockdown period the council reported receiving enquiries for plots however it was difficult to determine if the enquiries were more than normal due to lockdown being a busy period for enquiries compared with normal times. For the past nine months a waiting list system has been in operation due to Covid-19. As a result anyone requesting a plot through the council will be passed on to the allotment associations (which are privately owned) who place their name on a waiting list in the appropriate area. It is reported by the council that approximately four individuals have received a plot through this route within the Helensburgh and Lomond council area.

D6 Food Banks

Three food banks were contacted within the survey area reporting changes due to the Covid-19 pandemic. Two food banks are the same provider but supply different areas within the survey area. The information obtained was combined for both food banks by the provider and is referred to in this report as Food Bank A. The third food bank is reported as Food Bank B. All three food banks as a whole cover the Helensburgh and Lomond area including the Rosneath Peninsula. Food Bank A and B both reported an increase in demand during the lockdown period.

Food Bank A sourced produce from their usual suppliers but in addition to this some local growers donated sacks of potatoes, a hotelier donated potatoes and fruit and an allotment site donated some produce (lettuce and cucumbers). Donations of windfall apples were provided and are donated every year. It is hoped in the future the food bank will build on relations with the allotment and local growers. In addition, it was decided in August that the food bank would pursue the purchase of more fresh fruit, eggs and cheese which is hoped to continue. The cheese is not local but the eggs are provided by a local supplier and the fresh fruit is from the local greengrocer. It was not determined if the local greengrocer produce was locally sourced.

Food Bank B sourced produce from their usual suppliers. In addition to this, offers of donations from home gardens were received donating lettuce, tomatoes, potatoes, kale and

onions. Some produce is also grown on site and tends to be seasonal. It is hoped that donations will be provided from individuals in the future.

APPENDIX E TORNESS

E1 Survey area Description

The survey area approximately extends 20 km along the coast from north of Dunbar to south of Cockburnspath, extending approximately 10 km inland from Torness power station (Figure E i).

The marine (aquatic and intertidal) survey area extends from north of Dunbar to south of Cockburnspath on the East Lothian coast. The substrate is a mixture of: large expanse of sandy beach; saltmarsh at John Muir Country Park; pebbles and sandy beach; rocky outcrops; and steep cliff.

The terrestrial survey area stretches approximately a 10 km radial from Torness power station, encompassing all conurbations with communities ranging from as small as one house to villages. Much of the land within the survey area is agricultural, predominantly arable and livestock (mostly cattle and sheep).

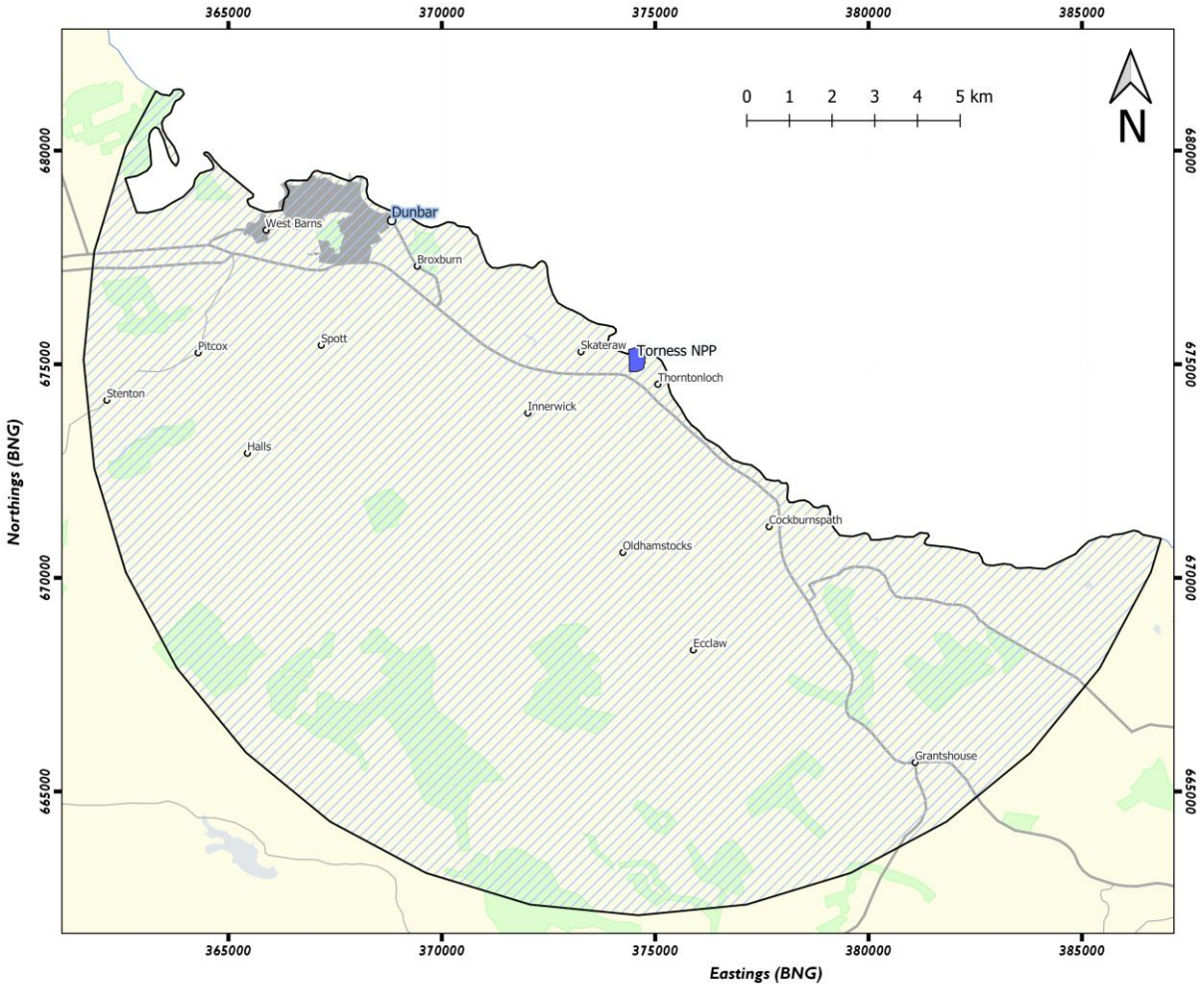

Figure E i The Torness survey area

E2 Butchers

One butcher was contacted within the survey area but they declined to provide information.

