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AUSTRALIAN ATOMIC ENERGY COMMISSION
RESEARCH ESTABLISHMENT
LUCAS HEIGHTS

RESULTS OF THE LUCAS HEIGHTS BIOLOGICAL SURVEY
DECEMBER 1959 – DECEMBER 1964

Edited by

M.S. GILES
J.A. STOCKDALE

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ABSTRACT

Results of the analysis of material collected from the environment around Lucas Heights between December 1959 and December 1964 are presented. The values obtained indicate that only negligible amounts of radioactivity have been concentrated in the environment. An evaluation of hazards is presented and it is shown that the highest levels of radioactivity found would have to be increased by factors of hundreds or thousands to reach the maximum levels permitted by international standards organizations for safe continuous intake by members of the public.

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1. INTRODUCTION

Samples of soil, plant life, and marine life are periodically collected and analysed at Lucas Heights in order to monitor the airborne and liquid wastes which are discharged into the environment around the Commission's Research Establishment.

Gaseous and aerosol wastes are filtered and then released via stacks while slightly active liquid wastes are treated in a sludge–blanket clarifier and then discharged into the upper reaches of the Woronora Estuary.

Berglin et al. (1960) describe the system for release of wastes and derive a formula, approved by the N.S.W. State Government, which has controlled release of wastes into the Woronora Estuary during the period of the measurements reported here.

This report contains the results of analyses performed on samples collected in five years from December 1959 to December 1964. The complete tabulation of figures is published here for three reasons: firstly it provides a record of levels of natural radio activity and their variations (or lack of variation) with time for the region immediately surrounding the Research Establishment; secondly it provides a considerable amount of information on the levels of weapons test fallout and their variations within this small area and thus complements the results of the Australian Weapons Tests Safety Committee (see for instance Gibbs et al. 1965) which are obtained from collection points widely dispersed over the Australian continent; and finally some of the results, particularly those on the content of stable elements in various substances may be of interest to workers in the life sciences.

The main findings of the survey will be published elsewhere. A short resume of statistically significant trends and differences is included here but it is intended that this report should serve chiefly as a complete reference compilation of the survey data.

2. POSITION OF SAMPLING SITES

For convenience the survey is divided into a section dealing with airborne wastes and another concerned with liquid wastes. Fixed sampling stations have been chosen and given code numbers and their geographical positions are shown in Figures 1 and 2.

The code numbers for aerial waste monitoring stations begin with the letter T which is followed by a number referring to the distance in air miles from the site to the sampling point. If two or more stations are equidistant from the site a second identifying number is added after a colon. Code numbers for liquid effluent monitoring stations begin with the letter E followed by a number indicating the distance in river miles from the discharge nozzle of the pipeline to the sampling point.

The control station for airborne effluent monitoring is at Richmond which is 32 miles north–west of the reactor site and the control station for liquid effluent monitoring is at Brooklyn 35 miles to the north on the Hawkesbury Estuary, a system somewhat similar to the Woronora Estuary.

3. ANALYTICAL METHODS

Details of the methods of collecting and preparing samples are given in Appendix 1 and the methods used for the various determinations are given in Appendix 2.

4. RESULTS

All the results are given in Appendix 4 which contains Tables 4 to 120. Table 4 is an index to the results and also gives the minimum detectable levels applicable to the various analyses.

The limits of accuracy for chemical analyses are quoted as percentages and the other minimum detectable levels are given in the units which appear in the tables. Where Sr-90 activity is listed in strontium units and also as Sr-90 activity per grain fresh weight, the minimum detectable level quoted is in strontium units. Since the accuracy varies between determinations the figures quoted should only be taken as a rough guide.

Blank spaces in the tables indicate that no analysis was performed. The letters N.D. are used to indicate nothing detected in an analysis.

4.1 Gamma Spectrometry

The results of gamma spectrometry are listed under the energies of the peaks detected. For some energy levels mixtures of radioisotopes are thought to exist and the state of equilibrium is unknown. In these cases the activity is calculated assuming that one photon of γ energy is equivalent to one nuclear disintegration. The unit used in the text in these cases is pCi(γ). No correction for physical decay is applied for the time which elapses between sampling and counting, where the equilibrium is unknown. This period is usually about four weeks.

Table 1 lists the isotopes indicated by the various energies detected together with the units of activity used and any correction applied.

TABLE 1

ISOTOPES INDICATED BY THE ENERGIES DETECTED

γ Energies (MeV)	Isotopes Assumed Present	Correction for Decay After Sampling	Units of Activity
0.13-0.14	Ce-144 and Ce-141	No	pCi(γ)
0.48-0.51	Be-7 and Ru-106/Rb106	No	pCi(γ)
0.66	Cs-137	Yes	pCi
0.75-0.76	Zr-95 and Nb-95	No	pCi(γ)
0.84	Mn-54	Yes	pCi

4.2 Rainwater

Results quoted for rainwater activity include activity due to dry deposition into the collector. No correction is made for evaporation which occurs during the collection period.

4.3 Grass

Grass samples taken at the various positions consist of different species. In some cases the sample plot may be mowed between sampling dates but normally the grass remains untouched during this period. Table 2 lists the dominant species, i.e. 70 per cent. by weight of the sample, and the mowing routine at each station.

No attempt is made to remove dust from the blades of grass.

TABLE 2

DOMINANT GRASS SPECIES PRESENT AT SAMPLING SITES

Station	Dominant Grass Species Present	If Mowed Between Sampling Dates
T0	Paspalum	No
T1:1	Kikuyu	No
T1:2	Kikuyu	Yes
T1:3	Themeda	No
T1.5	Themeda	No
T2:1	Kikuyu	Yes
T2:2	Themeda	No
T3:2	Themeda	No
T9	Kikuyu	Yes
T11	Paspalum	Yes
T32	Paspalum	No

4.4 Soil

Calcium in soil is determined from the liquid obtained after extracting 500g of soil with 500 ml of boiling (5N) HCl.

5. DISCUSSION

5.1 General

Since this survey was designed primarily as a check on site operations, most of the results obtained have established average background levels only. Results have been statistically tested in most cases using Student's "t" test to check for significant differences between sampling stations. Where possible F tests have been done to check for variation with time. In the following resumé comment will be made only where trends and differences can be distinguished.

5.2 Resumé of Results for Terrestrial Samples

5.2.1 Beta activity

Rainwater: The specific activity of rainwater has risen throughout the period reported but no difference between stations can be distinguished. This can be correlated with deposition from nuclear weapons testing and is not related to activities at the Research Establishment.

Deposition: The total deposition has been calculated wherever possible to overcome errors due to evaporation from the collection pots and dry deposition. No increase in the deposition of β activity during 1963 and 1964 can be distinguished.

Grass: The activity at stations T1:3, T1.5:1 and T2:2 is higher than at the other stations (see Figure 3). A xerophytic bunchgrass called Themeda australis grows at these three stations.

Beta activity rose to a maximum between September 1962 and April 1963 and then gradually fell during 1964 (see Figure 3). This rise is probably due to weapons testing between April and December 1962.

Soil: Activity in soil at T0 is significantly higher than at the other stations but no change with time can be distinguished.

5.2.2 Potassium

Grass: Potassium concentration in grass at T32, T1:3, T1.5:1 and T2:2 is lower than that at stations T0, T1:1, T1:2, T2:1, T3:2, and T11.

Soil: Each station has a significantly different potassium level.

5.2.3 Alpha activity

Rainwater: No differences can be distinguished between stations. A peak occurred between June and October 1964. This corresponds to a period of reasonably low rainfall and evaporation from the containers probably led to the higher specific activity of the rainwater collected.

Soil: The activity at station T32 is significantly lower than that at the other stations.

5.2.4 Caesium 137 activity

Milk: Levels at T3:1 are significantly higher than at the other stations. (See Figure 4). This variation is probably due to differing farm fertility and animal husbandry as was shown by Hansen et al. (1964).

A comparison with results from other sources shows that levels at T3:1 are not abnormally high (see Table 3).

TABLE 3

COMPARISON OF YEARLY AVERAGE CAESIUM 137 VALUES FOR MILK FROM THE SYDNEY AREA (pCi/litre)

Station / Year	T32	T3:1	T11	Sydney* (composite sample)
1963	18.5	31.5	15.9	26
1964	19.2	34.5	18.1	30

* Figures taken from Alsop, R.J.L. et al. (1965)

Caesium 137 levels rose until March 1961 after which there was a slight fall. Another sharp rise occurred at the end of 1964. (See Figure 4).

5.2.5 Gamma activity other than caesium 137

Deposition: Gamma spectrometry of activity deposited into rainwater collectors began at the end of 1962. Some figures for γ emitters in air and rain collected during 1962 were published by Davy and Green (1963). This revealed fission products from fairly recent events. Caesium 137 levels were not determined since the photopeak for this energy level was obscured.

Manganese 54 was first detected at the end of 1963 and old samples were then recounted. This nuclide could then be distinguished in samples collected during the period September 1962 to January 1963. Trace indications were reported in high altitude balloon samples taken at Mildura, Victoria, in April 1962 and the first significant readings were found in the same type of sample in December 1962 (Hardy et al. 1963, p.194 and p.202). Manganese 54 was used by the U.S.S.R. as a tracer in high yield detonations during September and October 1961 (Hardy et al. 1963, p. 162).

Grass: Gamma emitting nuclides found in grass followed the same trends as those found in rainwater. The first evidence of manganese 54 in grass was found in a sample collected in May 1963.

5.2.6 Strontium 90 activity

Grass: There is some indication that the activity at T32 is higher than that at T1:2 and T11 when the results are expressed either as strontium units or as pCi/g fresh weight.

Milk: During 1964 the activity at T32 was less than that at T3:1 and T11. This is probably due to differences in farm fertility (see Hansen et al. 1964). There was also a general rise in levels from the beginning of 1963. (See Figure 5).

Soil: Levels in general are fairly scattered which is probably due to the heterogeneous nature of soil. However there is an indication that during 1963 and 1964 the activity at T32 was higher than that at T0 and T11. The apparent difference between T0 and T11 is due to the higher calcium content of the soil at T11.

5.2.7 Calcium

Soil: The calcium level at T11 is higher than that at T32 and T0.

5.3 Resumé of Results for Estuary Samples

5.3.1 Beta activity

Bottom Sands: Cobalt 60 and fission products in particulate form in small amounts were found among sand samples taken from directly in front of the discharge nozzle of the pipeline during 1962. This activity was removed by dredging in April 1963. A fall in the level of activity in sand taken at E1.5 was found from April 1963 to October 1964. During this period some heavy flooding of the river occurred.

Beach Sands: Low levels of activity in beach sands were also noted between April 1963 and October 1964.

Riverweed: Increased activity was found in a filamentous chlorophycean weed which grew around the discharge nozzle during October and December 1963. The weed grows transiently in this area and has not recurred at this point since then.

5.3.2 Alpha activity

Oyster flesh: There is an apparent rise in the activity of oyster flesh after 1961. However it has been found by J. D. Todd (unpublished data) that fresh oyster flesh sampled at all stations contains ~1.0 pCi/g fresh weight of polonium 210. The rise in activity may therefore be explained by the following facts:

(a) The earlier samples were ashed at 600 °C, and

(b) the earlier samples were not counted for some time after collection, and the radioactivity of polonium 210 decayed.

5.3.3 Beryllium concentration

Riverweed: The chlorophycean weed sampled at the discharge nozzle concentrated beryllium. The average level of beryllium discharged from August to October 1963 as reported by the Research Establishment's Effluent Auditor was 0.0008 p.p.m. and the highest level of beryllium in riverweed was 0.15 p.p.m. This indicates an approximate concentration factor of 200. It is not known what fraction of this beryllium was adsorbed onto the outside of the weed.

5.3.4 Gamma activity

Bottom Sands: Small quantities of gamma emitting isotopes were detected in sands sampled from directly in front of the discharge nozzle of the pipeline.

Oyster Flesh: Zinc 65 was first found in oyster flesh in January 1963 and levels have generally risen since then until the end of 1964. This isotope was discharged at an average rate of 0.14 mCi per month during 1963 and 1964. However 2.5 mCi (0.8 mCi/month) was discharged from April to June 1964. The average specific activity of effluent discharged was 0.02 pCi zinc 65/ml and the specific activity during the period from April to June 1964 (inclusive) was 0.12 pCi/ml.

Riverweed: Gamma spectrometry of riverweed began in 1963 and has revealed the presence of cobalt 60 in each sample since then. Zinc 65, manganese 54, and some fission products were also found in 1964.

6. HAZARDS EVALUATION

The only samples showing the presence of radioactivity which can be attributed to operations at the Research Establishment are, fish, oysters, bottom sands and riverweed. Of these only the first two are used as food for humans. Existing levels of these nuclides would have to increase by a factor of one hundred to a thousand times to approach internationally acceptable maximum concentrations for consumption by the general public.

Maximum acceptable levels of various radioactive nuclides in human foodstuffs may be estimated on the basis of recommendations published by the International Commission on Radiological Protection (ICRP) (1964).

In considering the exposure of individual members of the population at large in situations where control over the exposure can be exercised, the ICRP in its recommendations revised in 1962 (published 1964), suggests that the maximum annual dose to the whole body or to the blood forming organs should not exceed 0.5 rem. This would be achieved, in the case of a single nuclide for which the total body, the gonads or the blood forming organs were the critical organ, if the average concentration of the nuclide in air or water were limited to 1/10 of the maximum permissible concentration (mpc), listed for continuous (168 hr per week) occupational exposure in the ICRP Committee II report (1959). However in situations where an individual may be exposed to a mixture of nuclides, a further reduction factor becomes necessary and for this, the ICRP has recommended that 1/3 be taken (1959). That is, the maximum permissible concentrations applicable to individual members of the population at large become, in this case, $1/30(\text{mpc})^{168\ \text{hr}}$. This is also the definition of mpc "in relation to any other person" given in the N.S.W. Regulations to the Radioactive Substances Act, 1957, as amended on 19th October 1962 (columns 3 and 4 of Schedule II).

From this one can derive the maximum permissible daily intake (mpdi) for a member of the general public for any nuclide by assuming a daily liquid intake of 2.2 litres, the value assumed by the I.C.R.P. in its derivations of maximum permissible concentrations in water. That is, the mpdi for a particular nuclide is given by,

$$\text{mpdi} = 2.2 \times 10^3 \times 1/30(\text{mpc})_w^{168\ \text{hr}}\ \mu\text{Ci}$$

where $(\text{mpc})_w^{168\ \text{hr}}$ is the maximum permissible concentration in water for 168 hr per week exposure in units by μCi/ml.

To assess the maximum permissible concentration of a nuclide in an item of diet one must assume a value for the quantity of that food eaten per day. In the case of oysters we assume a daily intake of 70 g; this is about a dozen large oysters per day. Note that this is nearly 0.5 kg per week

which is about one third of the normal protein requirement. The maximum permissible concentration of an individual nuclide in oyster flesh is thus,

$$(mpc)_{oys} = (1/70) \times (mpdi) \ \mu Ci/g.$$

Similarly, in the case of fish, if one assumes, conservatively, a daily intake of 250 g (about ½ lb) we have,

$$(mpc)_{fish} = (1/250) \times (mpdi) \ \mu Ci/g.$$

The only nuclides found in food samples from the estuary and that can be attributed to discharges from the Research Establishment are zinc 65 in oysters and possibly caesium 137 in certain fish. The maximum levels found to date have been 0.28 pCi of zinc 65 per gram of oyster flesh and 0.09 pCi of caesium 137 per gram of fish. These are to be compared with the maximum permissible concentrations for these nuclides estimated as outlined above, namely,

$$(mpc)_{oys} Zn-65 = 10^3 \text{ pCi/g},$$

$$(mpc)_{fish} Cs-137 = 60 \text{ pCi/g}.$$

Existing levels of these nuclides would have to increase by a factor of one hundred to a thousand before they approached these maximum permissible concentrations.

Since bottom sands and riverweed are not foods, no ingestion hazard exists, and the risk arising from direct irradiation to humans is negligible.

No significant long term or seasonal changes have been observed in stable element content (including beryllium) of samples. With two possible exceptions all figures reported here on stable element content are natural levels. The chlorophycean weed which grew at the discharge nozzle in the Woronora Estuary during the last quarter of 1963 may have concentrated a small amount of beryllium from the discharge. (Beryllium is normally present in the estuary water and in the absence of detailed experimentation it is not possible to estimate how much of its beryllium content was from natural sources and how much from the discharge.) Bottom sands at the discharge point also showed on the average higher beryllium content than samples further downstream. In neither case was there any hazard to marine life. The levels accumulated are extremely low and beryllium does not present a significant ingestion hazard.

7. ACKNOWLEDGEMENTS

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APPENDIX 1

DETAILS OF COLLECTION AND PREPARATION OF SAMPLES

Terrestrial Samples

Sample Type	Station	Collection Frequency	Collection Details	Special Steps in Preparation
Rainwater	T0:1 T11:1 T32:1	Quarterly Quarterly Quarterly	Collected in polythene pots having a funnel diameter of 10 in. 50 ml of A.R. HNO_3, 50 mg Cs^{++} and 50 mg of Sr^{++} are added as carrier	The water is passed through 200 ml of Amberlite IRC120 resin which is then ashed
Soil	T0:1 T1:2 T9 T11:1 T32	Quarterly Quarterly Quarterly Quarterly Quarterly	A 4 in. diameter cylinder of the top 4 in. of soil is taken using a cover	Stones and recognisable vegetable matter are removed by hand and the soil passed through a ¼ in. mesh sieve. The sample is then crushed in a hammer mill and a special fraction between 60 and 100 mesh B.S.S. taken for α counting
Grass	T0:1 T9 T1:2 T11:1 T32:1 T1:1 T1:3 T1.5:1 T2:1 T2:2 T3:2	Quarterly Quarterly Quarterly Quarterly Quarterly Yearly Yearly Yearly Yearly Yearly Yearly	The grass is cut by rotary mower or hand clippers to within 1 in. of the ground	Whole unwashed grass is ashed
Milk	T3:1 T11:1 T32:1	Quarterly Quarterly Quarterly	Milk is obtained from bulk milk supplies	Whole milk is ashed
Beans	T4:1	Yearly	Beans are bought from small market gardens	Whole beans are ashed

(continued)

APPENDIX 1 (continued)

Sample Type	Station	Collection Frequency	Collection Details	Special Steps in Preparation
Dam Water	T5:1	Yearly	Taken from surface by bucket	Treated as rainwater
Acacia	T1:3	Yearly	Tree tips only are removed using hand shears	Treated as grass

Estuarine Samples

Estuary Water	E0.0 E0.2 E1.5 E2.1	Weekly Weekly Weekly Weekly	From surface by bucket	Boiled to dryness and then ashed
Oyster Flesh	E4.4 E5:1 E5:2 E5.8 Control	Quarterly Quarterly Quarterly Quarterly Quarterly	Obtained from commercial leases	Opened by commercial openers. Liquid is removed by placing on a sieve for five minutes
Beach Sands	E0.84 E2.9 E3.7	Half Yearly Half Yearly Half Yearly	Taken by scoop from the top 2 in. of sand in the intertidal region	A special fraction between 60 and 120 mesh B.S.S. is removed for α counting after ashing
Bottom Sands	E0.0 E1.5	Quarterly Quarterly	Taken by pump	As for beach sand
Blackfish	E4.1	Half Yearly	Caught by Seine Net	Whole fish ashed
Mullet	E4.1	Half Yearly	As above	As above
Crabs	E3.7	Half Yearly	Taken by hand from the intertidal region	Whole crab ashed
Riverweed (Zostera)	E1.5 E1.0	Yearly Yearly	Pulled from bottom by rake	Dried to constant weight at 70 °C to give an ash to dry weight ratio before ashing
Riverweed (Chlorophycean)	E0.0	Yearly	Pulled from rocks around the discharge nozzle	As above

APPENDIX 2

ANALYTICAL METHODS

1. COLLECTION AND PREPARATION OF SAMPLES

In general 2–3 kg of fresh sample is collected. The sample is then weighed and ashed at 450°C in a muffle furnace. Before January 1960, samples were ashed at 600°C and some Cs–137 was lost (Green and Finn 1964). Details of collection and comments on preparation are given in Appendix 1.