E3 Fishmongers

One fishmonger was determined and contacted within the survey area and although they would like to have helped they were unable at this point to provide any information. One fish wholesaler was also contacted and reported that supply was good but demand had reduced. Some locals normally do pop in to purchase produce but since Covid-19 this has also reduced. A further one shop selling fish produce was contacted via telephone and email but no information was achieved.

E4 Greengrocers

Two greengrocers were contacted within the survey area. Information was obtained and are referred to as Greengrocer A and B. Greengrocer A source some of their produce from within the survey area. An increase in customer demand was noticed during the lockdown period and although this decreased post lockdown it has noticed a substantial increase in demand again. Customer demand was met with no difficulties from suppliers. It was noticed that customers tended to be local and that they would prefer shopping or ordering from the shop rather than visit a supermarket. Greengrocer B source their produce from within the survey area and it was noticed that there was a general decrease in customer demand in comparison to last year at the same time (2019) and this has continued post lockdown. It was reported that there was a reduction in local customers but an increase in tourists purchasing produce. A home delivery and takeaway service was provided and it is hoped the takeaway service will continue in the future.

One vegetable wholesaler within the survey area was contacted but no information was obtained.

E5 Allotments

The local council authority was contacted regarding the use of allotments in the survey area to determine the demand and any change in use of allotments throughout the lockdown period and post lockdown. No information was obtained.

E6 Food Banks

Two food banks were contacted within the Torness survey area and are reported as Food Bank A and Food Bank B. Both food banks reported a significant increase in demand during the lockdown period with the majority of individuals/families seeking help due to a change in working hours or redundancy as a direct result of Covid-19. Food produce is sourced from local suppliers with only Food Bank B receiving a small amount of donations but it is unknown if this is something that is new due to Covid-19. During the lockdown period Food Bank A did source produce from some local butchers and it is hoped that this will continue in the future. It is unknown however if the butchers produce was sourced from within the survey area. Food Bank B adapted to the demand by sourcing fresh produce and meat from new suppliers out with the survey area and they hope that this may continue in the future.

APPENDIX F HUNTERSTON

F1 Survey area Description

The survey area covered approximately a 20 km stretch of the Firth of Clyde and its intertidal areas (from north to south) and approximately a 10 km radial inland from the Hunterston nuclear licensed site (Figure F i). The marine (aquatic and intertidal) survey area extends approximately from south of Skelmorlie to Ardrossan. The Great Cumbrae Island and Little Cumbrae Island, offshore of Largs, were also included. The Ayrshire Coastal Path runs the majority of the length of the aquatic survey area and stays close to the coastline, routing along many beaches between Ardrossan and Skelmorlie. The coastal survey area substrate is a mixture of: sand and stony beaches; stony beaches with rocky outcrops; sandy beaches; rock; and stone, sand and shell substrate with rocky outcrops on the Cumbraes.

The terrestrial survey area extends approximately a 10 km radial inland to Kilbirnie from the Hunterston nuclear licensed site. Also included is Great Cumbrae Island and Little Cumbrae Island. Much of the land within the survey area is agricultural, predominantly arable and livestock (mostly cattle and sheep) with many urban conurbations.