The scientific names of the biological specimens collected are given in Appendix 3.

2. MEASUREMENT OF RADIOACTIVITY

2.1 β and α Activity

The β activity in soil and sand is counted under a 2B2 G.M. tube (2 inch dia. end window of 2 mg/cm^2). Alpha counting of these samples is done on a fraction with a grain size between 60 to 120 mesh B.S.S. in an AERE type 1355B drawer assembly (ZnS scintillating screen monitored by a P.M. tube) kept in a desiccated atmosphere.

All other sample ashes are pressed into 2 inch diameter tablets using a pressure of 10 tons per square inch and counted for both β and α activity in a Tracerlab SC 50B windowless proportional counter.

All counting samples are made infinitely thick with respect to the activity being measured. β and α activity are assumed to have energies similar to potassium 40 and natural uranium respectively. A.R. grade KCl and an alloy of Al and U are used to standardise the detectors.

In calculating the net β activity in all samples except rainwater the activity due to natural potassium 40 is subtracted. Absolute α activity is calculated using a formula derived by Turner et al. (1958).

2.2 Gamma Spectrometry

Gamma spectra are obtained by placing about 40 g of sample ash on an 8 in. x 4 in. NaI(Tl) crystal and sorting the resultant scintillations in a Nuclear Data 512 channel analyser.

3. CHEMICAL AND RADIOCHEMICAL METHODS

3.1 Beryllium

Beryllium is determined fluorometrically after liquid extraction following the method of Cosgrove et al. (1961).

3.2 Potassium

Potassium is determined by flame spectrophotometry following methods adapted from those described in Standard Methods for the Examination of Water and Wastewater (1960) and by Collins and Polkinghorne (1952).

3.3 Radiostrontium

Sr–90 is determined by a method similar to that of Bryant et al. (1959) developed by Davis (1962).

(continued)

3.4 Stable Calcium and Strontium

Calcium was determined gravimetrically following the method described in Scott's Standard Methods of Chemical Analysis (Furman 1962) until December 1961. Between December 1961 and February 1963, calcium was determined by flame spectrophotometry using the UNICAM method 900/1 (1959). Since then calcium has been determined by X–ray fluorescence using the method of Champion and Whittem (1966).

Strontium was determined by X–ray fluorescence after ion exchange separation until 1961, following the methods of Taylor and Whittem (1961) and Davis (1962). Since then strontium has been determined by X–ray fluorescence following the method of Champion et al. (1965).

APPENDIX 3

SCIENTIFIC NAMES OF BIOLOGICAL SAMPLES

Name Used in Text	Scientific Name	Comments
Acacia	Acacia decurrens	A small tree
Blackfish	Girella tricuspidata	Herbivore often taken by professional and amateur fishermen
Crabs	Heloecious cordiformis	A small inedible detrital feeder
Grasses: Kikuyu	Pennisetum clandestinum	A common lawn runner grass
Grasses: Paspalum	Paspalum dilatatum	A flat base of leaves with raised fruiting parts
Grasses: Themeda	Themeda australia	A xeromorphic bunch grass
Mullet	Mugil dobula	A herbivorous species taken by amateur and professional fishermen
Oysters	Saxostrea commercialis	The common commercial oyster in the Sydney area, which grows in the intertidal regions
Riverweed (Zostera)	Zostera sp.	A ribbon-like marine angiosperm
Riverweed (Chlorophycean)	Chlorophycean Filamentous type	Further identification has not been done. This weed appears only spasmodically around the discharge nozzle

APPENDIX 4
TABULATED RESULTS

TABLE 4 – Index to Tables of Results

TABLES 5 – 120

TABLE 4

INDEX TO TABLES OF RESULTS

Sample \ Analysis	α	β	K	Be	Ca	Sr	Sr–90	Cs–137	Zn–65	Mn–54	Other γ Activity	Precipi-tation
Rainwater	20	6	14	28			48				40	5
Limit of Accuracy	0.3	1.0	5%	10%	5%	5%	2					
Deposition		8					50			43	42	
Grass	22	8	15	29	56	61	50,51	36			43,44, 45,46	
Limit of Accuracy	0.1	1.0	5%	10%	5%	5%	5					
Milk	23	9	16	30	57		52	37				
Limit of Accuracy	0.03	0.3	5%	10%	5%		0.1					
Soil	24	10	17	31	58		53					
Limit of Accuracy	1.2	1.0	5%	10%	5%		5					
Green Beans	25	11	18	32	59		54	38				
Limit of Accuracy	0.01	0.2	5%	10%	5%		0.1					
Mushrooms	26	12	19	33	60		55	39				
Limit of Accuracy	0.01	0.2	5%	10%	5%		0.1					
Acacia Sp.	27	13	20	34							47	
Limit of Accuracy	0.05	0.2	5%	10%								
Drinking Water				35							47	
Estuary Water	81	62	72	91								
Limit of Accuracy	0.03	0.04	5%	10%								
Oyster Flesh	82	63	73	92	113	119	106		100			
Limit of Accuracy	0.005	0.5	5%	10%	5%	5%	0.1					
Oyster Shell	83	64	74	93	114	120	107					
Limit of Accuracy	1.0	0.5	5%	10%	5%	5%	0.02					
Beach Sand	84	65	75	94							101	
Limit of Accuracy	0.5	0.5	5%	10%								
Bottom Sand	85	66	76	95			108				102	
Limit of Accuracy	0.5	0.6	5%	10%			4					
Riverweed	86	67	77	96	115		109	105	105	105	105	
Limit of Accuracy		0.8	5%	10%	5%		0.002					
Plankton	87	68										
Limit of Accuracy	0.004	0.002										
Blackfish	88	69	78	97	116		110	103				
Limit of Accuracy	0.1	0.3	5%	10%	5%		0.002					
Mullet	89	70	79	98	117		111	104				
Limit of Accuracy	0.1	0.3	5%	10%	5%		0.002					
Crabs	90	71	80	99	118		112					
Limit of Accuracy	0.4	0.2	5%	10%	5%		0.01					

TABLE 5 RAINFALL DURING PERIOD

(Points)

Period \ Station	T 32	T 0	T 11
Nov. 1959–Feb. 1960		915	
Sept. 1960–Nov. 1960		1026	
Oct. – Dec. 1960			1038
Nov. 1960–Feb. 1961		1475	
Feb. – May 1961		789	
July – Sept. 1961		794	
July – Oct. 1961	733		
Oct. – Dec. 1961	2169	1980	
Dec. 1961–Jan. 1962	918		
Jan. – March 1962	875		
Feb. – May 1962			1444
June – Sept. 1962	514	624	422
Sept. – Nov. 1962		365	

Period \ Station	T 32	T 0	T 11
Oct. 1962–Jan. 1963	1777		1943
Nov. 1962–March 1963		1758	
Jan. – April 1963	1177		1174
March – April 1963		1203	
April – May 1963	1238	1138	843
May – July 1963	624	1196	728
July – Oct. 1963	618	1340	949
Oct. 1963–Jan. 1964	792	1179	772
Jan. – April 1964	560	606	265
April – June 1964	1540	1773	1740
June – Oct. 1964	284	494	423

TABLE 6 β ACTIVITY IN RAINWATER (pCi/l)

Period \ Station	T 32	T 0	T 11
Nov. 1959 – February 1960		7	
Sept. – Nov. 1960		4	
Oct. – Dec. 1960			5
Nov. 1960 – Feb. 1961		5	
Feb. – May 1961		11	
July – Sept. 1961		8	
July – Oct. 1961	7		
Oct. – Dec. 1961	7	8	
Mean (59–61) s.d.	7	7.2 2.5	5
Dec. 1961 – Jan. 1962	5.2		
Jan. – March 1962	2.2		
Feb. – May 1962			13.2
June – Sept. 1962	20.9	4.9	13.3
Sept. – Nov. 1962		22.4	
Mean (62) s.d.	9.4 10.0	13.7 12.4	13.3 0.7
Oct. 1962 – Jan. 1963	21.4		41.7
Nov. 1962 – March 1963		40.4	
Jan. – April 1963	20.5		18.6
March – April 1963		21.6	
April – May 1963	9.0	3.0	
May – July 1963	13.2	12.2	9.9
July – Oct. 1963	7.5	26.6	26.0
Mean (63) s.d.	14.3 6.4	20.8 14.2	24.1 13.5
Oct. 1963 – Jan. 1964	46	20	37
Jan. – April 1964	43	34	63
April – June 1964	6	11	10
June – Oct. 1964	89	52	71
Mean (64) s.d.	46 34	29.3 17.9	45.3 27.6

TABLE 7 β ACTIVITY DEPOSITED

(pCi/day/m^2)

Station / Period	T 32	T 0	T 11
Sept. 1962 – Jan. 1963	47		62
Nov. 1962 – March 1963		93	
Jan. – April 1963	54		43
March – April 1963		75	
April – May 1963	57	15.3	
May – July 1963	33	53	30
July – Oct. 1963	15	79	52
Mean (63) s.d.	41.2 17.3	63.1 30.3	46.8 13.6
Oct. 1963 – Jan. 1964	147	94	93
Jan. – April 1964	42	30	28
April – June 1964	26	72	59
June – October 1964	36	36	41
Mean (64) s.d.	62.8 56.6	58.0 30.3	55.3 28.2

TABLE 8 β ACTIVITY IN GRASS

(pCi/g Fresh Weight)

Station / Date	T 32	T 0	T 1:1	T 1:2	T 1:3	T 1.5:1	T 2:1	T 2:2	T 3:2	T 9	T 11
Dec. 1959	1	<0.3	<2	<0.9		6.5	2	<0.8	1		
Feb. 1960		2									
March 1960		<0.5			1					<0.8	
April 1960	0.7			3							
June 1960	0.9	<0.9								<0.8	2.6
July 1960				1.6			2				
Sept. 1960		<1.5									
Oct. 1960	1			<0.5						<0.2	<0.3
Dec. 1960		<1	0.6	<0.5	8.6	7.7	<0.4	2.9	0.7		
Jan. 1961	2									2	3.4
Feb. 1961		<0.9									
April 1961	0.8			<0.6						<0.7	<0.7
June 1961				0.4							
July 1961											<0.6
Aug. 1961		1.4									
Sept. 1961				<0.4							
Oct. 1961	1.4										<0.6
Nov. 1961		<0.6									
Dec. 1961			0.9	<1.0	1.9	5.8	<1	2.9	1.2		
Jan. 1962	<0.4										
Feb. 1962		<0.6									1
March 1962	<1			<0.6							
May 1962											1.8
June 1962	3.1	< 0.7									
July 1962				0.8							
Sept. 1962	1.2	8.1									5.4
Oct. 1962				2.8							
Nov. 1962		5.9									

(continued)

TABLE 8 (continued)

Station / Date	T 32	T 0	T 1:1	T 1:2	T 1:3	T 1.5:1	T 2:1	T 2:2	T 3:2	T 9	T 11
Jan. 1963	2.9		6.4	3.8	10.3	20	3.7		8.8		4.4
Feb. 1963		4.2						17.6			
April 1963	8.8										2.5
May 1963		4.1		2.4							
July 1963	4.5	3.5		0.7							1.9
Oct. 1963	2.3	2.4		2.3							5
Jan. 1964	2.5	4.2	3.2	0.5	6.4	10.4	< 0.1	6.7	4.0		1.2
April 1964	4.2	1.0		0.7							0.7
July 1964	8.0	4.6		1.4							4.5
Oct. 1964	2.8	1.1		1.0							1.6

TABLE 9 β ACTIVITY IN MILK

(pCi/ml Fresh Volume)

Station / Date	T 32	T 2:3	T 3:1	T 3:2	T 9	T 11
December 1959	0.7					
March 1960	0.3				<0.2	
April 1960			<0.2			
June 1960	0.3				<0.2	0.3
August 1960			<0.3			
October 1960	<0.2		<0.3		<0.2	<0.2
January 1961	0.2				<0.1	0.2
February 1961			<0.3			
April 1961	0.2				<0.3	<0.2
May 1961			<0.2			
July 1961	<0.2					<0.3
August 1961			<0.2			
October 1961	<0.2					<0.3
December 1961			0.2			
January 1962	<0.1					
February 1962						<0.1
March 1962	0.2		<0.1			
May 1962			0.8			<0.1
June 1962	<0.1					
September 1962	<0.1		<0.1			<0.1
January 1963	<0.2		<0.2			<0.1
April 1963	<0.2		<0.1			<0.1
July 1963	<0.2		<0.1			<0.1
October 1963	<0.2		<0.1			<0.2
January 1964	0.3		<0.1			<0.1
April 1964	<0.3		<0.3			<0.2
July 1964	<0.3		<0.3			<0.3
October 1964	<0.3		<0.2			<0.3
November 1964		<0.2		<0.1		

TABLE 10 β ACTIVITY IN SOIL

(pCi/g Dry Weight)

Station / Date	T 32	T 0	T 1:2	T 9	T 11
September 1959		9.9			
December 1959	3.2	8.8	5.9		
March 1960	1.8			7.4	
June 1960	7.5			5.2	5.1
August 1960		6.9	6.6		
October 1960	6.5			3.7	4.9
Mean (59–60)	4.8	8.5	6.3	5.4	5.0
s.d.	2.7	1.5	0.5	1.9	
January 1961	5.2			5.6	5.1
February 1961		9.1			
April 1961	6.7			7.3	7.4
May 1961		9.1			
July 1961	9.1				
August 1961		7.1			
October 1961	4				7.4
November 1961		13.1			
Mean (61)	6.3	9.6		6.5	6.6
s.d.	2.2	2.5		1.2	1.3
January 1962	5.4				
February 1962		4.8			7.2
March 1962	4.2				
May 1962					2.7
June 1962	6.1	9.6			
September 1962	7.1	5.1			5.6
November 1962		15			
Mean (62)	5.7	8.6			5.2
s.d.	1.2	4.8			2.3

(continued)

TABLE 10 (continued)

Station / Date	T 32	T 0	T 1:2	T 9	T 11
January 1963	5.2				11
March 1963		12			
April 1963	5.5				8
May 1963		9			
July 1963	6	7			7
October 1963	4	8			5
December 1963		10			
Mean (63)	5.2	9.2			7.8
s.d.	0.9	1.9			2.5
January 1964	6.4				4.9
April 1964	4.6	9.7			6.3
July 1964	7.0	10.5			6.8
October 1964	4.6	9.5			6.7
Mean (64)	5.7	9.9			6.2
s.d.	1.2	0.5			0.9

TABLE 11 β ACTIVITY IN GREEN BEANS

(pCi/g Fresh Weight)

Station / Date	T 3:2	T 4
February 1961	N.D.	
May 1962	N.D.	
April 1963		0.3
April 1964		0.3

TABLE 12 β ACTIVITY IN MUSHROOMS

(pCi/g Fresh Weight)

Station / Date	T 1.5:2
July 1964	0.5

TABLE 13 β ACTIVITY IN ACACIA

(pCi/g Fresh Weight)

Station / Date	T 1:3
November 1962	4.2
December 1963	1.7

TABLE 14 K CONCENTRATION IN RAIN

(p.p.m.)