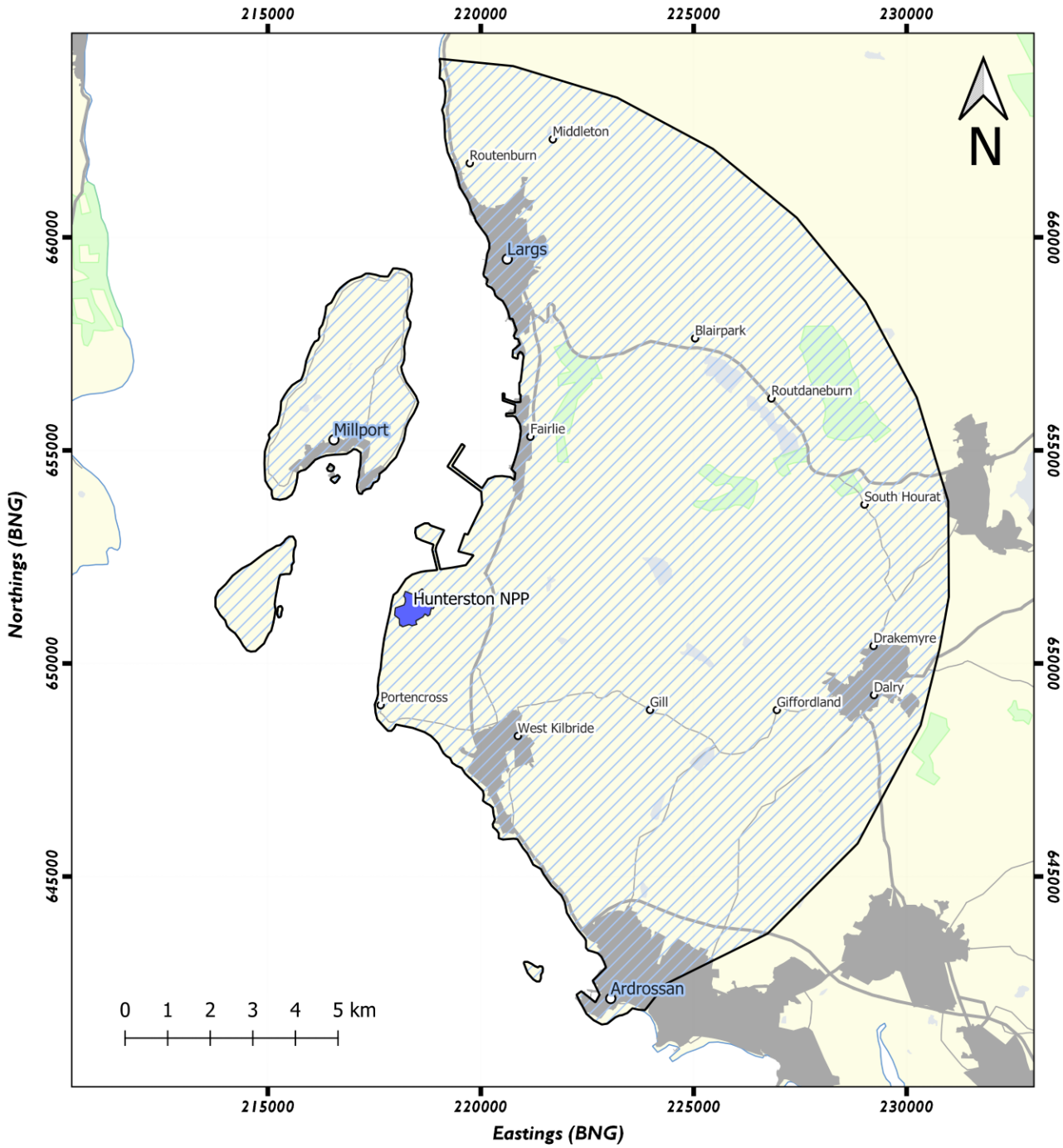

Figure 8.1 The Hunterston survey area

F2 Butchers

Six butchers were contacted within the survey area. Four of the butchers were unable to be contacted despite several attempts by the survey team. A fifth butcher requested the survey to be emailed but did not respond. A sixth butcher provided information (Butcher A) and reported that most produce was supplied from out with the survey area however a small percentage of venison for sale in the shop is sourced from within the survey area. It was

reported that there was an increase in customer demand during the lockdown period but that this has now returned to normal pre-Covid customer demand. No further information was obtained from this butcher.

One large market out with the survey area was contacted but no information was obtained.

F3 Fishmongers

Four suppliers of fish products within the survey area were contacted. Information was obtained from one fishmonger (Fishmonger A). A second shop selling fish produce requested a survey emailed but did not respond. A third shop was contacted, despite several attempts to contact them via telephone no information was obtained. A local fish company was contacted but the survey team was unable to achieve a response.

One large market out with the survey area was contacted but no information was obtained.

Fishmonger A

All fish products are sourced from Glasgow Market from fish landed at Peterhead. No other products sold were locally sourced.

F4 Greengrocers

Four premises selling fruit and vegetables were contacted. One shop asked for the survey to be emailed, however no information was obtained. One butcher sells fruit and vegetables but all fresh produce is sourced from out with the survey area. One shop was unable to be contacted. One large market out with the survey area was contacted but no information was obtained.

F5 Allotments

The local council authority was contacted regarding the use of allotments in the survey area to determine the demand and any change in use of allotments throughout the lockdown period and post lockdown. It was reported that the council do not hold any allotment sites. No further information was obtained.

F6 Food Banks

Three food banks were contacted within the Hunterston survey area. Two food banks are the same provider however the survey team were only able to achieve information from Food Bank A. A third food bank is reported under Food Bank B. All three food banks as a whole cover the North Ayrshire area and within that is the Hunterston survey area. Food Bank A was closed during the lockdown period and opened up again in October. Food Bank

B reported a significant increase in demand but it was unknown as to how much this was due to Covid-19. No produce is supplied to Food Bank B from local growers and no donations were received. Since the pandemic this food bank now source produce from a different local supplier but it is unknown if any of this produce is locally produced.

APPENDIX G SOLWAY COAST

G1 Survey area Description

The survey area included approximately 120 km of coastline included intertidal areas and waters along the northern shore of the Solway Firth between the Isle of Whithorn in the west and Glencaple in the east and extends approximately 10 km inland the full coastal stretch. (Figure G i). The marine (aquatic and intertidal) survey area extends from the west of Caerlaverock National Nature Reserve to the Isle of Whithorn representing the area where current and historic discharges from Sellafield are likely to be found. The survey area is defined by a series of larger bays (Wigtown, Fleet, Kirkcudbright and Auchencairn) interspersed with rocky headlands and small bays. The heads of the larger bay areas are characterised by mudflats and salt marshes of varying size whilst the smaller bays are predominantly sandy. Between Southerness and Sandyhills the coastline differs consisting of large areas of sandy beaches.

The terrestrial survey area extends approximately 10 km inland from the Solway coastal areas. Much of the land within the terrestrial survey area is agricultural, predominantly livestock (mostly cattle and sheep). The terrestrial survey area comprises of populated urban towns, country villages and industry.