Station / Period	T 32	T 0	T 11
Dec. 1961 – Jan. 1962	2		
Feb. 1962			0.7
Jan. – March 1962	0.4		
Feb. – May 1962			0.7
March – June 1962	1.4		
June – Sept. 1962	0.7	1.1	0.6
Sept. – Nov. 1962		0.7	

TABLE 15 K CONCENTRATION IN GRASS

(μg/g Fresh Weight)

Station / Date	T 32	T 0	T 1:1	T 1:2	T 1:3	T 1.5:1	T 2:1	T 2:2	T 3:2	T 9	T 11
Dec. 1959	2500	3600	11000	18000		1700	3500	800	5800		
Feb. 1960		4800									
March 1960		4000			1785					9160	
April 1960	350			2600							
June 1960	2000	6000								4800	2500
Sept. 1960		13400									
Oct. 1960	1300			3500						11800	2100
Dec. 1960		6100	4000	4600	2300	2160	5600	1070	4000		
Jan. 1961	2500									5100	2200
Feb. 1961		7100									
April 1961	5150			7170						6000	8700
June 1961				6150							
July 1961											5400
Aug. 1961		4500									
Sept. 1961				5100							
Oct. 1961	3600										6100
Nov. 1961		6400									
Dec. 1961			5500	6600	2400	1200	7500	3000	4600		
Mean (60–61) s.d.										7372 3020	
Jan. 1962	4700										
Feb. 1962		13800									6700
March 1962	15300			6800							
May 1962											2700
June 1962	4070	8300									
July 1962				4570							
Sept. 1962	1300	8700									4450
Oct. 1962				7000							
Nov. 1962		7600									

(continued)

TABLE 15 (continued)

Station / Date	T 32	T 0	T 1:1	T 1:2	T 1:3	T 1.5:1	T 2:1	T 2:2	T 3:2	T 9	T 11
Jan. 1963	4000		8060	9000	3850	3350	7800		6350		3300
Feb. 1963		7600						3060			
April 1963	4840										4956
May 1963		3300		1950							
July 1963	4460	3480		4950							5160
Oct. 1963	4590	4430		5900							7050
Jan. 1964	8370	7470	5140	3600	2370	1630	7850	2150	4790		11580
April 1964	6610	8500		6480							6930
July 1964	4670	6300		5800							5000
Oct. 1964	6800	7600		7040							6220
Mean (59–64)	4585	6809	6740	6148	2541	2008	6450	2016	5108		5342
s.d.	3290	2840	2810	3360	773	824	1890	1050	950		2420

TABLE 16 K CONCENTRATION IN MILK

(p.p.m. Fresh Volume)

Date \ Station	T 32	T 2:3	T 3:1	T 3:2	T 9	T 11
December 1959	1030					
March 1960	1018				590	
April 1960			1705			
June 1960	1833				1598	1140
August 1960			3711			
October 1960	1662		2703		1308	1190
January 1961	1220				863	1717
February 1961			4342			
April 1961	1230				1197	1477
May 1961			960			
July 1961	1409					1504
August 1961			1286			
October 1961	1737					1533
December 1961			1116			
January 1962	1400					
February 1962						1500
March 1962	1800		1500			
May 1962			760			1330
June 1962	1630					
September 1962	1690		1520			1480
Mean (60–61) s.d.					1111 393	
January 1963	1900		1850			1700
April 1963	1770		1680			1700
July 1963	1720		1640			1740
October 1963	1290		1848			1460
January 1964	1830		1600			1610
April 1964	1690		1450			1480
July 1964	2060		1630			1620
October 1964	1860		1890			1575
November 1964		1720		1940		
Mean (59–64) s.d.	1589 300		1844 902			1515 172

TABLE 17 K CONCENTRATION IN SOIL

(μg/g Dry Weight)

Date \ Station	T 32	T 0	T 1:2	T 9	T 11
September 1959		10100			
December 1959	5800	10000	11800		
March 1960	5600			8900	
June 1960	4500			9600	14800
August 1960		10100	2500		
October 1960	5200			8200	13800
January 1961	5600			8100	12400
February 1961		9900			
April 1961	5600			7400	11300
May 1961		8400			
July 1961	5600				
August 1961		8500			
October 1961	5500				10100
November 1961		6600			
Mean (60–61)				8440	
s.d.				838	
January 1962	5100				
February 1962		8400			13800
March 1962	5380				
May 1962					14100
June 1962	5400	9400			
September 1962	5750	11100			15500
November 1962		9700			
January 1963	4900				10300
March 1963		7900			
April 1963	5200				12800
May 1963		9400			
July 1963	5440	13200			12300
October 1963	4770	10800			15300
December 1963		10700			
January 1964	6350				15300
April 1964	5100	10050			14400
July 1964	5600	10700			14000
October 1964	5600	9600			13400
Mean (59–64)	5399	9713			13350
s.d.	407	1410			1700

TABLE 18 K CONCENTRATION IN GREEN BEANS

(μg/g Fresh Weight)

Station / Date	T 3:2	T 4
February 1961	2080	
March 1962	2100	
April 1963		2700
April 1964		1900

TABLE 19 K CONCENTRATION IN MUSHROOMS

(μg/g Dry Weight)

Station / Date	T 1.5:2
July 1964	4640

TABLE 20 K CONCENTRATION IN ACACIA

(μg/g Fresh Weight)

Station / Date	T 1:3
November 1962	3400
December 1963	2960

TABLE 21 α ACTIVITY IN RAINWATER

(pCi/l)

Station / Period	T 32	T 0	T 11
Nov. 1959 – Feb. 1960		4	
Sept. – Nov. 1960		2	
Oct. – Dec. 1960			1
Nov. 1960 – Feb. 1961		1	
Feb. – May 1961		3	
July – Sept. 1961		1	
July – Oct. 1961	4		
Oct. – Dec. 1961	1	2	
Mean (60–61) s.d.	2.5 2.1	2.2 1.2	1
Dec. 1961 – Jan. 1962	1.3		
Jan. – March 1962	0.5		
Feb. – May 1962			0.8
June – Sept. 1962	2.2	0.8	2.4
Sept. – Nov. 1962		0.9	
Mean (62) s.d.	1.3 0.9	0.85 0.07	1.6 1.1
Sept. 1962 – Jan. 1963	1.8		3.5
Nov. 1962 – March 1963		2.5	
Jan. – April 1963	0.7		1.5
March – April 1963		0.6	
April – May 1963	0.4	< 0.3	0.2
May – July 1963	0.8	0.6	0.6
July – Oct. 1963	0.3	1	1.0
Mean (63) s.d.	0.8 0.6	1.0 0.9	1.4 1.3
Oct. 1963 – Jan. 1964	0.6	0.5	0.5
Jan. – April 1964	2.7	1.1	11.6
April – June 1964	0.3	0.5	1.1
June – Oct. 1964	18.4	3.6	4.7
Mean (64) s.d.	5.5 8.7	1.4 1.5	4.5 5.1

TABLE 22 α ACTIVITY IN GRASS

(pCi/g Fresh Weight)

Station / Date	T 32	T 0	T 1:1	T 1:2	T 1:3	T 1.5:1	T 2:1	T 2:2	T 3:2	T 9	T 11
Dec. 1959	0.7	0.3	0.7	0.9	1.1	1.1	0.5	0.1	1.0		
Feb. 1960		0.6			0.9						
March 1960		0.2								0.6	
April 1960	0.3			2.0							
June 1960	0.7	0.5								0.4	0.9
July 1960				1.2							
Sept. 1960		0.4									
Oct. 1960	0.4			0.7						1.3	0.1
Dec. 1960		0.3	2.9	0.3	1.2	3.8	0.5	2.1	0.5		
Mean (59–60)	0.5	0.4		1.0						0.8	
s.d.	0.2	0.1		0.6						0.5	
Jan. 1961	0.5									0.2	0.4
Feb. 1961		0.2									
April 1961	0.8			0.8						0.7	0.2
June 1961				0.5							
July 1961											0.5
August 1961		2.5									
Sept. 1961				0.1							
Oct. 1961	1.1										0.3
Nov. 1961		0.5									
Dec. 1961			1.5	0.1	0.7	2.3	0.2	1.2	0.8		
Mean (61)	0.8	1.1		0.4							0.4
s.d.	0.3	1.3		0.3							0.1
Jan. 1962	0.3										
Feb. 1962		<0.1									<0.1
March 1962	0.4			0.5							
May 1962											0.9
June 1962	4.6	0.6									
July 1962				0.4							
Sept. 1962	0.6	1.2									1.6
Oct. 1962				0.9							
Nov. 1962		0.4									
Mean (62)	1.48	0.58		0.55							0.87
s.d.	2.0	0.47		0.24							0.75

(continued)

TABLE 22 (continued)

Station / Date	T 32	T 0	T 1:1	T 1:2	T 1:3	T 1.5:1	T 2:1	T 2:2	T 3:2	T 9	T 11
Jan. 1963	0.4		0.6	0.4	1.6	1.2	0.3		1.0		0.3
Feb. 1963		0.4						0.7			
April 1963	2.9										0.9
May 1963		0.7		0.5							
July 1963	6.3	0.7		0.4							1.2
Oct. 1963	0.9	0.4		0.7							0.2
Mean (63)	2.6	0.6		0.5							0.7
s.d.	2.7	0.2		0.1							0.5
Jan 1964	0.5	0.7	0.5	0.5	1.5	1.5	0.5	0.5	0.7		0.3
April 1964	0.2	0.07		0.3							0.1
July 1964	2.5	0.8		0.8							0.8
Oct. 1964	1.1	0.4		0.6							0.6
Mean (64)	1.1	0.5		0.5							0.5
s.d.	1.0	0.3		0.2							0.3

TABLE 23 α ACTIVITY IN MILK

(pCi/ml Fresh Volume)

Station / Date	T 32	T 3:1	T 9	T 11
December 1959	0.03			
March 1960	0.04		<0.02	
April 1960		<0.02		
June 1960	<0.02		<0.02	<0.02
August 1960		<0.03		
October 1960	<0.02	<0.03	0.04	0.01
January 1961	<0.01		<0.03	0.06
February 1961		0.07		
April 1961	0.01		0.01	0.04
May 1961		0.03		
July 1961	0.01			0.01
August 1961		0.01		
October 1961	0.01			0.02
December 1961		0.04		
January 1962	<0.01			
February 1962				<0.01
March 1962	<0.01	<0.01		
May 1962		0.03		0.02
June 1962	0.02			
September 1962	0.01	0.04		0.04
January 1963	<0.003	<0.004		0.004
April 1963	0.03	0.02		0.03
July 1963	0.01	0.008		0.007
October 1963	0.01	0.02		0.01
January 1964	0.006	<0.003		<0.002
April 1964	<0.001	0.008		<0.004
July 1964	0.02	0.005		0.01
October 1964	<0.004	0.004		<0.003

TABLE 24 α ACTIVITY IN SOIL

(pCi/g Dry Weight)

Station / Date	T 32	T 0	T 1:2	T 9	T 11
September 1959		15.4			
December 1959	4.8	17.2	13.7		
March 1960	4.2			12.6	
June 1960	5.5			13.3	14.8
August 1960		15.2	11.2		
October 1960	7.0			16.7	16.1
January 1961	5.0			9.8	10.8
February 1961		15.8			
April 1961	5.4			11.5	13.0
May 1961		12.0			
July 1961	6.5				15.8
August 1961		15.7			
October 1961	6.2				15.2
November 1961		19.6			
Mean (59–61)	5.5	15.8		12.3	14.3
s.d.	1.3	2.4		2.6	2.0
January 1962	6.6				
February 1962		18			15.3
March 1962	4.7				
May 1962					23
June 1962	5.8	16.4			
September 1962	5.9	20			17
November 1962		17			
Mean (62)	5.8	17.9			18.4
s.d.	0.8	1.6			4.1

(continued)

TABLE 24 (continued)

Station / Date	T 32	T 0	T 1:2	T 9	T 11
January 1963	7.1				15
March 1963		16			
April 1963	7				17
May 1963		17			
July 1963	5.2	17			16
October 1963	7.9	22			20
December 1963		24			
Mean (63)	6.8	19.2			17.0
s.d.	1.1	2.2			2.2
January 1964	6.6				18.5
April 1964	5.9	22.1			17.8
July 1964	5.4	19.5			15.5
October 1964	8.5	22.3			20.2
Mean (64)	6.6	21.3			18.0
s.d.	1.4	1.6			2.0

TABLE 25 α ACTIVITY IN GREEN BEANS

(pCi/g Fresh Weight)

Date \ Station	T 3:2	T 4
February 1961	N.D.	
May 1962	0.04	
April 1963		0.12
April 1964		<0.004

TABLE 26 α ACTIVITY IN MUSHROOMS

(pCi/g Fresh Weight)

Date \ Station	T 1.5:2
July 1964	0.05

TABLE 27 α ACTIVITY IN ACACIA

(pCi/g Fresh Weight)

Date \ Station	T 1:3
November 1962	0.34
December 1963	0.5

TABLE 28 Be CONCENTRATION IN RAINWATER

(μg/l)

Period \ Station	T 32	T 0	T 3:1	T 9	T 11
Nov. 1959 – Feb. 1960		0.05			
April 1960			0.13		
Feb. – May 1960		0.08			
March – June 1960	0.17			0.16	
June – Oct. 1960	0.14			0.12	0.09
Sept. – Nov. 1960		0.07			
Oct. – Dec. 1960	0.08			0.08	0.07
Nov. 1960 – Feb. 1961		0.03			
Dec. 1960 – April 1961	0.03			0.07	0.08
Feb. – May 1961		0.05	0.09		
April – July 1961	0.07			0.03	0.19
July – Aug. 1961		0.03			
July – Oct. 1961	0.10				0.13
Aug. – Nov. 1961		0.07			
Oct. – Dec. 1961	0.11	0.03			0.17
Dec. 1961 – Jan. 1962	0.26				
Dec. 1961 – Feb. 1962		0.07			0.05
Jan. – March 1962	0.03				
Feb. – May 1962					0.05
Feb. – June 1962		0.01			
Mean (60–64)	0.1	0.05		0.09	0.1
s.d.	0.07	0.02		0.05	0.05

TABLE 29 Be CONCENTRATION IN GRASS

(μg/kg Fresh Weight)

Station / Date	T 32	T 0	T 1:1	T 1:2	T 1:3	T 1.5:1	T 2:1	T 2:2	T 3:2	T 9	T 11
Dec. 1959	0.3	1	8	2		2	2	50	4		
Feb. 1960		8									
March 1960		4			22					17	
April 1960	2			2							
June 1960	26	14								6	12
July 1960				6							
Sept. 1960		2									
Oct. 1960	3			10						44	7
Dec. 1960		3	1	1	7	14	3	5	1		
Jan. 1961	4									8	5
Feb. 1961		1									
April 1961	12			15						40	10
June 1961				10							
July 1961											11
Aug. 1961		30									
Sept. 1961				3							
Oct. 1961	10										8
Nov. 1961		15									
Dec. 1961			14	0.2	27	10	3	25	9		
Mean (60–61)										23.0	
s.d.										17.9	
Jan. 1962	2										
Feb. 1962		3									3
March 1962	10			5							
May 1962											30
June 1962	70	3									
July 1962				5							
Sept. 1962	6	10									50
Oct. 1962				8							
Nov. 1962		8									

(continued)

TABLE 29 (continued)

Station / Date	T 32	T 0	T 1:1	T 1:2	T 1:3	T 1.5:1	T 2:1	T 2:2	T 3:2	T 9	T 11
Jan. 1963	5		5	6	20	20	3		24		13
Feb. 1963		11						10			
April 1963	25										24
May 1963		16		5							
July 1963	72	20		3							50
Oct. 1963	15	7		10							10
Jan. 1964	17	12	8	6	15	18	5	11	16		32
April 1964	17	4		15							27
July 1964	10	14		6							54
Oct. 1964	16	8		12							30
Mean (59–64)	17.0	9.2		6.5							22.1
s.d.	20.4	7.3		4.3							16.8

TABLE 30 Be CONCENTRATION IN MILK

(μg/l Fresh Volume)

Station / Date	T 32	T 2:3	T 3:1	T 3:2	T 9	T 11
December 1959	0.2					
March 1960	0.07				0.07	
April 1960			0.3			
June 1960	0.7				1.3	0.4
August 1960			0.8			
October 1960	0.3		0.3		0.4	0.4
January 1961	0.2				0.2	0.3
February 1961			0.2			
April 1961	0.6				0.3	0.3
May 1961			0.2			
July 1961	0.6					1.1
August 1961			0.2			
October 1961	0.06					0.06
December 1961			0.3			
January 1962	0.1					
February 1962						0.2
March 1962			0.2			
May 1962			0.4			0.1
September 1962	0.2		0.07			0.2
Mean (60–61)					0.45	
s.d.					0.49	
January 1963	0.08		0.08			0.1
April 1963	0.2		0.1			0.1
July 1963	0.08		0.08			0.2
October 1963	0.2		0.3			0.4
January 1964	0.43		0.25			N.D.
April 1964	0.2		N.D.			0.08
July 1964	< 0.02		0.15			0.08
October 1964	0.1		<0.1			0.07
November 1964		0.08		0.08		
Mean (59–64)	0.24		0.22			0.24
s.d.	0.21		0.18			0.26

TABLE 31 Be CONCENTRATION IN SOIL

(μg/g Dry Weight)

Station / Date	T 32	T 0	T 1:2	T 9	T 11
September 1959		0.01			
December 1959	0.5	1.1	0.04		
March 1960	0.5			1.2	
June 1960				0.01	1.7
October 1960	0.5			0.7	0.3
January 1961					0.05
February 1961		0.2			
April 1961	0.05			0.3	0.1
May 1961		0.3			
August 1961		0.04			
November 1961		0.01			
April 1963	0.6				
May 1963		0.6			
July 1963	0.4				0.5
Mean (59–63)	0.4	0.3		0.6	0.5
s.d.	0.2	0.4		0.5	0.7

TABLE 32 Be CONCENTRATION IN GREEN BEANS

(μg/g Fresh Weight)

Station / Date	T 4
April 1964	0.0001

TABLE 33 Be CONCENTRATION IN MUSHROOMS

(μg/g Fresh Weight)

Station / Date	T 1.5:2
July 1964	0.002

TABLE 34 Be CONCENTRATION IN ACACIA

(μg/g Fresh Weight)

Station / Date	T 1:3
November 1962	0.002

TABLE 35 Be CONCENTRATION IN DRINKING WATER

(μg/l)

Station / Date	T 0	T 5:1	T 5:2
January 1961			0.07
February 1961		0.01	
July 1961	0.03		
August 1961		0.004	0.01
September 1962		0.04	

TABLE 36 Cs-137 ACTIVITY IN GRASS

(pCi/g K)

Date \ Station	T 32	T 0	T 1:1	T 1:2	T 1:3	T 1.5:1	T 2:1	T 2:2	T 3:2	T 9	T 11
December 1959		19									
June 1960		7									
December 1960			29						39		
January 1961	18										
February 1961		12									
April 1961	36									38	
July 1961											32
August 1961		71									
October 1961	76										11
November 1961		33									
December 1961			37						61		
January 1962	38										
February 1962		11									11
March 1962	14			30							
May 1962											118
June 1962	54	23									
July 1963	40	67									
October 1963	27	47		52							
January 1964	30	43	49		250	400	9	218	71		25
April 1964	64	32									
July 1964	174	75									76
October 1964	62	43									

TABLE 37 Cs-137 ACTIVITY IN MILK

(pCi/g K)

Station / Date	T 32	T 2:3	T 3:1	T 3:2	T 11
March 1960	5.2				
April 1960			7.1		
June 1960	3.8				0
August 1960			3.0		
October 1960	4.4		7.8		3.4
Mean (60)	4.5		6.0		
s.d.	0.7		2.6		
January 1961	5.2				3.8
February 1961			13.3		
April 1961	5.1				4.0
May 1961			11.5		
July 1961	4.4				3.2
August 1961			16.3		
October 1961	7.5				7.9
December 1961			26.5		
Mean (61)	5.6		16.9		4.7
s.d.	1.4		6.7		2.1
January 1962	13.3				
February 1962					10.7
March 1962	13.6		21.6		
May 1962			20.4		7.0
June 1962	9.0				
September 1962	11.2		18.0		3.5
Mean (62)	11.8		20.0		7.1
s.d.	2.1		1.8		3.6
January 1963	10.5		17.9		8.5
April 1963	11.1		19.4		13.4
July 1963	12.4		21.9		9.3
October 1963	7.7		19.5		12.5
Mean (63)	10.4		19.7		10.9
s.d.	2.0		1.7		2.4
January 1964	11.0		16.3		10.1
April 1964	9.2		17.3		11.0
July 1964	11.8		17.4		12.1
October 1964	11.7		33.8		14.5
November 1964		23.8		33.4	
Mean (64)	10.9		21.2		11.9
s.d.	1.2		8.4		1.9

TABLE 38 Cs–137 ACTIVITY IN GREEN BEANS

(pCi/g K)

Station / Date	T 4
April 1964	4.3

TABLE 39 Cs–137 ACTIVITY IN MUSHROOMS

(pCi/g K)

Station / Date	T 1.5:2
July 1964	2

TABLE 40 γ ACTIVITIES OF RAINWATER

(pCi γ/l)

Period	γ Energies (MeV) / Station	0.13	0.48	0.75–0.76
Sept. 1962 – Jan. 1963	T32	1	1	7.2
Sept. 1962 – Jan. 1963	T11	2.1	obscured	13.7
Jan. 1963 – April 1963	T11	1.9	1.8	7.3
Jan. 1963 – April 1963	T32	1.4	1.2	6
March 1963 – April 1963	T0	1.3	1.5	6.2
July 1963 – Oct. 1963	T11	0.7	2.1	

TABLE 41 γ ACTIVITIES DEPOSITED

(pCi γ/day/m^2)

Period	γ Energies (MeV) / Station	0.13	0.14	0.48	0.66 *	0.75 – 0.76	0.84 *
Sept. 1962–Jan. 1963	T32	2.2		2.2		15.8	
Sept. 1962–Jan. 1963	T11	3.1		obscured		20	
Feb. 1963–April 1963	T11	4.6		4.3		17.5	
Jan. 1963–April 1963	T32	3.7		3.2		15.8	
March 1963 – April 1963	T0	4.5		5.2		21.5	
Oct. 1963–Jan. 1964	T0		2.7	15.7		N.D.	4.7
	T32		3.0	14.6		N.D.	4.5
	T11		2.3	6.9	Trace	Trace	1.9
Jan. – April 1964	T0		0.8	3.4			
	T11		1.0			N.D.	
	T32		1.3	5.3		N.D.	
April – June 1964	T0		3.2	18.2	3.6	N.D.	3.8
	T32		2.2	7.7	3.7	N.D.	1.9
	T11		2.7	11.3	1.4	N.D.	2.9
June – Oct. 1964	T11		1.5	1.4	2.4	N.D.	1.3
	T0		0.9	0.9	0.6	N.D.	1.1

* These energies taken as Cs–137 and Mn–54 respectively.
Figures quoted refer to actual pCi/day/m^2.

TABLE 42 Mn–54 ACTIVITY DEPOSITED DURING 1962 AND 1963

(pCi/day/m^2)

(Calculated from 800 minute recounts of the combined resins from T32 and T11)

Period	Deposition
June – September 1962	N.D.
September 1962 – January 1963	4
January – April 1963	4

TABLE 43

RESULTS OF γ SPECTROMETRY ANALYSIS OF GRASS AT T0

(pCi γ/g Fresh Weight)

Energy MeV / Date	0.14	0.5 – 0.48	0.75 – 0.76	0.84*
November 1961		0.01		
February 1962		0.03		
June 1962	0.06	0.07	0.12	
September 1962	0.86	0.43	6.2	
November 1962	0.3	0.1	4.1	
February 1963	0.2	0.4	2.6	
May 1963				0.2
July 1963	0.2	0.3	0.5	0.1
October 1963	0.08	0.2	0.2	
January 1964	0.1	0.4	0.2	0.1
April 1964	0.1	0.3	0.03	0.12
July 1964	0.2	0.5	N.D.	0.3
October 1964	0.1	0.2	N.D.	0.11

* This energy refers to Mn–54 and is quoted in actual pCi /g Fresh Weight

TABLE 44

RESULTS OF γ SPECTROMETRY ANALYSIS OF GRASS AT T11

(pCi γ/g Fresh Weight)

Energy MeV / Date	0.14	0.5 – 0.48	0.75 – 0.76	0.84 *
February 1962		0.05		
May 1962	0.13	0.09	0.16	
September 1962	0.6	0.33	5.0	
April 1963	0.2	0.6	1.9	N.D.
January 1964	0.06	0.3	0.1	0.05
July 1964	0.1	0.4	N.D.	0.3

* This energy refers to Mn–54 and is quoted in actual pCi/g Fresh Weight

TABLE 45

RESULTS OF γ SPECTROMETRY ANALYSIS OF GRASS AT T32

(pCi γ/g Fresh Weight)

Date \ Energy MeV	0.14	0.5 – 0.48	0.75 – 0.76	0.84*
January 1962		0.02		
March 1962		0.04		
June 1962	0.07	0.08	0.42	
September 1962	0.4	0.28	2.7	
January 1963	0.1	0.07	0.76	
April 1963	0.4	0.8	3.4	
July 1963	0.1	0.2	0.4	0.1
October 1963	0.03	0.08	0.1	
January 1964	0.05	0.3	0.1	0.06
April 1964	0.2	0.4	0.06	0.17
July 1964	0.3	0.8	N.D.	0.4
October 1964	0.1	0.3	N.D.	0.13

* This energy refers to Mn–54 and is quoted in actual pCi/g Fresh Weight

TABLE 46

RESULTS OF γ SPECTROMETRY ANALYSIS OF GRASS AT ANNUAL STATIONS

(pCi γ/g Fresh Weight)

Date	Energy MeV / Station	0.14	0.5 – 0.48	0.75 – 0.76	0.84 *
January 1963	T1:1	0.4	0.13	2.1	
	T1:2	0.2	0.3	2.1	
	T1:3	0.5	0.17	2.4	
	T1.5:1	1.1	0.46	6.1	
	T2:1	0.2	0.1	1.2	
	T3:2	0.4	0.17	2.4	
January 1964	T1:1	0.2	0.3	0.1	0.08
	T1.5:1	0.4	0.6	0.2	0.13
	T1:3	0.3	0.5	0.2	0.15
	T2:2	0.3	0.5	0.2	0.13
	T3:2	0.2	0.4	0.1	0.15
	T2:1	0.03	0.07	Trace	N.D.

*This energy refers to Mn–54 and is quoted in actual pCi/g Fresh Weight

TABLE 47

RESULTS OF γ SPECTROMETRY ON MISCELLANEOUS TERRESTRIAL SAMPLES

(pCi/g Fresh Weight)

Date	Sample	Station	Cs–137	0.75 – 0.76 MeV	Other Unidentified Peaks
18. 9.63	Dam water	T5:1	nil	nil	nil
2.12.63	Acacia	T1:4	0.29	0.2 *	Traces at 0.14 and 0.48 MeV

* Units are pCi (γ)/g Fresh Weight

TABLE 48 Sr-90 ACTIVITY IN RAINWATER

(pCi/l)

Station / Period	T 32	T 0	T 3:1	T 9	T 11
December 1959	0.2	0.3			
Nov. 1959–Feb. 1960		2.1			
March 1960	1.2				
April 1960			2.8		
March – June 1960	0.2	< 2		<0.3	
August 1960		<4			
June – October 1960	<1	<2		<1	<1
Sept. – Nov. 1960		2.2			
December 1960	<1				
Nov. 1960 – Feb. 1961		<1			
March 1961		<1			
Dec. 1960 – April 1961	<2			<1	<1
February – May 1961		0.8	<2		
June 1961		<5			
July 1961	<1	0.5		<1	1
August 1961		<1			
July – September 1961		<1			
October 1961					<1
October – December 1961	<5	5			6
Dec. 1961 – Jan. 1962	<1				
February 1962		<1			<0.4
January – March 1962	<2				
February – April 1962		<2			
February – May 1962					<1
March – June 1962	<1	<1			
June – September 1962	3.8	<2			
Sept. – Nov. 1962		4.7			
Sept. 1962 – Jan. 1963	1.5				1.4
Nov. 1962 – March 1963		1.6			
March – April 1963		0.8			
April – May 1963	1.3	<2.8			1
May – July 1963	0.5	<0.4			0.7
July – October 1963	<1				

TABLE 49 Sr-90 ACTIVITY DEPOSITED

(pCi/day/m²)

Station / Period	T 32	T 0	T 11
Sept. 1962 – Jan. 1963	3.3		2.1
Nov. 1962 – March 1963		3.7	
March – April 1963		2.8	
April – May 1963	8.2	<14	5.9
May – July 1963	1.3	< 1.9	2
July – October 1963	<2		
Mean (63)	3.7	5.6	3.3
s.d.	3.1	5.7	2.2
October 1963 – Jan. 1964	9.6	10.8	7.3
January – April 1964	2.5	1.1	1.8
April – June 1964	6.3	9.9	7.1
June – October 1964	2.6	6.5	4.4
Mean (64)	5.3	7.1	5.2
s.d.	3.4	4.4	2.6

TABLE 50 Sr-90 ACTIVITY IN GRASS

(pCi/g Ca)

Date \ Station	T 32	T 0	T 1:1	T 1:2	T 1:3	T 1.5:1	T 2:1	T 2:2	T 3:2	T 9	T 11
December 1959	297	23	147	55	92	130	66		64		
February 1960		98									
March 1960		54								20	
April 1960	125			109							
June 1960	113	50								176	165
July 1960				84							
September 1960		58									
October 1960	77			100						84	252
December 1960		45	194	70	27	224	61	203	84		
January 1961	234									52	47
February 1961		45									
April 1961	86			58						60	82
June 1961				35							
July 1961											187
August 1961		62									
September 1961				84							
October 1961	223										37
November 1961		75									
December 1961			376	64	354	355	97	207	151		
Mean (60–61)										78	
s.d.										59	
January 1962	300										
February 1962		82									54
March 1962	125			116							
May 1962											113
June 1962	202	90									
July 1962				7.2							
September 1962	229	109									154
October 1962				223							
November 1962		75									

(continued)

TABLE 50 (continued)

Date \ Station	T 32	T 0	T 1:1	T 1:2	T 1:3	T 1.5:1	T 2:1	T 2:2	T 3:2	T 9	T 11
January 1963	150		152	131	266	476	166		104		52
February 1963		77						199			
April 1963	198										57
May 1963		142		218							
July 1963	177	240		131							55
October 1963	78	133		20							42
January 1964	180	146	107	99	322	331	133	191	149		43
April 1964	177	83		74							46
July 1964	364	209		150							104
October 1964	464	186		146							186
Mean (59–64)	200	99	195	99	212	303	105	200	110		99
s.d.	101	58	106	57	145	132	45	6.8	39		66

TABLE 51 Sr-90 ACTIVITY IN GRASS

(pCi/g Fresh Weight)

Station / Date	T 32	T 0	T 1:1	T 1:2	T 1:3	T 1.5:1	T 2:1	T 2:2	T 3:2	T 11
January 1962	0.18									
February 1962		0.1								0.07
March 1962	0.22			0.15						
May 1962										0.24
June 1962	0.40	0.25								
July 1962				0.02						
September 1962	0.82	0.5								0.5
October 1962				0.3						
November 1962		0.22								
Mean (62)	0.41	0.27		0.16						0.27
s.d.	0.29	0.17		0.12						0.22
January 1963	0.21		0.17	0.17	0.37	0.41	0.14		0.22	0.1
February 1963		0.14						0.41		
April 1963	0.28									0.13
May 1963		0.13		0.09						
July 1963	0.38	0.34		0.08						0.09
October 1963	0.19	0.23		0.05						0.08
Mean (63)	0.27	0.21		0.1						0.1
s.d.	0.09	0.1		0.05						0.02
January 1964	0.39	0.28	0.13	0.12	0.29	0.38	0.12	0.26	0.30	0.12
April 1964	0.51	0.28		0.17						0.14
July 1964	1.1	0.7		0.3						0.5
October 1964	0.71	0.47		0.40						0.32
Mean (64)	0.68	0.43		0.25						0.27
s.d.	0.31	0.20		0.13						0.18

TABLE 52 Sr–90 ACTIVITY IN MILK

(pCi/g Ca)

Date \ Station	T 32	T 2:3	T 3:1	T 3:2	T 9	T 11
December 1959	2.9		2.4			
March 1960	2.5				2.8	
April 1960			2.9			
June 1960	2.7				2.1	2.8
August 1960			2.6			
October 1960	8.5		4.5		4.1	6.3
Mean (59–60)	4.2		3.1		3.0	4.6
s.d.	2.9		1.0		1.0	
January 1961	29.9				3.6	5.3
February 1961			3.8			
April 1961	13.7				5.3	8
May 1961			29.3			
July 1961	2.2					1.7
August 1961			2.7			
October 1961	2.0					4.4
December 1961			4.7			
Mean (61)	12.0		10.1		4.5	4.9
s.d.	13.2		12.8		1.2	2.6
January 1962	3.9					
February 1962						4.9
March 1962	4.7		5.6			
May 1962						2.4
June 1962	5.3					
September 1962	4.2		5.5			4.9
Mean (62)	4.5		5.6			4.1
s.d.	0.6		0.1			1.4

(continued)

TABLE 52 (continued)

Station / Date	T 32	T 2:3	T 3:1	T 3:2	T 9	T 11
January 1963	3.9		3.7			3.4
April 1963	5.3		4.3			6.2
July 1963	5.4		9.0			10.8
October 1963	5.2		9.5			1.5
Mean (63)	5.0		6.6			5.5
s.d.	0.7		3.1			4.0
January 1964	2.8		5.1			5.3
April 1964	4.2		12.2			9.3
July 1964	5.4		6.8			11.6
October 1964	4.3		14.6			11.5
November 1964		11.0		8.0		
Mean (64)	4.2		9.7			9.4
s.d.	1.1		4.5			3.0

TABLE 53 Sr-90 ACTIVITY IN SOIL

(pCi/g Ca)

Station / Date	T 32	T 0	T 1:2	T 9	T 11
December 1959	57	69			
March 1960	188			48	
June 1960	84			13	42
August 1960		21	39		
October 1960	46				18
Mean (59–60)	94	45		31	30
s.d.	65	34		25	17
January 1961	34			16	19
February 1961		14			
April 1961	61			7	36
May 1961		18			
July 1961	36				45
August 1961		124			
October 1961	150				16
November 1961		27			
Mean (61)	70	46		12	29
s.d.	55	52		6	14
January 1962	14				
February 1962		379			
March 1962	75				
May 1962					20
June 1962	78	20			
September 1962	91	52			35
November 1962		39			
Mean (62)	65	123			28
s.d.	34	172			11
January 1963	144				21
March 1963		100			
April 1963	179				19
May 1963		52			
July 1963	156	72			18
October 1963	106	107			31
December 1963		110			
Mean (63)	146	88			22
s.d.	31	25			6

(continued)

TABLE 53 (continued)

Date \ Station	T 32	T 0	T 1:2	T 9	T 11
January 1964	241				43
April 1964	200	63			44
July 1964	188	82			47
October 1964	319	88			50
Mean (64)	237	78			46
s.d.	59	13			3

TABLE 54 Sr-90 ACTIVITY IN GREEN BEANS

(pCi/g Ca)

Date \ Station	T 4
April 1964	10.4

TABLE 55 Sr-90 ACTIVITY IN MUSHROOMS

(pCi/g Ca)

Date \ Station	T 1.5:2
July 1964	3.8

TABLE 56 Ca CONCENTRATION IN GRASS

(% Fresh Weight)

Date \ Station	T 32	T 0	T 1:1	T 1:2	T 1:3	T 1.5:1	T 2:1	T 2:2	T 3:2	T 9	T 11
December 1959	0.04	0.12	0.042	0.23		0.057	0.18		0.064		
February 1960		0.14									
March 1960		0.05									
April 1960	0.032			0.15							
June 1960	0.25	0.08								0.069	0.17
July 1960				0.075							
September 1960		0.19									
October 1960	0.08			0.07						0.11	0.07
December 1960		0.17	0.04	0.11	0.26	0.12	0.048	0.092	0.14		
January 1961	0.04									0.056	0.10
February 1961		0.15									
April 1961	0.18			0.17						0.14	0.09
June 1961				0.19							
July 1961											0.15
August 1961		0.43									
September 1961				0.12							
October 1961	0.15										0.18
November 1961		0.12									
December 1961			0.037	0.04	0.085	0.16	0.075	0.13	0.088		
January 1962	0.06										
February 1962		0.13									0.12
March 1962	0.17			0.13							
May 1962											0.22
June 1962	0.20	0.28									
July 1962				0.22							
September 1962	0.36	0.46									0.32
October 1962				0.14							
November 1962		0.29									

(continued)

TABLE 56 (continued)

Station / Date	T 32	T 0	T 1:1	T 1:2	T 1:3	T 1.5:1	T 2:1	T 2:2	T 3:2	T 9	T 11
January 1963	0.14		0.11	0.13	0.14	0.086	0.086		0.21		0.19
February 1963		0.19						0.21			
April 1963	0.14										0.24
May 1963		0.093		0.04							
July 1963	0.22	0.14		0.06							0.16
October 1963	0.24	0.17		0.25							0.18
January 1964	0.22	0.19	0.12	0.12	0.14	0.11	0.09	0.09	0.20		0.27
April 1964	0.29	0.34		0.23							0.29
July 1964	0.31	0.32		0.20							0.47
October 1964	0.15	0.25		0.27							0.17
Mean (59–64)	0.17	0.20	0.07	0.15	0.16	0.11	0.10	0.10	0.14		0.18
s.d.	0.10	0.11	0.04	0.07	0.07	0.04	0.05	0.08	0.07		0.10

TABLE 57 Ca CONCENTRATION IN MILK

(p.p.m.)