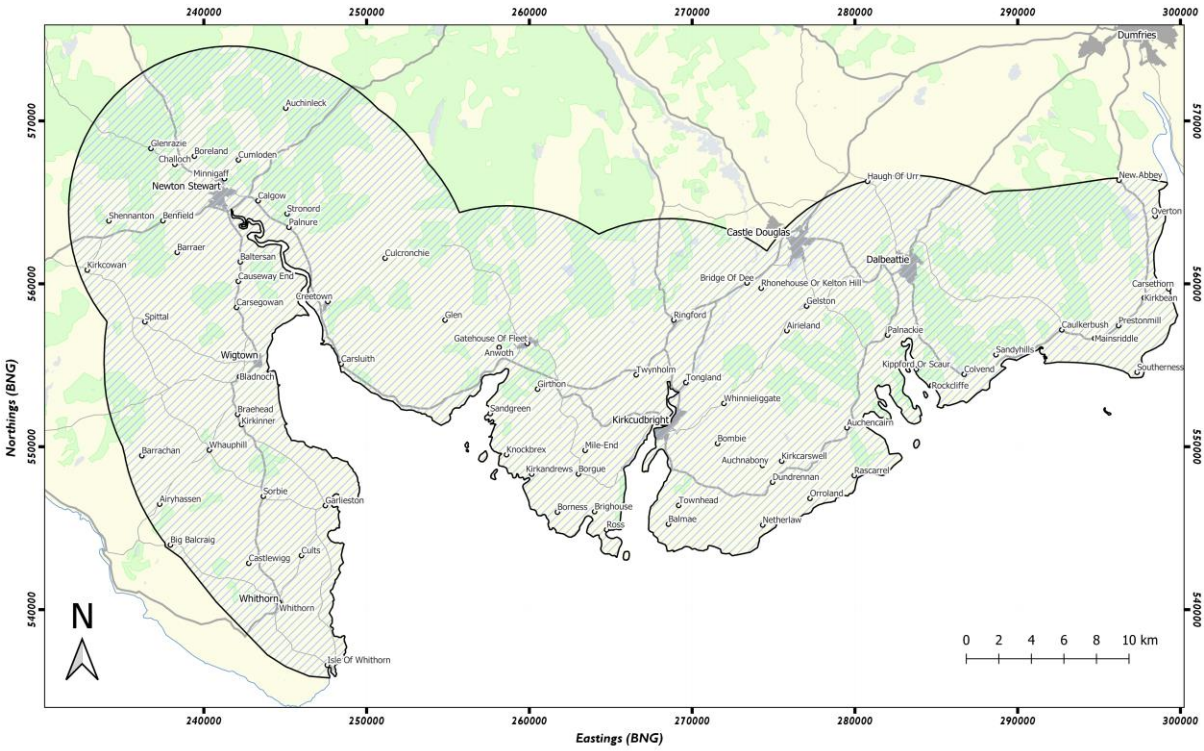

Figure G i The Solway Coast survey area

G2 Butchers

Six butchers were contacted by the survey team and are referred to as butcher A, B, C, D, E and F. Butcher A and D declined to provide information and butcher B sources all produce from out with the survey area.

Butcher C only sources saltmarsh lamb during the summer months from within the survey area. The butcher reported that demand in general increased quite significantly during the lockdown period but that customer demand is now back to pre-Covid levels. During the lockdown period an increase in sales supplies was required and this was met with no difficulties from suppliers. It is reported that customers preferred to buy from local butchers than from the supermarket and that customers were noted to purchase more each visit but visit less often.

Butcher E sources all produce from within 40 miles of Castle Douglas and reported a quite significant increase in customers during the lockdown period. Customer levels have decreased since the end of lockdown but are still increased from pre-Covid with customers preferring to buy from the butchers rather than the supermarket. An increase in sales supplies was required but this was met with no difficulties from suppliers.

Butcher F reported sourcing lamb and some beef from within the Dumfries and Galloway area. Customer demand increased quite significantly during the lockdown period with customers preferring to buy from a butcher than visit a supermarket. It was also noted that some customers were buying greater quantities but shopping less frequently. An increase in sales supplies was required which was met with no difficulties.

One large market was contacted and reported all their markets being closed until approximately June. It was reported that all market meat produce is sourced from local suppliers and when the markets opened demand increased. This since decreased, however demand remains increased from levels prior to the pandemic.

G3 Fishmongers

Five fishmongers/wholesale businesses were contacted within the survey area. One fishmonger declined to provide information. A second fishmonger was contacted on several occasions by telephone, but no information was obtained. A third fishmonger asked the survey team to call back at a later date but despite doing so no interview was achieved. A fourth fishmonger provided information reporting that no fish produce was locally sourced. A fifth wholesaler was contacted with no response.

One large market reported that local customer demand increased with some small businesses having significantly expanded resulting in an increase in fish-van delivery.

G4 Greengrocers

One greengrocer was determined within the survey area and contacted by the survey team. It was reported that no produce was sourced locally with all produce sourced from further afield within Scotland and other parts of the United Kingdom.

Local markets within the survey area were contacted which provided some information. Markets were closed during lockdown and only re-open again in June/July. Most fruit and vegetables are sourced from out with the Dumfries and Galloway area however some seasonal produce sourced from local growers is sold. Demand increased mainly with local customers but many tourists were visiting and buying from the markets within the summer months. Generally, it was reported that there were some demand issues encountered for markets but suppliers were able to meet these.

G5 Allotments

The local council authority was contacted regarding the use of allotments within the survey area to determine the demand and any change in use of allotments throughout the lockdown period and post lockdown. It was reported that there had been an increase demand for plots of about 10 – 15 % during the lockdown period. Post lockdown there have been a few enquiries and not as significant a demand. Each council allotment has a waiting list and therefore if individuals cannot be provided with a plot they are placed on the waiting list. There is no plan at present for the council to provide more allotment sites with no change of use in land. It was not reported if individuals were growing more produce for consumption on their plots. No further information was provided.

G6 Food Banks

Five food banks (Food Bank A, B, C, D and E) were contacted within the Solway Coast survey area. The areas Food Banks A and B cover are from Stranraer to the Isle of Whithorn, north to Newton Stewart and east towards Creetown. Food Bank C is based in Dumfries and serves (from a number of area) the area between Gretna and Castle Douglas and north to Langholm, Moffat and Sanquhar. Food Bank D is based in Newton Stewart and was contacted with no information obtained. Food Bank E is based in Dumfries and was contacted but no information was obtained.