Station / Date	T 32	T 2:3	T 3:1	T 3:2	T 9	T 11
December 1959	760					
March 1960	820				880	
April 1960			610			
June 1960	1150				1090	1100
August 1960			570			
October 1960	790		930		980	1050
January 1961	670				550	960
February 1961			850			
April 1961	1320				1300	1210
May 1961			810			
July 1961	1270					1210
August 1961			680			
October 1961	1040					790
December 1961			630			
January 1962	850					
February 1962						1220
March 1962	1100		1110			
May 1962			1000			970
June 1962	1030					
September 1962	950		1260			800
January 1963	1120		1250			1140
April 1963	1250		1560			810
July 1963	890		1040			810
October 1963	780		1150			670
January 1964	1020		890			980
April 1964	1110		1040			1200
July 1964	1040		1010			860
October 1964	930		1400			960
November 1964		1470		1250		
Mean (59–64)	995		988			985
s.d.	183		276			176

TABLE 58 Ca (EXTRACTABLE) CONCENTRATION IN SOIL

(% Dry Weight)

Station / Date	T 32	T 0	T 9	T 11
June 1960	0.31		0.31	0.035
August 1960		0.073		
October 1960	0.039			0.21
January 1961	0.12			0.24
February 1961		0.042		
April 1961	0.058		0.51	0.18
May 1961		0.11		
July 1961				0.18
August 1961		0.015		
October 1961	0.038			0.18
November 1961		0.096		
January 1962	0.12			
February 1962		0.014		
March 1962	0.037			
May 1962				0.29
June 1962	0.097	0.087		
September 1962	0.05	0.12		0.19
November 1962		0.12		
January 1963				0.21
March 1963		0.1		
April 1963	0.036			0.15
May 1963		0.1		
July 1963	0.045	0.1		0.21
October 1963	0.04	0.095		0.21
December 1963		0.093		
January 1964	0.033			0.15
April 1964	0.023	0.078		0.16
July 1964	0.039	0.11		0.18
October 1964	0.019	0.09		0.20
Mean (60–64)	0.07	0.08		0.19
s.d.	0.07	0.03		0.05

TABLE 59 Ca CONCENTRATION IN GREEN BEANS

(% Fresh Weight)

Date \ Station	T 3:1
May 1962	0.03
April 1964	0.06

TABLE 60 Ca CONCENTRATION IN MUSHROOMS

(% Fresh Weight)

Date \ Station	T 1.5:2
July 1964	0.02

TABLE 61 STABLE Sr CONCENTRATION IN GRASS

(μg/g Fresh Weight)

Date \ Station	T 32	T 0	T 1:1	T 1:2	T 1:3	T 1.5:1	T 2:1	T 2:2	T 3:2	T 9	T 11
December 1959	5	13	1.6	12		10	5	7	5		
February 1960		14									
April 1960				10							
June 1960	11	5								3	3
September 1960		13									
October 1960	4			5							15
December 1960		14	5	18	10		9		5		
January 1961	4									2	9
February 1961		7									
Mean (59–61)	6	11		11.3							9
s.d.	3.4	4		5.4							6

TABLE 62 β ACTIVITY IN ESTUARY WATER

(pCi/ml)

Station / Date	E 0	E 0.2	E 1.5	E 2.1
9.2.60	<0.04			
26.2.60	<0.04			
17.3.60	<0.03			
25.3.60	<0.02			
1.4.60	<0.04			
8.4.60	<0.04			
14.4.60	0.03			
22.4.60	<0.06			
29.4.60	0.04			
6.5.60	0.02			
12.5.60	<0.05			
20.5.60	0.01			
12.8.60	0.01			0.02
18.8.60	<0.005			0.01
26.8.60	<0.01	0.01	0.06	0.05
2.9.60	0.03	0.01	<0.04	<0.04
8.9.60	<0.02			
16.9.60	<0.02	<0.02		
27.9.60	<0.04	<0.04	<0.04	<0.06
5.10.60	0.03	0.05	<0.03	<0.03
13.10.60	<0.01	<0.08	<0.04	<0.05
21.10.60	0.03	<0.02	<0.04	<0.1
28.10.60	<0.005	<0.005	<0.002	<0.03
4.11.60	<0.02	<0.01	<0.02	<0.03
14.11.60	<0.03	<0.03	<0.03	<0.03
22.11.60	<0.02	<0.03	<0.02	<0.04
1.12.60	<0.01	<0.02	<0.03	<0.04
7.12.60	<0.005	<0.005		<0.01
16.12.60			0.01	0.02
6.1.61			<0.007	<0.02
13.1.61	0.01	<0.01	<0.01	<0.01
20.1.61	<0.02	<0.03	<0.04	<1.0
27.1.61	<0.03	<0.04	<0.03	<0.04
3.2.61	<0.04	0.08	<0.05	<0.04
13.2.61	0.05	<0.04	<0.05	<0.04
17.2.61	<0.03	<0.04	<0.04	0.05

(continued next column)

Station / Date	E 0	E 0.2	E 1.5	E 2.1
24.2.61	<0.01	<0.01	<0.04	<0.03
3.3.61	0.01	0.02	0.15	0.01
10.3.61	<0.05	<0.05	<0.04	0.02
17.3.61	0.01	0.02	<0.04	<0.04
24.3.61		<0.06	<0.04	<0.05
30.3.61	<0.01	<0.01	<0.05	<0.05
5.5.61	0.01	<0.02	<0.03	<0.04
12.5.61	0.06	<0.02	<0.03	<0.04
19.5.61	<0.09	<0.03	<0.03	<0.04
29.5.61	<0.02	<0.03	<0.03	<1.0
5.6.61	<0.02	<0.04	<0.03	<0.04
16.6.61	<0.01	0.02	<0.03	<0.03
26.6.61	<0.02	<0.02	<0.03	<0.04
30.6.61	<0.01	<0.01		
7.7.61	<0.04	<0.04	<0.04	<0.04
14.7.61	<0.04		0.05	<0.04
21.7.61	<0.04	<0.04	<0.04	<0.04
28.7.61	<0.04	<0.04	<0.08	<0.04
4.8.61	<0.03	<0.04	<0.04	<0.05
11.8.61	<0.002	<0.01	<0.007	<0.03
18.8.61	<0.02	<0.01	<0.01	<0.02
25.8.61			<0.005	<0.01
1.9.61				0.01
8.9.61	<0.01	<0.01	<0.01	<0.01
15.9.61	<0.003		0.01	<0.01
22.9.61	0.04	<0.02	0.03	<0.03
29.9.61	0.01	<0.01	<0.04	0.03
6.10.61	<0.03	<0.03	<0.03	<0.04
13.10.61	<0.01	<0.02	<0.03	<0.04
20.10.61	<0.004	<0.01	<0.02	<0.03
27.10.61	<0.03	<0.03	<0.03	<0.04
3.11.61	<0.01	<0.03	<0.03	<0.03
10.11.61	<0.02	<0.03	<0.04	<0.04
24.11.61	<0.001	<0.01	<0.001	<0.001
11.12.61	0.003	<0.01	<0.01	
15.12.61	0.01	0.01	<0.01	<0.03
21.12.61	0.01	<0.01	<0.06	<0.03

(continued)

TABLE 62 (continued)

Station / Date	E 0	E 0.2	E 1.5	E 2.1
19.1.62	0.002		0.003	
26.1.62	<0.006		<0.008	
9.2.62	<0.003		<0.01	
16.2.62	<0.003		<0.02	
23.2.62			<0.00002	
2.3.62			<0.008	
16.3.62	0.003		0.02	
30.3.62	0.04		0.04	
13.4.62	0.006		0.05	
27.4.62	<0.008		<0.02	
11.5.62	<0.02		<0.04	
18.5.62	<0.0002		<0.0008	
30.5.62	<0.006		<0.02	
15.6.62	<0.006		<0.04	
29.6.62	0.02			
6.7.62	<0.003		<0.03	
13.7.62	0.02		0.06	
20.7.62	0.03			
27.7.62	0.06		<0.05	
3.8.62	<0.03		<0.07	
17.8.62			<0.02	
24.8.62	<0.002		<0.01	
31.8.62	0.01		0.04	
7.9.62	<0.004		0.02	
14.9.62	<0.03		<0.07	
21.9.62			<0.004	
28.9.62	<0.001		<0.01	
5.10.62	<0.04		0.02	
12.10.62	<0.06		<0.05	
19.10.62	<0.01		<0.09	
26.10.62	0.12		0.05	
2.11.62	<0.02		0.05	
12.11.62	<0.03		<0.03	
16.11.62	<0.03		<0.03	
23.11.62	<0.02		<0.02	
30.11.62	<0.03		<0.03	

(continued next column)

Station / Date	E 0	E 0.2	E 1.5	E 2.1
14.12.62	0.02		0.02	
21.12.62	0.05		<0.02	
4.1.63	<0.01		<0.01	
11.1.63	<0.01		<0.02	
25.1.63	0.01		0.03	
1.2.63	0.02		<0.02	
8.2.63	0.15		<0.01	
15.2.63	0.01		0.04	
22.2.63	0.03		0.05	
7.3.63	<0.03		<0.03	
15.3.63	0.02		0.06	
22.3.63	0.0004			
29.3.63	0.001			
5.4.63	<0.0004			
19.4.63	<0.002		<0.01	
26.4.63	<0.01		<0.01	
3.5.63	<0.0004			
10.5.63	<0.00005			
17.5.63	0.0002		0.0003	
24.5.63	0.0004		0.0006	
31.5.63	0.004		<0.01	
7.6.63	0.001		0.001	
14.6.63	0.004			
21.6.63	0.003		0.06	
28.6.63	0.01		0.01	
5.7.63	0.004		<0.002	
12.7.63	0.01			
19.7.63	0.005		0.05	
26.7.63	0.02		0.29	
2.8.63	0.07		0.08	
16.8.63	0.04		0.06	
6.9.63	0.01		0.007	
13.9.63	0.004			
20.9.63	0.06			
11.10.63	0.006			
18.10.63	0.001			

(continued)

TABLE 62 (continued)

Station / Date	E 0	E 0.2	E 1.5	E 2.1
25.10.63	0.008			
1.11.63	0.01			
8.11.63	0.01			
15.11.63	0.01		0.06	
22.11.63	0.005		<0.03	
29.11.63	<0.008		0.01	
6.12.63	<0.03		<0.03	
13.12.63	0.004			
20.12.63			0.004	
3.1.64	0.01		0.05	
10.1.64	0.03		0.02	
17.1.64	0.01		0.03	
24.1.64	0.05		0.06	
31.1.64	0.09		<0.03	
7.2.64	<0.02		<0.04	
11.2.64	0.19		0.07	
21.2.64	0.08			
28.2.64	0.06		<0.04	
6.3.64	<0.02		0.09	
13.3.64	0.007		<0.03	
20.3.64	<0.02		<0.03	
26.3.64	<0.04		0.22	
3.4.64	<0.04			
10.4.64	<0.03			
17.4.64	<0.05			
24.4.64	0.002			
1.5.64	0.001			
8.5.64	<0.02			
15.5.64	<0.02			
22.5.64	0.11		<0.02	
29.5.64	0.01		<0.03	
5.6.64	<0.03			
19.6.64	0.002			
26.6.64	0.01		<0.01	
3.7.64	0.004		<0.02	
10.7.64	<0.01		<0.03	

(continued next column)

Station / Date	E 0	E 0.2	E 1.5	E 2.1
17.7.64	<0.05		<0.03	
24.7.64	0.01		0.07	
31.7.64	<0.01		<0.03	
7.8.64	<0.02		<0.03	
14.8.64	<0.04		<0.04	
21.8.64	<0.02		<0.07	
28.8.64	0.01		<0.04	
4.9.64	<0.02		<0.03	
11.9.64	<0.02		<0.03	
18.9.64	<0.04		<0.03	
25.9.64	<0.03		<0.03	
2.10.64	<0.03		<0.03	
9.10.64	<0.06		<0.03	
16.10.64	<0.03		<0.02	
23.10.64	<0.03		<0.03	
30.10.64	0.02		<0.03	
6.11.64	<0.01		<0.02	
13.11.64	<0.01		0.03	
20.11.64	<0.03		<0.03	
27.11.64	0.03			
4.12.64	<0.03			
11.12.64	<0.03			
18.12.64	<0.03		<0.05	
23.12.64	<0.04		<0.04	
31.12.64	<0.04		<0.04	

TABLE 63 β ACTIVITY IN OYSTER FLESH

(pCi/g Fresh Weight)

Station / Date	E Control	E 4.4	E 5:1	E 5:2	E 5.8
January 1960	0.14	<0.9	<0.4		
February 1960				<0.2	
March 1960				<1.3	
April 1960	2.1		0.9		
June 1960		<0.4			
July 1960	<0.2				
August 1960			1.6		
October 1960	1.7	<0.2		<0.4	<0.5
December 1960			<0.8		
January 1961	<0.5	<0.3		<1.1	<0.4
April 1961	0.5		<0.04		
May 1961					<0.3
July 1961	<0.4		<0.5		<0.3
October 1961	<0.2				<0.3
November 1961		0.5	<0.4		
February 1962		<0.1	0.1		0.4
March 1962	0.3			0.4	
June 1962	<0.2	<0.1	<0.1	<0.1	<0.1
September 1962	<0.2				
October 1962				<0.1	<0.3
December 1962	0.5				
January 1963				<0.3	<0.3
March 1963	0.1				
April 1963					0.7
May 1963				<0.3	
June 1963	<0.1				
July 1963					<0.2
September 1963	<0.2				
November 1963				<0.3	
December 1963					<0.2
January 1964	<0.4				
March 1964				<0.3	
April 1964	<0.4				<0.4
July 1964	<0.2			<0.4	<0.3
October 1964	<0.2	<0.2			<0.2

TABLE 64 β ACTIVITY IN OYSTER SHELL

(pCi/g Fresh Weight)

Station / Date	E Control	E 4.4	E 5:1	E 5:2	E 5.8
January 1960	<0.3	<0.2	<0.3		
February 1960				<0.4	
March 1960				1.7	
April 1960	<1		<0.7		
June 1960		1.1			
July 1960	<0.5				
August 1960			<0.03		
October 1960	2.1	<0.3		0.4	<0.5
December 1960			<0.4		
January 1961	0.5	<0.5		<0.5	<0.6
April 1961	<0.5		0.2		
May 1961					<0.5
July 1961	<0.3		<0.5		<0.5
October 1961	<0.2				<0.2
November 1961		<0.3	<0.1		
February 1962		<0.2	<0.1		<0.3
March 1962	0.3			<0.05	
June 1962	2.1	1.2	0.3		0.6
			Composite		
Sept. 1962–July 1963			1.0		
Sept. 1963–July 1964			0.9		

TABLE 65 β ACTIVITY IN BEACH SANDS

(pCi/g Dry Weight)

Date \ Station	E 0.8	E 2.9	E 3.7
April 1960	3.3		
October 1960	5.4	1.7	4.3
May 1961	4.6	2.0	0.9
October 1961	3.3	1.3	0.5
March 1962	0.9	1.8	1.0
September 1962	6.5	1.8	2.8
April 1963	2.0	3.1	0.4
November 1963	<0.3	<0.5	<0.3
May 1964	<0.2	0.6	<0.2

TABLE 66 β ACTIVITY OF BOTTOM SANDS

(pCi/g Dry Weight)

Date \ Station	E 0	E 1.5
March 1960	4.9	
November 1960	3.2	
May 1961	5.6	
September 1961	3.9	
March 1962	41	
August 1962	1.1	7.9
October 1962	~140	
November 1962		2.3
March 1963	5000	
April 1963		0.4
July 1963	2.6	<0.6
November 1963	4.1	<0.6
March 1964	13.8	<0.7
July 1964	7.3	<0.8
October 1964	8.7	<0.2

TABLE 67 β ACTIVITY IN RIVERWEED

(pCi/g Fresh Weight)

Date \ Station	E 0	E 1	E 1.5
June 1962			6.6 *
November 1963	12.3 +		0.7
March 1964			0.9
July 1964			1.6
October 1964		1.4	0.6

(* Units are pCi/g Dry Weight)

(+ A filamentous chlorophycean weed)

TABLE 68 β ACTIVITY OF PLANKTON PLUS SUSPENDED SOLIDS

(pCi/l of Seawater)

Date \ Station	E 2.5
November 1963	0.04
April 1964	0.11

TABLE 69 β ACTIVITY IN BLACKFISH

(pCi/g Fresh Weight)

Date \ Station	E 4.1
March 1963	0.6
December 1963	<0.3
November 1964	0.3

TABLE 70 β ACTIVITY IN MULLET

(pCi/g Fresh Weight)

Station / Date	E 4.1
August 1961	N.D.
May 1962	0.2
March 1963	1.3
December 1963	<0.2
May 1964	<0.3
November 1964	<0.2

TABLE 71 β ACTIVITY IN CRABS

(pCi/g Fresh Weight)

Station / Date	E 3.7
January 1961	0.8
May 1962	0.6
May 1963	0.6
November 1963	0.3
September 1964	0.3

TABLE 72 K CONCENTRATION IN ESTUARY WATER

(p.p.m.)

Station / Date	E 0	E 0.2	E 1.5	E 2.1
19.2.60	300			
26.2.60	335			
4.3.60	116			
10.3.60	128			
17.3.60	174			
25.3.60	82			
1.4.60	310			
8.4.60	250			
14.4.60	280			
22.4.60	340			
29.4.60	300			
6.5.60	303			
12.5.60	360			
20.5.60	20			
12.8.60	27			275
18.8.60	60			255
26.8.60	97	140	275	283
2.9.60	56	145	260	295
8.9.60	90			
16.9.60	50	120		
27.9.60	205	235	290	315
5.10.60	290	285	295	300
13.10.60	300	255	320	335
21.10.60	195	180	270	340
28.10.60	1.6	2.9	12	22
4.11.60	100	99	139	205
14.11.60	165	99	210	240
22.11.60	140	175	235	260
1.12.60	90	140	230	250
7.12.60	2.6	1.6	11	25
16.12.60	2.7	1.6	11	22
6.1.61	2.0	1.9	52	96
13.1.61	11	35	59	95
20.1.61	134	120	235	263
27.1.61	180	213	230	270
3.2.61	235	240	275	305

(continued next column)

Station / Date	E 0	E 0.2	E 1.5	E 2.1
13.2.61	140	285	280	300
17.2.61	210	265	335	355
24.2.61	56	78	270	260
3.3.61	250	265	275	330
10.3.61	275	300	313	315
17.3.61	62	165	308	335
24.3.61	295	300	300	305
30.3.61	46	39	295	245
7.4.61	133	283	230	310
14.4.61	80	115	295	320
21.4.61	220	210	320	325
28.4.61	43	35	104	145
5.5.61	39	120	230	255
12.5.61	118	126	210	265
19.5.61	210	195	268	285
29.5.61	155	270	270	298
5.6.61	140	295	295	310
16.6.61	48	125	205	230
23.6.61	168	215	260	260
30.6.61	59			
7.7.61	275	305	305	310
14.7.61	285	80	320	335
21.7.61	265	250	325	335
28.7.61	260	270	292	320
4.8.61	167	230	295	312
11.8.61	11.2	24	50	190
18.8.61	26	71	65	118
25.8.61	1.5	2.1	20	59
1.9.61	1	1.2	7.0	17
8.9.61	7	12.4	60	94
15.9.61	18	24	56	166
22.9.61	96	107	135	156
29.9.61	76	73	232	258
6.10.61	187	202	228	258
13.10.61	43	104	268	270
20.10.61	23	25	169	208
27.10.61	208	192	274	293

(continued)

TABLE 72 (continued)

Station / Date	E 0	E 0.2	E 1.5	E 2.1
3.11.61	82	168	238	258
10.11.61	194	199	292	306
11.12.61			66	112
15.12.61			88	109
21.12.61	39	44	41	116
26.1.62	18		66	
9.2.62	15		104	
16.2.62	140		178	
23.2.62			.01	
16.3.62	21			
30.3.62	125		164	
13.4.62	48		162	
27.4.62	89		238	
11.5.62	150		276	
18.5.62	1		4.9	
30.5.62	67		136	
15.6.62	67		189	
29.6.62	98			
6.7.62	30			
13.7.62	24		99	
20.7.62	24			
27.7.62	154		180	
3.8.62	109		250	
17.8.62			64	
24.8.62	15		70	
31.8.62	73		163	
7.9.62	40		186	
14.9.62	177		242	
21.9.62	4.9		50	
28.9.62	14		78	
5.10.62	125		197	
12.10.62	179		198	
19.10.62	82		280	
26.10.62	148		294	
2.11.62	258		322	

(continued next column)

Station / Date	E 0	E 0.2	E 1.5	E 2.1
12.11.62	294		318	
16.11.62	286		368	
23.11.62	289		370	
14.12.62	83		210	
21.12.62	104		197	
4.1.63	157		212	
11.1.63	141		217	
25.1.63	1.7		35.6	
1.2.63	4.4		122	
8.2.63	134		129	
15.2.63	4		67	
22.2.63	61		104	
7.3.63	206		233	
15.3.63	191		270	
22.3.63	< 1			
29.3.63	1.1			
5.4.63	1.2			
19.4.63	41		143	
26.4.63	< 1		<1	
3.5.63	1.4		1	
17.5.63	1		1.8	
24.5.63	1.1		4.6	
31.5.63	18		80	
7.6.63	2.1		<1	
14.6.63	1.4			
21.6.63	<1		47	
28.6.63	1		2.4	
5.7.63	2.1		20	
12.7.63	<1			
19.7.63	18.5		63	
26.7.63	42		197	
2.8.63	133		162	
16.8.63	162		212	
6.9.63	<1		42	
13.9.63	7			

(continued)

TABLE 72 (continued)

Station / Date	E 0	E 0.2	E 1.5	E 2.1
20.9.63	228			
11.10.63	30			
18.10.63	11.2			
25.10.63	15.5			
1.11.63	134			
8.11.63	158			
15.11.63	200		263	
22.11.63	60		322	
29.11.63	60		293	
6.12.63	188		290	
13.12.63	<1			
20.12.63			<1	
3.1.64	27.4		217	
10.1.64	187		221	
17.1.64	124		284	
24.1.64	210		270	
31.1.64	272		328	
7.2.64	216		317	
14.2.64	314		318	
21.2.64	286			
28.2.64	292		362	
6.3.64	242		334	
13.3.64	16		225	
20.3.64	224		274	
26.3.64	257		287	
3.4.64	232			
10.4.64	258			
17.4.64	290			
24.4.64	N.D.			
1.5.64	4			
8.5.64	114			
15.5.64	118			
22.5.64	128		258	
29.5.64	102		285	
5.6.64	283			
19.6.64	N.D.			