Food Bank A reported approximately a 20 % increase in demand which returned to pre-Covid-19 figures in October. Their produce is supplied via the waste reduction schemes and from non-perishable donations that supermarkets have collected from customers. This year donations were received from allotments sites (potatoes, carrots, turnips and onions) and a local farmer that donated some dairy produce. Donations are not normally received from these sources and the food bank hopes to pursue this avenue in the future.

Food Bank B reported experiencing an increase in demand of 60 % which then decreased during the summer months. However, they have since experienced an increase but not to the same level as during the lockdown period. This food bank receives produce from local shops which is then distributed. Normally some donations are handed in by the public (apples and potatoes) and it was noticed that donations received decreased during the pandemic. No donations are normally received from local growers and none were received during the pandemic. It was however reported that there was an increase in financial donations from individuals.

Food Bank C reported that there was a significant increase in demand throughout the lockdown and post lockdown period which reached its peak in August. Although this has decreased now, there still continues to be a significant increase in demand for support. This food bank purchased all produce from supermarkets but due to imposed restrictions on the quantity of items allowed to be purchased they have since changed suppliers and purchase produce from local businesses. Donations are normally received from this food bank but due to the inability for individuals to ‘drop-off’ donations at designated areas (premises were closed due to restrictions) this source of produce stopped. Donations of locally grown apples continued however from local gardens throughout the pandemic. It is anticipated that in the future local sourcing of produce will continue.

APPENDIX H DOUNREAY

H1 Survey area Description

The survey area included approximately 20 km of coastline along the Pentland Firth and extending approximately 10 km radial inland from Dounreay nuclear licensed site (Figure H i).

The marine (aquatic and intertidal) survey area covered approximately a 20 km stretch of the Pentland Firth and its intertidal areas (from west to east) stretching from Portskerra to Scrabster. The coastal survey area substrate is a mixture of rocky bays and sandy beaches.

The terrestrial survey area extends approximately a 10 km radial from the site boundary inland towards Broubster. Much of the land within the survey area is agricultural, predominantly livestock (mostly cattle and sheep). The terrestrial survey area comprises of several small villages (Lybster, Shebster, Buldoo, Upper Dounreay and Achvarasdal) and the town of Reay.

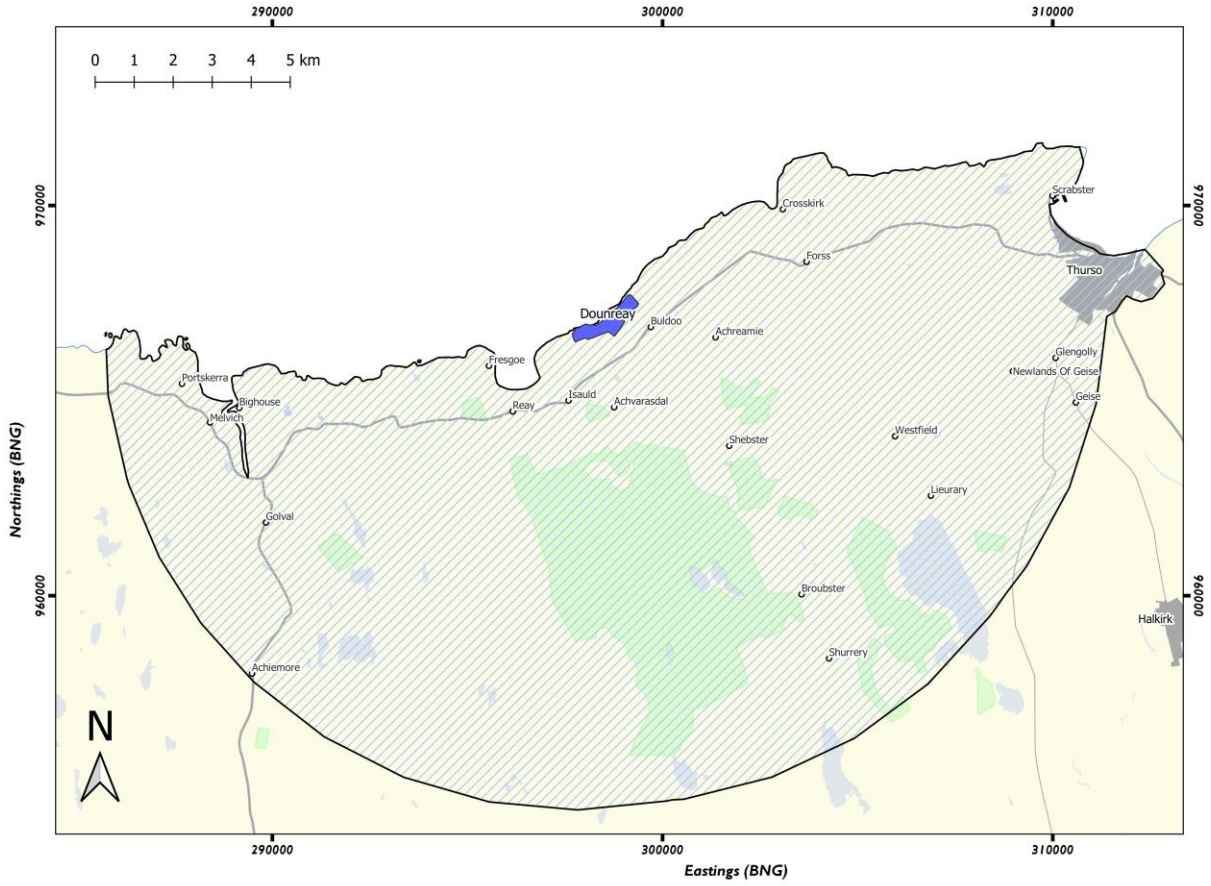

Figure H i The Dounreay survey area

H2 Butchers

Three butchers were contacted within the survey area. Information was obtained from two butchers (Butcher A and C) and are reported on. No information was obtained from the third butcher. Butcher A sources all produce from out with the survey area. Butcher C sources produce from out with the survey area however eggs are sourced from a supplier within the survey area.