(continued next column)

Station / Date	E 0	E 0.2	E 1.5	E 2.1
26.6.64	15		107	
3.7.64	32		178	
10.7.64	123		229	
17.7.64	240		274	
24.7.64	26		279	
31.7.64	115		334	
7.8.64	235		302	
14.8.64	281		328	
21.8.64	192		375	
28.8.64	75		344	
4.9.64	183		296	
11.9.64	146		305	
18.9.64	267		312	
25.9.64	228		349	
2.10.64	334		349	
9.10.64	290		347	
16.10.64	167		340	
23.10.64	353		366	
30.10.64	166		308	
6.11.64	165		185	
13.11.64	106		267	
20.11.64	230		290	
27.11.64	277			
4.12.64	303			
11.12.64	330			
18.12.64	418		379	
23.12.64	364		426	
31.12.64	369		400	

TABLE 73 K CONCENTRATION IN OYSTER FLESH

(μg/g Fresh Weight)

Station / Date	E Control	E 4.4	E 5:1	E 5:2	E 5.8
January 1960	2160	2780	2886		
February 1960				1330	
March 1960				2830	
April 1960	1800		1840		
June 1960		2910			
July 1960	2280				
August 1960			2060		
October 1960	1640	2760		2760	1970
December 1960			2010		
January 1961	2330	2170		2240	2710
April 1961	1930		2830		
May 1961					1870
July 1961	2300		2610		2680
October 1961	1620				2050
November 1961		2040	1760		
February 1962		1470	1850		2100
March 1962	1100			2250	
June 1962	1420	970	1050	1200	1660
September 1962	1800				
October 1962				1300	1520
December 1962	2200				
January 1963				2650	3070
March 1963	1650				
April 1963					1650
May 1963				1590	
June 1963	1200				
July 1963					2360
September 1963	2510				
November 1963				3080	
December 1963					2300
January 1964	5304				
March 1964				3220	
April 1964	3240				3020
July 1964	2530			2520	3140
October 1964	3100	3060			3200
Mean	2217	2270	2100	2247	2353
s.d.	941	749	588	723	582

TABLE 74 K CONCENTRATION IN OYSTER SHELL

(μg/g Dry Weight)

Station / Date	E Control	E 4.4	E 5:1	E 5:2	E 5.8
January 1960	264	155	192		
February 1960				305	
March 1960				357	
April 1960	489		1200		
June 1960		320			
July 1960	410				
August 1960			291		
October 1960	292	480		416	415
December 1960			830		
January 1961	539	758		239	264
April 1961	136		139		
May 1961					167
July 1961	182		346		293
October 1961	543				281
November 1961		1100	154		
February 1962		547	414		588
March 1962	390			672	
June 1962	194	440	142	1800	430
Mean	344	543	412	632	348
s.d.	151	309	367	592	139
			Composite		
Sept.1962–July 1963			7500		
Sept. 1963–July 1964			320		

TABLE 75 K CONCENTRATION IN BEACH SAND

(μg/g Dry Weight)

Station / Date	E 0.8	E 2.9	E 3.7
April 1960	2400		
October 1960	1700	1200	1400
May 1961	480	590	520
October 1961	485	640	530
March 1962	730	630	336
September 1962	820	1150	900
April 1963	1200	996	1000
November 1963	2000	2880	867
May 1964	1100	1390	1100

TABLE 76 K CONCENTRATION IN BOTTOM SAND

(μg/g Dry Weight)

Station / Date	E 0	E 1.5
March 1960	1700	
November 1960	1700	
May 1961	2570	
September 1961	720	
March 1962	1860	
August 1962	1740	1340
October 1962	1450	
November 1962		550
April 1963		430
July 1963	2280	1400
November 1963	3980	2400
March 1964	1180	1800
July 1964	2380	2500
October 1964	1700	510

TABLE 77 K CONCENTRATION IN RIVERWEED

(μg/g Fresh Weight)

Station / Date	E 0	E 1	E 1.5
June 1962			9700 *
November 1963	2800 +		4330
March 1964			4390
July 1964			3420
October 1964		8100	5400

(* Refers to μg/g Dry Weight)

(+ A filamentous chlorophycean weed)

TABLE 78 K CONCENTRATION IN BLACKFISH

(μg/g Fresh Weight)

Station / Date	E 4.1
March 1963	2430
December 1963	3530
November 1964	2950
Mean	2970
s.d.	550

TABLE 79 K CONCENTRATION IN MULLET

(μg/g Fresh Weight)

Station / Date	E 4.1
August 1961	3000
May 1962	3000
March 1963	2980
December 1963	2930
May 1964	2839
November 1964	3200
Mean	2991
s.d.	119

TABLE 80 K CONCENTRATION IN CRABS

(μg/g Fresh Weight)

Station / Date	E 3.7
January 1961	1050
May 1962	1750
May 1963	1800
November 1963	2200
September 1964	2120
Mean	1784
s.d.	454

TABLE 81 α ACTIVITY IN ESTUARY WATER

(pCi/ml)

Station / Date	E 0	E 0.2	E 1.5	E 2.1
19.2.60	<0.03			
26.2.60	<0.02			
4.3.60	0.03			
10.3.60	0.03			
17.3.60	0.01			
25.3.60	0.01			
1.4.60	0.02			
8.4.60	<0.03			
14.4.60	0.03			
22.4.60	0.02			
29.4.60	0.03			
6.5.60	0.04			
12.5.60	<0.04			
20.5.60	0.002			
12.8.60	0.01			0.04
18.8.60	0.003			<0.02
26.8.60	<0.01	0.002	0.1	0.02
2.9.60	< 0.01	0.004	<0.05	0.04
8.9.60	<0.02	0.04	0.04	0.06
16.9.60	<0.02	0.01		
27.9.60	<0.03	<0.03	<0.03	0.09
5.10.60	<0.04	<0.04	<0.05	0.03
13.10.60	<0.03	0.03	0.04	<0.04
21.10.60	<0.03	<0.02	<0.01	0.04
28.10.60			0.002	<0.003
4.11.60	<0.002	0.01	0.002	<0.04
14.11.60	<0.03	<0.02	0.06	<0.01
22.11.60	<0.03	<0.02	0.05	0.02
1.12.60	0.01	<0.01	0.03	0.1
7.12.60			0.001	0.005
16.12.60			<0.01	0.01
6.1.61			<0.01	0.01
13.1.61		<0.004	<0.02	<0.02
20.1.61	0.03	<0.03	<0.03	<0.05
27.1.61	0.03	0.03	<0.01	<0.04

(continued next column)

Station / Date	E 0	E 0.2	E 1.5	E 2.1
3.2.61	<0.03	<0.02	<0.05	<0.04
13.2.61	<0.03	<0.03	0.03	0.04
17.2.61	0.04	<0.03	0.11	<0.04
24.2.61	<0.02	<0.01	<0.02	0.13
3.3.61	<0.06	<0.03	<0.04	0.05
10.3.61	<0.04	<0.03	0.05	0.04
17.3.61	0.04	<0.03	<0.05	<0.03
24.3.61	<0.04	<0.03	<0.04	0.07
30.3.61	0.01	0.01	<0.03	<0.06
7.4.61	<0.05		<0.04	<0.04
14.4.61	0.003	<0.02	<0.05	<0.02
21.4.61	<0.02	<0.01	<0.04	<0.03
28.4.61	<0.01	<0.01	<0.01	<0.02
5.5.61	0.003	0.01	<0.02	<0.02
12.5.61	0.05	0.002	<0.03	0.05
19.5.61	<0.01	0.02	<0.06	<0.04
29.5.61	0.01	<0.02	<0.03	<0.04
4.6.61	<0.03	<0.03	<0.04	<0.05
16.6.61	0.01	<0.02	0.03	0.04
23.6.61	0.01	<0.02	0.05	<0.02
30.6.61	<0.01	<0.006		
7.7.61	<0.04	<0.04	<0.04	<0.04
14.7.61	<0.03		<0.05	<0.04
21.7.61	<0.03	<0.03	0.05	<0.02
28.7.61	0.02	<0.03	0.03	<0.02
4.8.61	<0.02	<0.02	<0.04	<0.04
11.8.61	<0.01	0.004	0.01	<0.02
18.8.61		<0.02	<0.01	<0.02
25.8.61			0.005	0.01
1.9.61				<0.002
8.9.61		0.001	<0.01	<0.01
15.9.61	<0.02		<0.01	<0.03
22.9.61	<0.02	<0.01	<0.05	<0.01
29.9.61	<0.005	0.01	<0.02	0.01
6.10.61	0.02	<0.03	<0.04	<0.03
13.10.61	<0.01	<0.01	<0.04	<0.03

(continued)

TABLE 81 (continued)

Station / Date	E 0	E 0.2	E 1.5	E 2.1
20.10.61	<0.01	0.004	<0.03	<0.04
27.10.61	<0.03	<0.03	0.05	0.06
3.11.61	<0.02	0.02	<0.01	0.04
10.11.61	<0.05	<0.03	<0.04	0.09
24.11.61		0.0002	0.0002	
11.12.61	0.02	0.002	0.004	0.02
15.12.61	0.002	0.003	0.01	0.03
21.12.61	<0.01	<0.01	0.004	<0.01
29.1.62	0.001		<0.004	
9.2.62	<0.01		0.01	
16.2.62	0.002		0.05	
23.2.62			<0.0001	
16.3.62	0.0003		<0.001	
30.3.62	0.01		<0.002	
13.4.62	<0.001		<0.003	
27.4.62	0.0013		0.03	
11.5.62	0.009		0.02	
18.5.62			0.0006	
30.5.62	0.003		<0.003	
15.6.62	<0.003		0.01	
29.6.62	0.004			
6.7.62	0.003		0.01	
13.7.62	<0.003		0.008	
20.7.62	0.09			
27.7.62	<0.02		<0.01	
3.8.62	0.02		0.04	
17.8.62			<0.004	
24.8.62	0.002		0.01	
31.8.62	0.003		0.04	
7.9.62	<0.002		<0.01	
14.9.62	0.02		0.04	
21.9.62	0.001		0.005	
28.9.62	0.001		0.01	
5.10.62	0.008		0.01	
12.10.62	0.01		0.01	

(continued next column)

Station / Date	E 0	E 0.2	E 1.5	E 2.1
19.10.62	<0.005		<0.02	
26.10.62	0.01		<0.01	
2.11.62	<0.02		0.01	
12.11.62	0.02		<0.02	
16.11.62	0.02		<0.02	
23.11.62	0.03		<0.02	
30.11.62	0.02		<0.01	
14.12.62	0.005		0.01	
21.12.62	<0.004		<0.01	
4.1.63	<0.01		<0.01	
11.1.63	<0.004		<0.01	
25.1.63	0.0002		<0.001	
1.2.63	0.01		<0.003	
8.2.63	<0.003		<0.0004	
15.2.63	0.0003		<0.002	
22.2.63	<0.002		<0.002	
7.3.63	<0.01		<0.01	
15.3.63	<0.01		<0.01	
23.3.63	0.004			
29.3.63	0.001			
5.4.63	0.0004			
19.4.63	<0.002		<0.01	
26.4.63	<0.01		<0.01	
3.5.63	0.0004			
10.5.63	0.00005			
17.5.63	0.0002		0.0003	
24.5.63	<0.001		0.0006	
31.5.63	0.004		<0.01	
7.6.63	0.001		0.001	
14.6.63	0.001			
21.6.63	<0.005		0.01	
28.6.63	0.001		0.002	
5.7.63	0.001		0.002	
12.7.63	0.002			
19.7.63	0.001		0.001	
26.7.63	0.002		<0.01	

(continued)

TABLE 81 (continued)

Station / Date	E 0	E 0.2	E 1.5	E 2.1
2.8.63	0.004		0.01	
16.8.63	<0.01		0.02	
6.9.63	0.001		0.003	
13.9.63	0.001			
20.9.63	<0.01			
4.10.63	<0.001			
11.10.63	0.003			
18.10.63	0.001			
25.10.63	0.0007			
1.11.63	0.02			
8.11.63	0.02			
15.11.63	0.02		0.03	
22.11.63	0.003		0.03	
29.11.63	0.003		0.02	
6.12.63	0.009		0.01	
13.12.63	0.0008			
20.12.63			0.0002	
3.1.64	0.001		0.01	
10.1.64	<0.01		<0.01	
17.1.64	0.01		0.02	
24.1.64	0.01		0.02	
31.1.64	<0.02		<0.02	
7.2.64	<0.01		<0.02	
14.2.64	0.01		0.03	
21.2.64	<0.01			
28.2.64	<0.02		<0.02	
6.3.64	0.02		<0.02	
13.3.64	<0.001		<0.01	
20.3.64	0.05		0.03	
26.3.64	0.02		0.01	
3.4.64	<0.005			
10.4.64	0.01			
17.4.64	0.02			
24.4.64	N.D.			
1.5.64	0.02			

(continued next column)

Station / Date	E 0	E 0.2	E 1.5	E 2.1
8.5.64	0.01			
15.5.64	0.02			
22.5.64	<0.004		<0.006	
29.5.64	<0.002		<0.005	
5.6.64	0.01			
19.6.64	<0.0003			
26.6.64	0.002		0.01	
3.7.64	0.007		0.01	
10.7.64	0.03		0.04	
17.7.64	0.02		0.02	
24.7.64	0.005		0.02	
31.7.64	0.01		0.03	
7.8.64	0.02		0.02	
14.8.64	0.02		0.03	
21.8.64	0.01		<0.02	
28.8.64	<0.003		<0.01	
4.9.64	<0.01		<0.01	
11.9.64	<0.01		<0.01	
18.9.64	0.03		0.01	
25.9.64	0.02		0.02	
2.10.64	<0.01		0.01	
9.10.64	0.01		<0.01	
16.10.64	<0.01		<0.01	
23.10.64	0.02		<0.01	
30.10.64	0.02		0.03	
6.11.64	<0.01		0.01	
13.11.64	0.01		0.02	
20.11.64	0.02		0.05	
27.11.64	0.03			
4.12.64	0.04			
11.12.64	0.01			
18.12.64	0.01		0.01	
23.12.64	<0.01		<0.01	
31.12.64	<0.01		<0.01	

TABLE 82 α ACTIVITY IN OYSTER FLESH

(pCi/g Fresh Weight)

Station / Date	E Control	E 4.4	E 5:1	E 5:2	E 5.8
January 1960	0.04	0.08	<0.06		
February 1960				0.04	
March 1960				0.1	
April 1960	0.1		0.07		
June 1960		0.1			
July 1960	0.05				
August 1960			0.13		
October 1960	0.05	0.04		0.07	<0.03
December 1960			0.03		
Mean	0.06	0.07	0.07	0.07	
s.d.	0.03	0.03	0.04	0.03	
January 1961	0.03	0.2		0.08	0.3
April 1961	0.1		0.04		
May 1961					0.06
July 1961	0.09		0.06		<0.03
October 1961	<0.03				0.05
November 1961		<0.05	0.05		
Mean	0.06	0.13	0.05		0.11
s.d.	0.04	0.11	0.01		0.13
February 1962		0.08	0.03		0.1
March 1962	0.3			0.18	
June 1962	0.2	0.3	0.14	0.2	0.16
September 1962	0.1				
October 1962				0.13	0.2
December 1962	0.1				
Mean	0.18	0.19	0.09	0.17	0.15
s.d.	0.10	0.16	0.08	0.04	0.05

(continued)

TABLE 82 (continued)

Station / Date	E Control	E 4.4	E 5:1	E 5:2	E 5.8
January 1963				0.1	0.06
March 1963	0.25				
April 1963					0.38
May 1963				0.07	
June 1963	0.24				
July 1963					0.82
September 1963	0.6				
November 1963				0.26	
December 1963					0.4
Mean	0.36			0.14	0.42
s.d.	0.21			0.10	0.31
January 1964	0.25				
March 1964				0.07	
April 1964	0.14				0.39
July 1964	0.29			0.17	0.26
October 1964	0.16	0.30			0.22
Mean	0.21			0.12	0.29
s.d.	0.07			0.07	0.09

TABLE 83 α ACTIVITY IN OYSTER SHELL

(pCi/g Dry Weight)

Date \ Station	E Control	E 4.4	E 5:1	E 5:2	E 5.8
January 1960	<0.3	<0.6	<0.5		
February 1960				<0.8	
March 1960				0.8	
April 1960	0.9		0.8		
June 1960		1.7			
July 1960	<0.7				
August 1960			1.1		
October 1960	1.4	<1.0		<0.8	<1.0
December 1960			<0.8		
January 1961	<0.8	<0.8		0.9	<1.0
April 1961	1.0		<0.4		
May 1961					<0.8
July 1961	<0.8		<0.8		<0.8
October 1961	<0.3				
November 1961		0.8	<0.7		
February 1962		<0.5	<0.5		0.6
March 1962	2.0			0.7	
June 1962	2.5	0.7	<0.5	<0.8	0.5
	Composite				
Sept.1962–July 1963			1.4		
Sept. 1963–July 1964			0.9		

TABLE 84 α ACTIVITY IN BEACH SANDS

(pCi/g Dry Weight)

Date \ Station	E 0.8	E 2.9	E 3.7
September 1959		4.3	
April 1960	4.7		
October 1960	3.7	3.6	4.5
May 1961	2.5	3.2	2.0
October 1961	4.4	4.2	2.4
March 1962	2.5	2.3	1.7
September 1962	4.4	9.6	5.4
April 1963	5.6	4.1	3.4
November 1963	1.5	3.9	0.4
May 1964	1.9	1.9	2.4
Mean	3.5	4.1	2.8
s.d.	1.4	2.2	1.6

TABLE 85 α ACTIVITY IN BOTTOM SANDS

(pCi/g Dry Weight)

Date \ Station	E 0	E 1.5
March 1960	4.5	
November 1960	3.5	
May 1961	4.8	
September 1961	6.6	
March 1962	4.2	
August 1962	5.9	10.3
October 1962	6.8	
November 1962		8.7
April 1963		15.0
July 1963	3.0	5.6
November 1963	3.6	1.8
March 1964	3.6	2.0
July 1964	4.3	1.5
Mean	4.6	6.4
s.d.	1.3	5.2

TABLE 86 α ACTIVITY IN RIVERWEED

(pCi/g Fresh Weight)

Station / Date	E 0	E 1	E 1.5
June 1962			3.8 *
November 1963	1.8 +		1.0
March 1964			0.4
July 1964			1.2
October 1964		0.6	0.5

(* Refers to pCi/g Dry Weight)

(+ A filamentous chlorophycean weed)

TABLE 87

α ACTIVITY IN PLANKTON AND SUSPENDED MATTER

(pCi/l of Seawater)

Station / Date	E 2.5
November 1963	0.04
April 1964	0.01

TABLE 88 α ACTIVITY IN BLACKFISH

(pCi/g Fresh Weight)

Station / Date	E 4.1
March 1963	0.4
December 1963	0.1
November 1964	0.5

TABLE 89 α ACTIVITY IN MULLET

(pCi/g Fresh Weight)

Station / Date	E 4.1
August 1961	0.4
May 1962	0.6
March 1963	0.4
December 1963	0.6
May 1964	0.1
November 1964	0.5

TABLE 90 α ACTIVITY IN CRABS

(pCi/g Fresh Weight)

Station / Date	E 3.7
January 1961	1.5
May 1962	0.7
May 1963	0.9
November 1963	1.1
September 1964	2.8

TABLE 91 Be CONCENTRATION IN ESTUARY WATER

($\mu g/l$)

Station / Date	E 0	E 1.5
23.2.62	0.04	0.04
16.3.62	0.09	0.08
13.4.62		N.D.
27.4.62		0.01
11.5.62	0.01	0.01
30.5.62	0.02	0.01
15.6.62	0.01	0.01
29.6.62	0.03	
13.7.62	0.06	
27.7.62		0.03
3.8.62	0.02	0.01
17.8.62	0.06	0.02
31.8.62	0.02	
28.9.62	0.04	
12.10.62	N.D.	N.D.
26.10.62	0.02	0.01
12.11.62	0.02	0.01
23.11.62	0.01	N.D.
14.12.62	0.02	0.01
1.2.63	0.02	N.D.
15.2.63	0.02	N.D.
15.3.63	0.12	
19.4.63		0.01
24.5.63	0.04	0.04
28.6.63	0.05	0.03
2.8.63	0.03	0.03
22.11.63	0.01	N.D.
Mean	0.03	0.02
s.d.	0.03	0.02

TABLE 92 Be CONCENTRATION IN OYSTER FLESH

(μg/g Fresh Weight)

Station / Date	E Control	E 4.4	E 5:1	E 5:2	E 5.8
January 1960	0.005	0.003	0.002		
February 1960				0.002	
March 1960				0.002	
April 1960	0.001		0.002		
June 1960		0.002			
July 1960	0.003				
August 1960			0.002		
October 1960	0.002	0.002		0.003	0.003
December 1960			0.001		
January 1961	0.002	0.0004		0.001	0.002
April 1961	0.002		0.004		
May 1961					0.001
July 1961	0.008		0.001		0.001
October 1961	0.002				0.002
November 1961		0.001	0.003		
February 1962		0.001	0.002		0.003
March 1962	0.001			0.002	
June 1962	0.002	0.002	0.002	0.002	0.002
September 1962	0.002				
October 1962				0.001	0.002
December 1962	0.005				
January 1963				0.003	0.005
March 1963	0.002				
April 1963					0.002
May 1963				0.001	
June 1963	0.002				
July 1963					0.002
September 1963	0.006				
November 1963				0.002	
December 1963					0.001
January 1964	0.002				
March 1964				0.001	
April 1964	0.004				0.002
July 1964	0.003			0.002	0.001
October 1964	0.002	0.001			0.001
Mean	0.003	0.002	0.002	0.002	0.002
s.d.	0.002	0.001	0.001	0.001	0.001

TABLE 93 Be CONCENTRATION IN OYSTER SHELL

(μg/g Dry Weight)

Date \ Station	E 0	E 4.4	E 5:1	E 5:2	E 5.8
January 1960	0.03	0.02	0.02		
February 1960				0.04	
March 1960				0.02	
April 1960	0.02		0.02		
June 1960		0.03			
July 1960	0.02				
August 1960			0.03		
October 1960	0.05	0.04		0.05	0.05
December 1960			0.03		
January 1961	0.05	0.02		0.02	0.01
April 1961	0.02		0.02		
May 1961					0.02
July 1961	0.01		0.01		0.03
October 1961	0.05				0.02
November 1961		0.02			0.02
February 1962		0.07	0.03		0.02
March 1962	0.04			0.02	
June 1962	0.02	0.01	0.01	0.04	0.02
Mean	0.03	0.03	0.02	0.03	0.02
s.d.	0.02	0.02	0.01	0.01	0.01
	Composite				
Sept. 1962–July 1963			0.03		

TABLE 94 Be CONCENTRATION IN BEACH SAND

(μg/g Dry Weight)

Station / Date	E 0.8	E 2.9	E 3.7
March 1962	0.1	0.08	
September 1962	0.09	0.14	0.1
April 1963	0.12	0.11	
November 1963	0.07	0.16	0.04
May 1964	N.D.	0.06	N.D.

TABLE 95 Be CONCENTRATION IN BOTTOM SANDS

(μg/g Dry Weight)

Station / Date	E 0	E 1.5
March 1960	<0.03	
November 1960	<0.03	
May 1961	0.1	
September 1961	0.09	
March 1962	0.38	
August 1962	0.1	0.08
October 1962	0.1	
November 1962		0.04
April 1963		0.05
July 1963	1.1	0.4
November 1963	0.8	0.13
March 1964	0.04	0.11
July 1964	0.06	N.D.
October 1964	0.16	0.07

TABLE 96 Be CONCENTRATION IN RIVERWEED

(μg/g FreshWeight)

Station / Date	E 0	E 1	E 1.5
June 1962			0.01 *
November 1963	0.15 +		0.05
March 1964			0.02
July 1964			0.04
October 1964		0.02	0.01

(* Refers to μg/g Dry Weight)

(+ A filamentous chlorophycean weed)

TABLE 97 Be CONCENTRATION IN BLACKFISH

(μg/g Fresh Weight)

Station / Date	E 4.1
March 1963	0.008
December 1963	0.004
November 1964	0.012
Mean	0.008
s.d.	0.004

TABLE 98 Be CONCENTRATION IN MULLET

(μg/g Fresh Weight)

Station / Date	E 4.1
August 1961	0.02
May 1962	0.02
March 1963	0.01
December 1963	0.02
May 1964	0.001
November 1964	0.01
Mean	0.01
s.d.	0.008

TABLE 99 Be CONCENTRATION IN CRABS

(μg/g Fresh Weight)

Station / Date	E 3.7
January 1961	0.02
May 1962	0.001
May 1963	0.01
November 1963	0.01
September 1964	0.01
Mean	0.01
s.d.	0.007

TABLE 100 Zn-65 ACTIVITY IN OYSTER FLESH

(pCi/g Fresh Weight)

Station / Date	E Control	E 4.4	E 5:2	E 5.8
January 1963			0.07	N.D.
May 1963			N.D.	
October 1963	N.D.			
November 1963			0.06	
December 1963				0.03
January 1964	N.D.			
March 1964			0.09	
April 1964	N.D.			N.D.
July 1964	N.D.		0.19	0.1
October 1964		0.28		0.08

TABLE 101 γ ACTIVITY OF BEACH SANDS

(pCi/g Dry Weight)

Date \ Station	E 0.8	E 2.8	E 3.7
November 1963	N.D.	N.D.	N.D.

TABLE 102 γ ACTIVITY OF BOTTOM SANDS

(pCi/g Dry Weight)

Date \ Station	E 0	E 1.5
November 1963	1 (Co–60) 0.4 (Cs–137)	N.D.
March 1964	2.8(Co–60) 0.5(Cs–137)	N.D.
July 1964	1.1(Co–60) 0.3(Zr–95 Nb–95)	N.D.

TABLE 103 Cs–137 ACTIVITY IN BLACKFISH

(pCi/g Fresh Weight)

Date \ Station	E 4.1
December 1963	0.05
November 1964	N.D.

TABLE 104 Cs–137 ACTIVITY IN MULLET

(pCi/g Fresh Weight)

Date \ Station	E 4.1
December 1963	0.09
May 1964	N.D.
November 1964	N.D.

TABLE 105 RESULTS OF γ SPECTROMETRY ANALYSIS OF RIVERWEED

(pCi/g Fresh Weight)

Date	Nuclide / Station	Zr-95/Nb-95	Cs-137	Ce-141/Ce-144	Ru-103/Rh-106	Mn-54	Zn-65	Co-60
November 1963	1.5	Trace	0.02	N.D.	N.D.	N.D.	N.D.	0.45
	0 *	Present (Obscured)	Present (Obscured)	Present (Obscured)	Present (Obscured)	N.D.	N.D.	5.0
March 1964	1.5	0.06	N.D.	N.D.	N.D.	0.06	0.42	0.06
July 1964	1.5	N.D.	N.D.	0.49	Trace	0.44	0.88	0.76
October 1964	1	0.13	N.D.	0.05	N.D.	0.18	0.44	1.5
	1.5	0.05		0.03		0.1	0.34	0.7

(* A filamentous chlorophycean weed)

TABLE 106 Sr-90 CONCENTRATION IN OYSTER FLESH

(pCi/g Ca)

Station / Date	E Control	E 4.4	E 5:1	E 5:2	E 5.8
January 1960		<0.2	<7.5		
February 1960				<0.2	
March 1960				<4.4	
April 1960			<0.2		
June 1960		<1.9			
July 1960	2.5				
August 1960			<0.4		
October 1960	<1.5	<1		<1	<1
December 1960			<12.6		
January 1961	<16	<1.6		<6	<4.5
April 1961	<4.2		<2.8		
May 1961					<7.1
July 1961	<12		<23		<3
October 1961	<1.3				<1.7
November 1961		<1.3	<0.8		
February 1962		<1.1	<2.2		
March 1962	<1.1			<0.8	
June 1962	<1.7	<1.9	<4.2	<2.3	<2.3
September 1962	<4.8				
October 1962				<1.2	<3.1
December 1962	<2.7				
January 1963				<2.4	<3.3
March 1963	<1.0				
April 1963					<1.8
May 1963				<1.2	
July 1963					<1.2
September 1963	<2.4				
November 1963				<1.1	
December 1963					<1.0
January 1964	<2.6				
March 1964				<2.0	
April 1964	0.83				0.93
July 1964	0.30			0.99	0.50
October 1964	0.7	<1.0			1.0

TABLE 107 Sr-90 ACTIVITY IN OYSTER SHELL

(pCi/g Ca)

Date \ Station	E Control	E 4.4	E 5:1	E 5:2	E 5.8
January 1960		0.3		0.2	
February 1960				<0.2	
March 1960				<0.2	
April 1960	<0.2		0.1		
June 1960		<0.2			
July 1960	<0.1				
August 1960			0.2		
October 1960	<0.2	<0.1		<0.1	<0.1
December 1960			<0.1		
January 1961	<1.4	<0.1		<0.04	<2
April 1961	<0.8		<0.7		
May 1961					<0.5
July 1961	0.5		<0.8		<0.7
October 1961	<0.6				<1.4
November 1961		0.9	<0.6		
February 1962		<1	<0.6		<0.4
March 1962	<0.6			<1	
June 1962	<0.4	1.4	<0.4	<0.4	<0.3
	Composite				
Sept. 1962 – July 1963			0.32		
Sept. 1963 – July 1964			0.2		

TABLE 108 Sr-90 ACTIVITY OF BOTTOM SANDS

(pCi/100 g Dry Weight)

Station / Date	E 0	E 1.5
November 1963	<2	<2
March 1964	<4	<4
July 1964	<2	<3
October 1964	<2	<3

TABLE 109 Sr-90 ACTIVITY IN RIVERWEED

(pCi/g Fresh Weight)

Station / Date	E 0	E 1	E 1.5
June 1962			0.08 *
November 1963	0.02 +		0.008
March 1964			0.09
July 1964			0.01
October 1964		0.004	0.005

(* Refers to pCi/g Dry Weight)

(+ A filamentous chlorophycean weed)

TABLE 110 Sr-90 ACTIVITY IN BLACKFISH

(pCi/g Fresh Weight)

Station / Date	E 4.1
December 1963	<0.01
November 1964	<0.008

TABLE 111 Sr-90 ACTIVITY IN MULLET

(pCi/g Fresh Weight)

Station / Date	E 4.1
August 1961	<0.01
December 1963	<0.01
May 1964	0.01

TABLE 112 Sr-90 ACTIVITY IN CRABS

(pCi/g Fresh Weight)

Station / Date	E 3.7
January 1961	0.14
May 1962	<0.05
May 1963	0.09
November 1963	<0.03
September 1964	0.08

TABLE 113 Ca CONCENTRATION IN OYSTER FLESH

(% Fresh Weight)

Station / Date	E Control	E 4.4	E 5:1	E 5:2	E 5.8
January 1960		0.06	0.1		
February 1960				0.07	
March 1960				0.05	
April 1960			0.19		
June 1960		0.03			
July 1960	0.07				
October 1960	0.09	0.12		0.12	0.11
December 1960			0.07		
January 1961		0.12		0.11	0.06
April 1961	0.13		0.10		
May 1961					0.10
July 1961	0.04		0.09		0.10
October 1961	0.32				0.19
November 1961		0.40	0.22		
February 1962		0.22	0.34		
March 1962	0.14			0.64	
June 1962	0.13	0.15	0.09	0.12	0.10
September 1962	0.12				
October 1962				0.20	0.11
December 1962	0.15				
January 1963				0.15	0.10
March 1963	0.45				
April 1963					0.31
May 1963				0.29	
June 1963	0.15				
July 1963					0.19
September 1963	0.38				
November 1963				0.37	
December 1963					0.28

(continued)

TABLE 113 (continued)

Station / Date	E Control	E 4.4	E 5:1	E 5:2	E 5.8
January 1964	0.29				
March 1964				0.12	
April 1964	0.32				
July 1964	0.39			0.16	0.26
October 1964	0.14	0.10			0.07
Mean	0.21	0.15	0.15	0.20	0.15
s.d.	0.13	0.12	0.09	0.17	0.08

TABLE 114 Ca CONCENTRATION IN OYSTER SHELL

(% Dry Weight)

Station / Date	E Control	E 4.4	E 5:1	E 5:2	E 5.8
January 1960		30	19		
March 1960				29	
April 1960	29		21		
June 1960		28			
July 1960	21				
August 1960			25		
October 1960	22	33			29
December 1960			31		
January 1961	28	28		23	34
April 1961	33				
May 1961					25
July 1961	22		29		34
October 1961	29				35
November 1961		28	29		
February 1962		36	37		44
March 1962	34			32	
June 1962	37	43	31	33	43
Mean	28	32	28	29	35
s.d.	5.7	5.6	5.9	4.5	6.9
	Composite				
Sept. 1962–July 1963			24		
Sept. 1963–July 1964			30		

TABLE 115 Ca CONCENTRATION IN RIVERWEED

(% Fresh Weight)

Station / Date	E 0	E 1	E 1.5
June 1962			5.9 *
November 1963	0.04 +		0.7
March 1964			0.9
July 1964			0.5
October 1964		0.08	0.08

(* Refers to % Dry Weight)

(+A filamentous chlorophycean weed)

TABLE 116 Ca CONCENTRATION IN BLACKFISH

(% Fresh Weight)

Station / Date	E 3.7
December 1963	0.9
November 1964	0.8

TABLE 117 Ca CONCENTRATION IN MULLET

(% Fresh Weight)

Station / Date	E 3.7
August 1961	1.3
May 1962	0.7
December 1963	0.8
April 1964	1.1
November 1964	1.1
Mean	1.0
s.d.	0.2

TABLE 118 Ca CONCENTRATION IN CRABS

(% Fresh Weight)

Station / Date	E 3.7
January 1961	4.1
May 1962	4.8
May 1963	4.2
November 1963	2.9
September 1964	3.4
Mean	3.9
s.d.	0.7

TABLE 119 STABLE Sr CONCENTRATION IN OYSTER FLESH

(μg/g Fresh Weight)

Date \ Station	E Control	E 4.4	E 5:1	E 5:2	E 5.8
January 1960	12	8	9.6		
February 1960				2.9	
March 1960				5.2	
April 1960	5.4		7.2		
June 1960		13.7			
July 1960	5.0				
October 1960	6.2	7.1		8.6	7.9
December 1960			4.8		
January 1961	1.8	9.7		10.1	10.5
October 1961	9.2				4.9
November 1961	8.6				
Mean (60–61)	6.9	9.6	7.2	6.7	7.8
s.d.	3.3	2.9	2.4	3.3	2.8

TABLE 120 STABLE Sr CONCENTRATION IN OYSTER SHELL

(μg/g Dry Weight)

Date \ Station	E Control	E 4.4	E 5:1	E 5:2	E 5.8
January 1960	745	586	600		
February 1960				1042	
March 1960				670	
April 1960	619		739		
June 1960		561			
July 1960	729				
August 1960			522		
October 1960	701	480		700	470
December 1960			551		
January 1961	629	578		1020	621
October 1961	720				780
Mean (60–61)	691	551	603	858	624
s.d.	54	49	96	200	155