H3 Fishmongers

One fishmonger was contacted but despite several attempts and telephoning at a requested time, no information was obtained. A second fishmonger is reported to have now closed.

One fish wholesaler was contacted who fish off the Caithness coast. It was reported that due to a reduction in customer demand there has been a reduction in supply. Locally however there has been an increase in demand for local seafood produce with more local customers rather than individuals purchasing more of a particular produce.

H4 Greengrocers

Two shops/greengrocers were contacted within the survey area. Several attempts were made to contact one shop by telephone, but no information was obtained. A second shop was contacted and reported that no fresh fruit and vegetable was sold from the premises. One community-based project was contacted and reported providing fresh produce and provisions for growing vegetables to locals within the community. This was received positively with support also given to elderly and vulnerable individuals. It is anticipated that extensive developments for community-based produce growing will be provided in 2021.

H5 Allotments

The local council authority was contacted regarding the use of allotments in the survey area to determine the demand and any change in use of allotments throughout the lockdown period and post lockdown. It was reported that the council does not run or allocate any allotments.

H6 Food Banks

One food bank was determined in the survey area within the Highlands and this food bank declined to give any information.

Appendix I Exemplar Postal Survey Forms

UNIVERSITY OF STIRLING

Habits survey

Assessing the Impact of Covid-19 on People's Lifestyles

Scientists from the University of Stirling are undertaking a Covid-19 Habits Survey in the area around the Scottish nuclear licensed sites (Figure 1) on behalf of the Scottish Environment Protection Agency (SEPA) to assess the impacts of authorised radioactive waste discharges from the nuclear licensed sites. Under normal circumstances habit surveys are required to be undertaken every five years around all nuclear sites in Scotland. This survey is to determine whether the period of Covid-19 lockdown has had any significant change upon the habits of individuals living near to a nuclear licensed site.

The aims of this survey are to understand:

1. If, due to the Covid-19 pandemic, you have spent more time in and around your home and if this is likely to continue post Covid-19.

2. If, due to the Covid-19 pandemic, the amount of time you participate in any outdoor activity habits or the area of such activities has changed during the lockdown;

3. If, due to the Covid-19 pandemic, the amount of fresh food you consume has been more locally sourced, home grown or traded/exchanged (bartered) during the lockdown.

The lockdown period referred to in this questionnaire refers broadly to the dates between 24th March and 19th June.

You have been invited to complete this survey because you live near a nuclear licensed site. You can choose to complete the paper OR online version of the survey: https://rb.gy/7u9jdn

Should you wish any further information, clarification or to withdraw from the survey you can contact a member of the Environmental Radioactivity Laboratory (ERL) research Habits Team via e-mail: erl@stir.ac.uk or telephone or text 07733443961/07748776960. Please find your unique number at the top of the survey.

Please refer to the Privacy Notice on Page 3.

Please return the survey

Thank you in advance, the Habits Team at the University of Stirling

The data you provide us with will be stored securely and information kept will be in accordance with the General Data Protection Regulation (GDPR). No one, other than the ERL research team, will have access to the data.

Please retain this page for your information.

Figure 1. Map displaying all nuclear licensed sites under consideration in this survey.

Privacy Notice

Due to updated data protection legislation (GDPR) the University of Stirling requires the permission of individuals to store and use their data from this survey. By signing the consent box below, you agree to your personal data being used in this survey regarding changes to your habits and consumption patterns around a nuclear licensed site due to the impact of Covid-19. You understand that no one other than members of the Habits Team will have access to your data. Your data will be anonymised and stored securely and destroyed after 6 years. You understand the reason for this survey and have had the opportunity to ask further questions. You are able to withdraw your consent to use your data provided at any time and know how to contact the Habits Team.

Print Name: _____

Signed: _____

Date: _____

Please commence the survey on the next page (Page 4).

SECTION 1 – Personal details

Gender (please tick)

Male ☐ **Female** ☐ **Other** ☐ **Prefer not to say** ☐

SECTION 2 – Occupancy

We are interested to know if the amount of time you have spent at home BEFORE lockdown, DURING lockdown and POST lockdown has changed.

Please complete the following table.

Q 1. On a typical day **BEFORE** lockdown how many hours per day (within a 24 hour period) did you spend **INSIDE** your home?			
Q 2. On a typical day **BEFORE** lockdown how many hours per day (within a 24 hour period) did you spend in your garden/directly **OUTSIDE** of your home?			
Q 3. On a typical day **DURING** lockdown how many hours per day (within a 24 hour period) did you spend **INSIDE** your home?			
Q 4. On a typical day **DURING** lockdown how many hours per day (within a 24 hour period) did you spend in your garden/directly **OUTSIDE** of your home?			
Q 5. On a typical day **POST** lockdown how many hours per day (within a 24 hour period) do you spend **INSIDE** your home?			
Q 6. On a typical day **POST** lockdown how many hours per day (within a 24 hour period) do you spend in your garden/directly **OUTSIDE** of your home?			
	Please circle		
Q 7. Did you spend time **WORKING** from home **BEFORE** lockdown? If yes, please state how many hours: _____hours per week	YES		NO
Q 8. Have you spent more time **WORKING** from home **DURING** lockdown? If yes, please state how many hours: _____ hours per week	YES		NO
Q 9. If you have spent more time **WORKING** from home **DURING** lockdown, will this continue POST lockdown?	Yes	No	Don't know
Q 10. Have you been shielding/self-isolating at home during the Covid-19 lockdown?	Yes	No	Prefer not to say

SECTION 3 – Outdoor activities

We are interested to know if you have changed any outdoor activity habits near a nuclear licensed site?
Outdoor activity may include:
LAND-BASED: (Non-coastal) e.g. dog-walking; gardening.
INTERTIDAL: Beach, saltmarsh or rock areas e.g. playing; dog-walking; fishing; bait-digging.
AQUATIC: Either IN-water or ON-water e.g. sailing; diving; swimming.

Specifically we are interested in:
1. Have you changed the amount of time you undertake any outdoor activity DURING lockdown?
2. Have you stopped participating in any outdoor activity DURING lockdown?
3. Have you changed the area of any activity DURING lockdown?

PLEASE USE ***HOURS PER WEEK*** IN YOUR ANSWERS

Land-based, intertidal and aquatic activities

Please note all land-based (non-coastal), intertidal (beach, saltmarsh or rock areas) and aquatic (in and on-water) activities you participate in and record the hours that you did BEFORE the start of lockdown, DURING lockdown and POST lockdown, and the area(s) of the activity.

OUTDOOR ACTIVITIES	BEFORE lockdown **Hours per week**	DURING lockdown **Hours per week**	POST lockdown **Hours per week**	Are you planning to continue MORE/LESS hours in the future? PLEASE CIRCLE		Please list area(s) of activity during lockdown and the new area if this has changed
Land-based activities						
Gardening				More	Less	
Beekeeping				More	Less	
Rambling/walking				More	Less	
Running				More	Less	
Cycling				More	Less	
Dog walking				More	Less	
Covid community work				More	Less	
Farming/crofting				More	Less	
Collecting wild produce				More	Less	
Fresh water angling				More	Less	
Other:				More	Less	
Other:				More	Less	
Other:				More	Less	
Intertidal activities						
Beachcombing				More	Less	
Collecting mussels				More	Less	
Collecting seaweed				More	Less	
Dog walking				More	Less	
Shore angling				More	Less	
Rock pooling				More	Less	
Boat maintenance				More	Less	
Other:				More	Less	
Other:				More	Less	
Other:				More	Less	
Aquatic activities						
Outdoor swimming				More	Less	
Sea angling				More	Less	
Boat maintenance				More	Less	
Canoeing/kayaking				More	Less	
Commercial fishing/creeling				More	Less	
Sailing				More	Less	
Other:				More	Less	

SECTION 4 – Food consumption

We are interested to know if there have been any changes to your consumption of **any locally grown vegetables** BEFORE lockdown, DURING lockdown and POST lockdown (do NOT include food bought from a supermarket).

Please indicate which food weight units you will use in the following table (please tick):

lb per week ☐ kg per week ☐

Vegetable produce	Please tick if produce grown and consumed **before** lockdown is: Locally produced LP, Home grown HG, Bartered B, Gifted G. Please tick all applicable				Quantity consumed if known	Please tick if produce grown and consumed **during** lockdown is: Locally produced LP, Home grown HG, Bartered B, Gifted G. Please tick all applicable				Quantity consumed if known	Please tick if produce grown and consumed **post** lockdown is: Locally produced LP, Home grown HG, Bartered B, Gifted G. Please tick all applicable				Quantity consumed if known	Did you consume MORE/LESS/SAME **before** lockdown? Please tick as applicable			Do you plan to consume MORE/LESS/SAME than **post** lockdown in the future? Please tick as applicable		
	LP	HG	B	G		LP	HG	B	G		LP	HG	B	G		More	Less	Same	More	Less	Same
Beetroot																					
Broccoli																					
Cabbage																					
Carrot																					
Herbs																					
Kale																					
Leek																					
Lettuce																					
Onion																					
Peas																					
Potatoes																					
Radish																					
Rhubarb																					
Spring onion																					
Swede																					
Other:																					
Other:																					
Other:																					

We are interested to know if there have been any changes to your consumption of **any locally grown fruit** BEFORE lockdown, DURING lockdown and POST lockdown (do NOT include food bought from a supermarket).

Please indicate which food weight units you will use in the following table (please tick):

lb per week ☐ kg per week ☐

Fruit produce	Please tick if produce grown and consumed **before** lockdown is: Locally produced LP Home grown HG Bartered B Gifted G Please tick all applicable				Quantity consumed if known	Please tick if produce grown and consumed **during** lockdown is: Locally produced LP Home grown HG Bartered B Gifted G Please tick all applicable				Quantity consumed if known	Please tick if produce grown and consumed **post** lockdown is: Locally produced LP Home grown HG Bartered B Gifted G Please tick all applicable				Quantity consumed if known	Did you consume MORE/LESS/SAME **before** lockdown? Please tick as applicable			Do you plan to consume MORE/LESS/SAME than **post** lockdown in the future? Please tick as applicable		
	LP	HG	B	G		LP	HG	B	G		LP	HG	B	G		More	Less	Same	More	Less	Same
Apple																					
Blackcurrant																					
Redcurrant																					
White currant																					
Courgette																					
Marrow																					
Gooseberry																					
Pear																					
Pepper																					
Plum																					
Raspberry																					
Strawberry																					
Tomato																					
Other:																					
Other:																					
Other:																					
Other:																					
Other:																					
Other:																					

We are interested to know if there have been any changes to your consumption of **any local meat, game and wildfowl produce** BEFORE lockdown, DURING lockdown and POST lockdown (do NOT include food bought from a supermarket).