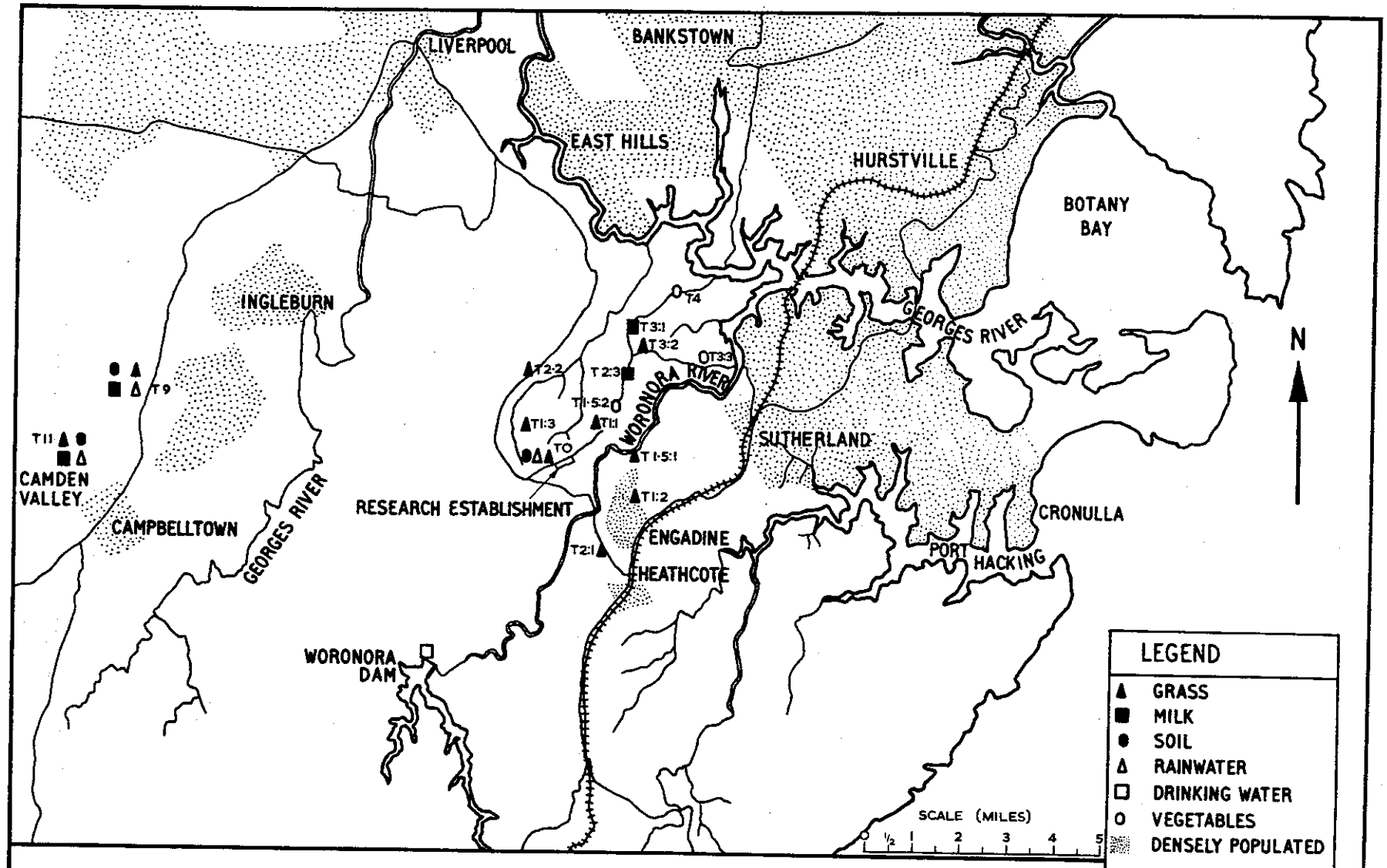

FIGURE 1. TERRESTRIAL SAMPLING STATIONS

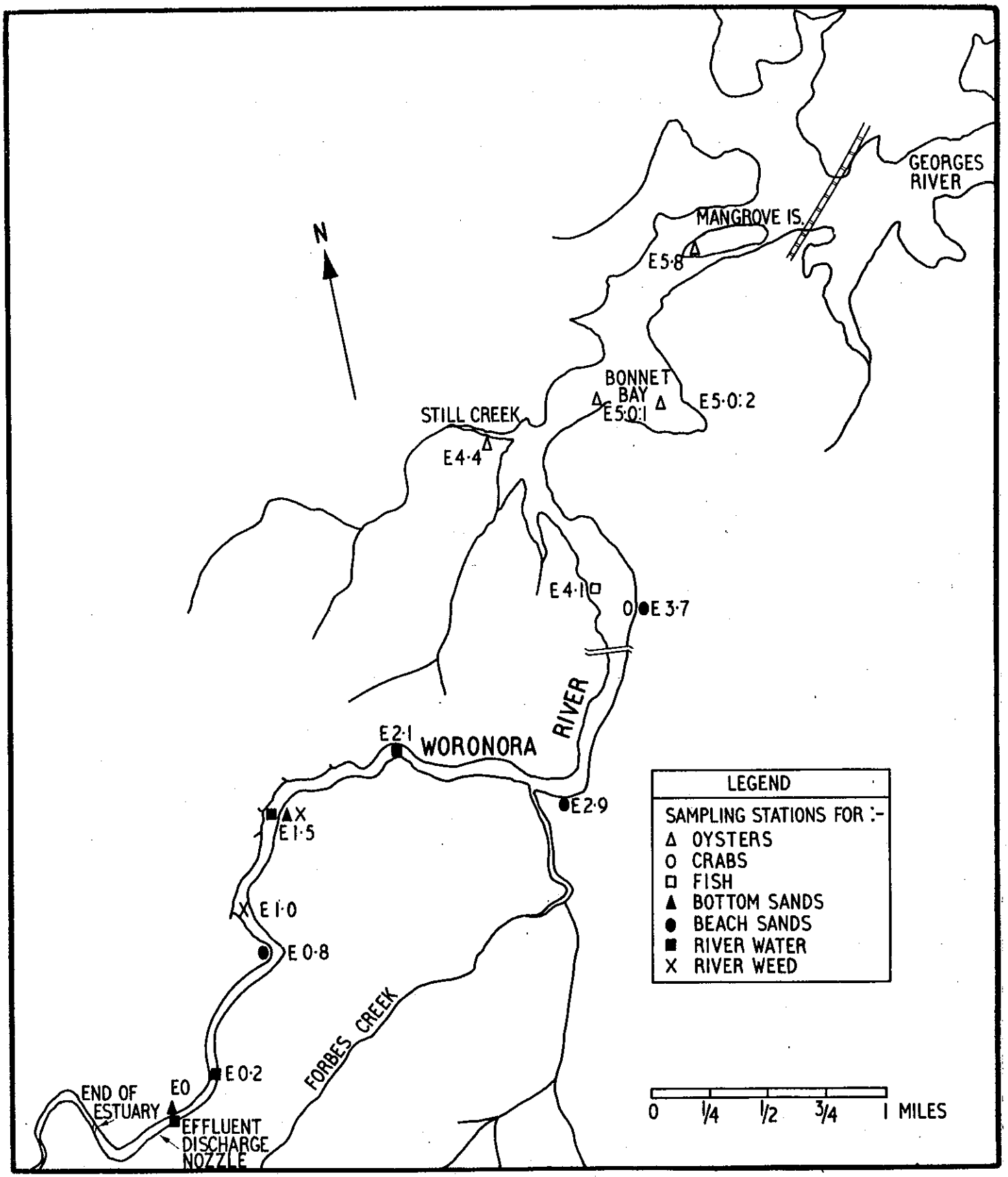

FIGURE 2. WORONORA ESTUARY SAMPLING STATIONS

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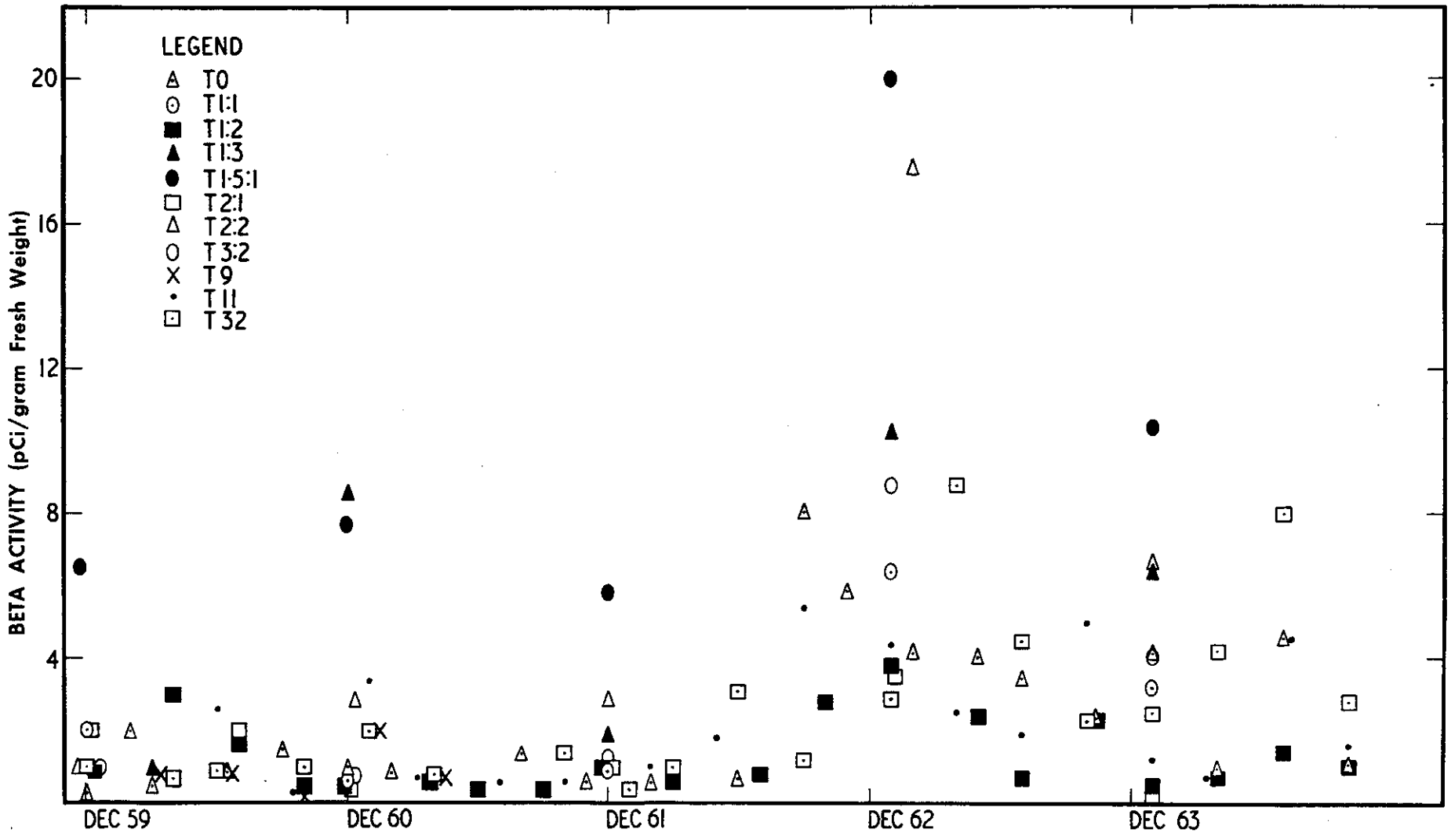

FIGURE 3. BETA ACTIVITY IN GRASS

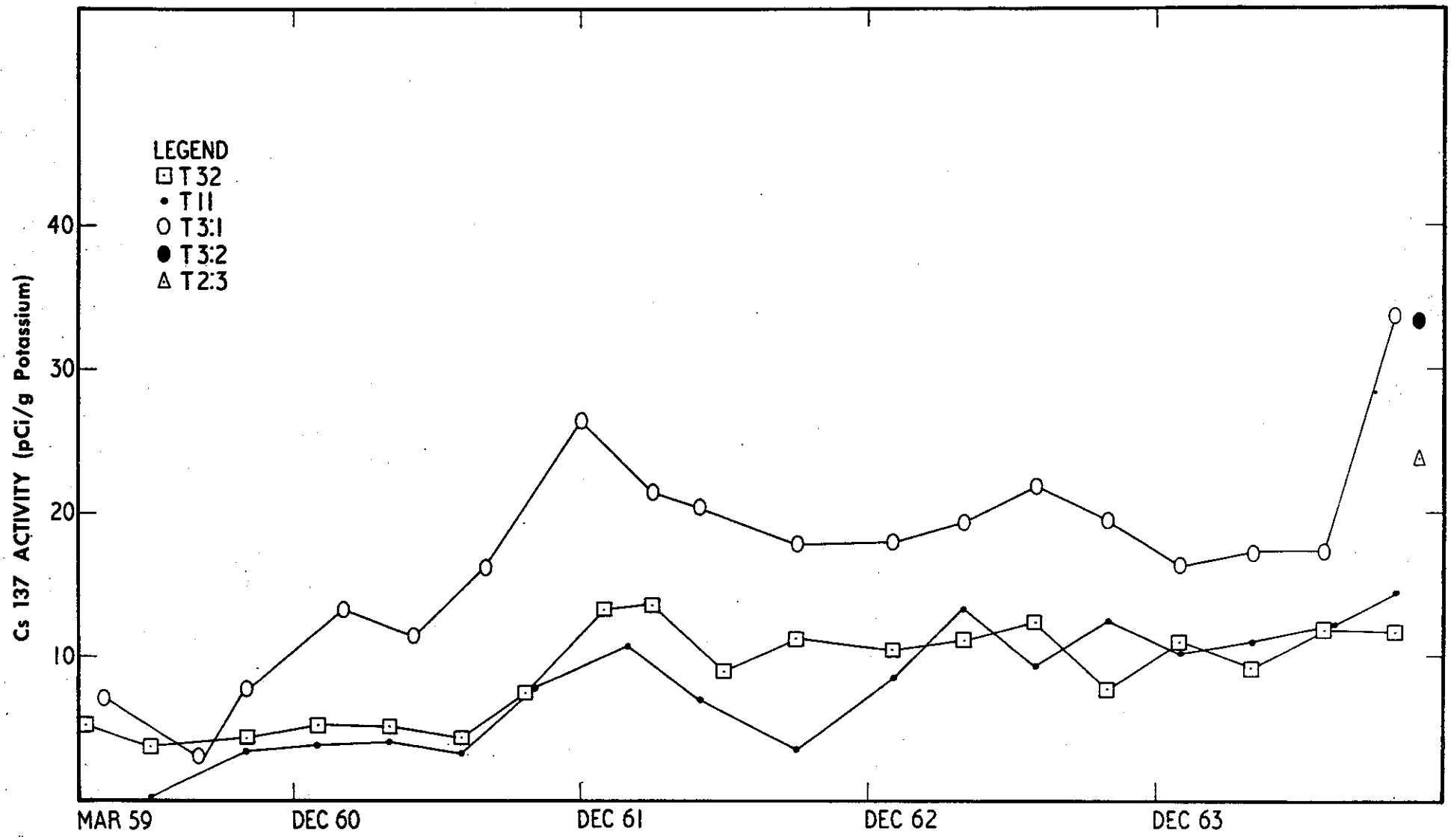

FIGURE 4. CAESIUM 137 ACTIVITY IN MILK

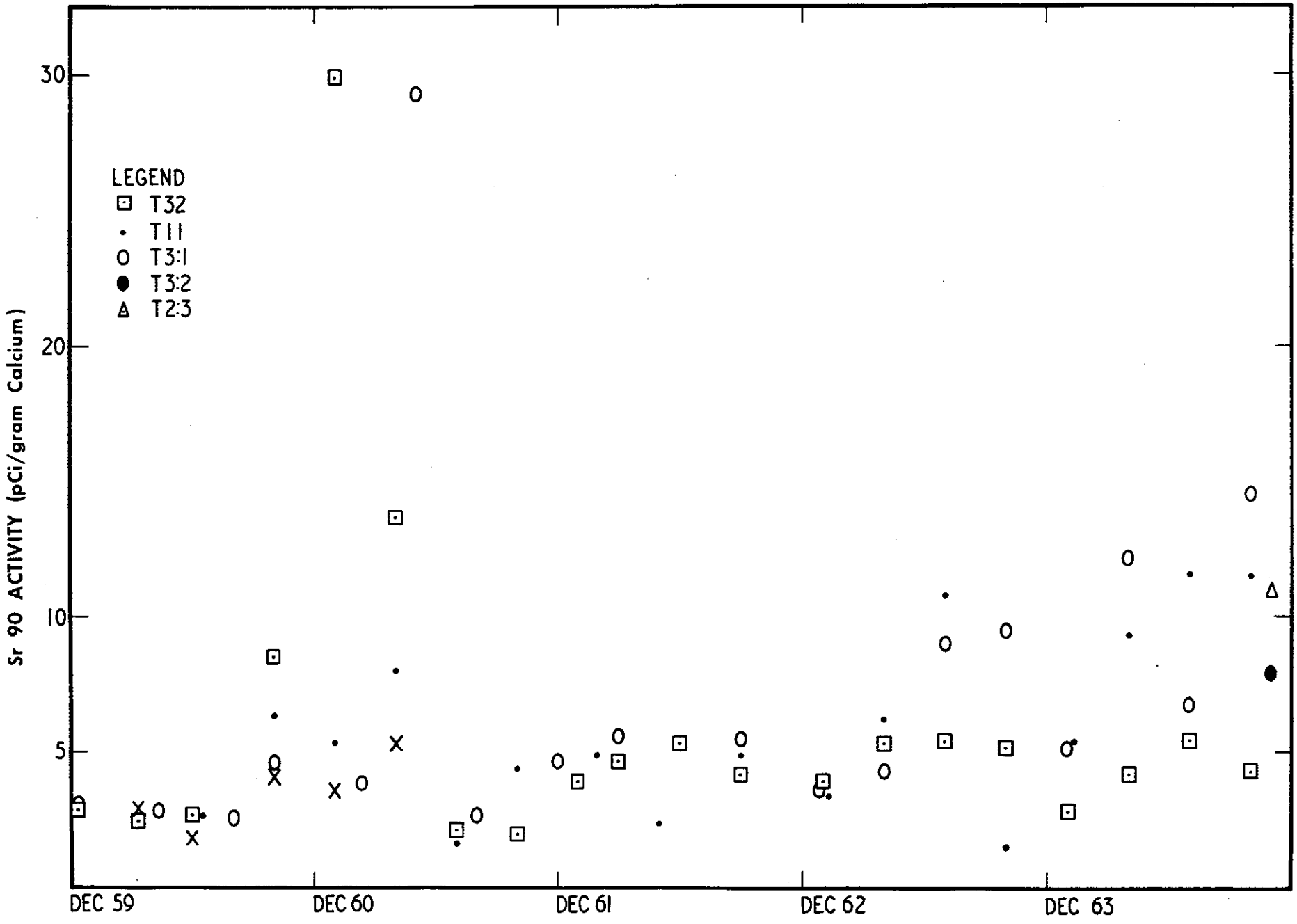

FIGURE 5. STRONTIUM 90 ACTIVITY IN MILK