Please indicate which food weight units you will use in the following table (please tick):

lb per week ☐ kg per week ☐

Meat, game and wildfowl produce	Please tick if meat, game and wildfowl products consumed **before** lockdown are: Locally reared LR Own reared OR Bartered B Gifted G Shot S Please tick all applicable					Quantity consumed if known	Please tick if meat, game and wildfowl products consumed **during** lockdown are: Locally reared LR Own reared OR Bartered B Gifted G Shot S Please tick all applicable					Quantity consumed if known	Please tick if meat, game and wildfowl products consumed **post** lockdown are: Locally reared LR Own reared OR Bartered B Gifted G Shot S Please tick all applicable					Quantity consumed if known	Did you consume MORE/LESS/SAME **before** lockdown? Please tick as applicable			Do you plan to consume MORE/LESS/SAME than **post** lockdown in the future? Please tick as applicable		
	LR	OR	B	G	S		LR	OR	B	G	S		LR	OR	B	G	S		More	Less	Same	More	Less	Same
Beef																								
Lamb																								
Pork																								
Hare																								
Rabbit																								
Wild Venison																								
Farmed Venison																								
Chicken																								
Duck																								
Goose																								
Partridge																								
Other:																								
Other:																								
Other:																								
Other:																								

We are interested to know if there have been any changes to your consumption of **any locally produced dairy (including eggs) products** BEFORE lockdown and DURING lockdown (do NOT include food bought from a supermarket).

Please indicate which food weight units you will use in the following table (please tick). For eggs, number of eggs per week:

lb per week ☐ kg per week ☐ pints per week ☐

Dairy produce	Please tick if dairy products consumed **before** lockdown are: Locally produced LP Own produced OP Bartered B Gifted G Please tick all applicable				Quantity consumed if known	Please tick if dairy products consumed **during** lockdown are: Locally produced LP Own produced OP Bartered B Gifted G Please tick all applicable				Quantity consumed if known	Please tick if dairy products consumed **post** lockdown are: Locally produced LP Own produced OP Bartered B Gifted G Please tick all applicable				Quantity consumed if known	Did you consume MORE/LESS/SAME **before** lockdown? Please tick as applicable			Do you plan to consume MORE/LESS/SAME than **post** lockdown in the future? Please tick as applicable		
	LP	OP	B	G		LP	OP	B	G		LP	OP	B	G		More	Less	Same	More	Less	Same
Cow milk																					
Goat milk																					
Cheese																					
Goat cheese																					
Chicken eggs																					
Duck eggs																					
Other:																					
Other:																					
Other:																					
Other:																					

We are interested to know if there have been any changes to your consumption of **any locally sourced fish/crustaceans/molluscs** BEFORE lockdown and DURING lockdown (do NOT include food bought from a supermarket).

Please indicate which food weight units you will use in the following table (please tick):

lb per week ☐ kg per week ☐

Aquatic products (fish/ crustacean/ mollusc)	Please tick if aquatic products consumed **before** lockdown are: Self-caught SC Bartered B Gifted G Please tick all applicable			Quantity consumed if known	Please tick if aquatic products consumed **during** lockdown are: Self-caught SC Bartered B Gifted G Please tick all applicable			Quantity consumed if known	Please tick if aquatic products consumed **post** lockdown are: Self-caught SC Bartered B Gifted G Please tick all applicable			Quantity consumed if known	Did you consume MORE/LESS/SAME **before** lockdown? Please tick as applicable			Do you plan to consume MORE/LESS/SAME than **post** lockdown in the future? Please tick as applicable		
	SC	B	G		SC	B	G		SC	B	G		More	Less	Same	More	Less	Same
Cod																		
Dover sole																		
Haddock																		
Mackerel																		
Pollock																		
Salmon																		
Sea trout																		
Brown crab																		
Common lobster																		
Prawn (langoustine)																		
Mussels																		
Scallops																		
Winkles																		
Other:																		
Other:																		
Other:																		

We are interested to know if there have been any changes to your consumption of **any locally sourced wildfoods produce** BEFORE lockdown and DURING lockdown, and the area(s) where your produce is sourced.

Please indicate which food weight units you will use in the following table (please tick):

lb per week ☐ kg per week ☐

Wildfood Produce Please list all wildfoods (e.g. wild garlic, rosehip, clover, sloeberries)	Please tick if wildfoods produce consumed **before** lockdown are: Locally foraged LF Bartered B Gifted G Please tick all applicable			Quantity consumed if known	Please tick if wildfoods produce consumed **during** lockdown are: Locally foraged LF Bartered B Gifted G Please tick all applicable			Quantity consumed if known	Please tick if wildfoods produce consumed **post** lockdown are: Locally foraged LF Bartered B Gifted G Please tick all applicable			Quantity consumed if known	Did you consume MORE/LESS/SAME **before** lockdown? Please tick as applicable			Do you plan to consume MORE/LESS/SAME than **post** lockdown in the future? Please tick as applicable		
	LF	B	G		LF	B	G		LF	B	G		More	Less	Same	More	Less	Same

Do you use SEAWEED as a fertiliser on your home grown produce? If yes, please complete the following table.
Please indicate which food weight units you will use in the following table (please tick). If using another category please state e.g. wheelbarrows per week:

lb per week ☐ kg per week ☐ Other:

BEFORE lockdown Quantity collected	DURING lockdown Quantity collected	POST lockdown Quantity collected	Do you plan to continue collecting MORE/LESS/SAME seaweed in the future? PLEASE CIRCLE			Please state area(s) of seaweed sourced i.e. state beach
			More	Less	Same	

Section 5 - Additional information

Have we missed anything in relation to your outdoor activities and consumption habits? If so, please tell us in the space provided.

_____
_____
_____
_____
_____
_____
_____
_____
_____

Thank you very much for taking the time to fill in this survey.

Please return the survey **no later than Monday 14th December** in the **pre-paid return envelope** to:

Professor Andrew Tyler
Biological and Environmental Sciences,
University of Stirling,
Stirling,
Scotland FK9 4LA

Please contact me as I have further information I would like to provide ☐ *(Please tick)*
Contact Details:
Name:_____
Telephone:_____
E-mail: _____

Access to this information will be strictly controlled and we will not pass on such information to any other party.

For information on accessing this document in an alternative format or language please contact SEPA by emailing to equalities@sepa.org.uk

If you are a user of British Sign Language (BSL) the Contact Scotland BSL service gives you access to an online interpreter enabling you to communicate with us using sign language.

http://contactscotland-bsl.org/

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