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LATE QUATERNARY GEOLOGY AND GEOCHRONOLOGY OF BRITISH COLUMBIA

Part 1: Radiocarbon Dates

J.J. CLAGUE

Energy, Mines and Resources Canada
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INTRODUCTION

The "Radiocarbon Geochronology of Southern British Columbia" (Fulton, 1971) provides a summary of the radiocarbon dated Quaternary history of southern British Columbia and a compilation of most radiocarbon dates of geologic significance published before 1971. Since the publication of this important paper, new information has been gathered on the Quaternary of British Columbia. A much larger number of radiocarbon determinations is now available, resulting in a corresponding improvement in the chronology of geologic events of late Quaternary age. The present report has been prepared to make available to researchers this expanded body of knowledge.

In the following tables, geologically relevant radiocarbon dates published prior to 1980[1] are presented within a late Quaternary geologic climate framework consisting of three parts: Olympia nonglacial interval (or interglaciation)[2], Fraser for British Columbia and adjacent areas are compatible with this framework (Fig. 1).

The radiocarbon dates are listed in eight tables as follows: Table 1, dates beyond the radiocarbon dating range; Table 2, finite dates on sediments of the Olympia nonglacial interval; Tables 3 and 4, dates pertaining to the advance and recessional phases of the Fraser Glaciation, respectively; Table 5, dates bearing on postglacial sea levels; Table 6, dates relating to volcanic flows and tephras; Table 7, dates bearing on postglacial climates; and Table 8, miscellaneous dates. The miscellaneous dates relate to (1) floodplain aggradation and degradation and deltaic progradation, (2) eolian activity, (3) landslides, (4) microfossil zonation in lakes and bogs, (5) prehistoric animal habitation, and (6) the relationship between radiocarbon age and sidereal age. Also in Table 8 are unclassified dates, including many from contaminated samples.

The radiocarbon dates in this report are presented in much the same way as in the "Radiocarbon Geochronology of Southern British Columbia" (Fulton, 1971). In both, the following information is provided for each date: laboratory dating number, date[3], geographic coordinates of sample site, published reference[4], collector, dated material, and significance or other comment. Additional data provided in this report, but not in the earlier paper, include sample localities and elevation data.

This report differs from the "Radiocarbon Geochronology of Southern British Columbia" in at least three important ways. First, the present report includes radiocarbon dates for the entire province, whereas the 1971 paper presents data only for southern British Columbia. Second, dates in some tables of the present report are grouped under physiographic and geographic subheadings. The physiographic subdivisions used are those of Holland (1964). Although Fulton also employed Holland's physiographic subdivisions in discussing the radiocarbon geochronology of southern British Columbia, he did not subdivide geographically the dates in his tables. Third, miscellaneous dates of indirect or marginal geologic significance are included in the present report but are excluded from the 1971 paper. For example, archeological radiocarbon dates from coastal sites which provide information on past sea level positions are included in Table 5. Archeological dates with no geologic significance,

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[1] Several important radiocarbon dates which are in papers known to be "in press" at the end of 1979 are also included.

[2] The "climatic episode immediately preceding the last major glaciation" originally was termed the Olympia Interglaciation (Armstrong et al., 1965, p. 324). Later Hansen and Easterbrook (1974, p. 598) argued on the basis of lithostratigraphic and palynologic evidence from the Puget Lowland, Washington, that the Olympia was of insufficient length and its climate too cool to justify the formal appelation "interglaciation". However, in British Columbia at least, the Olympia persisted far longer than the present nonglacial climatic episode which is generally considered to be an interglaciation rather than an interstade.

Perhaps of greater importance is the character of the Olympia climate. An interglaciation is characterized by a climate similar to that of the present, that is one incompatible with the wide extent of glaciers in North America and Europe as is characteristic of glacial episodes. Although not enough is known of the climate of British Columbia during Olympia time, there is evidence that it was similar to that of the present for at least part of this interval (e.g., Clague, 1978). Apparently at no time during the Olympia did glaciers occupy lowland areas in British Columbia, but rather they were restricted to high mountainous uplands and alpine valleys.

On a global scale, however, the climate during Olympia time apparently was sufficiently cool for ice sheets to exist on parts of Scandinavia and northeastern Canada (e.g., Dreimanis and Raukas, 1975; Andres and Barry, 1978), therefore it can be argued that the Olympia interval is of interstadial rather than interglacial rank.

In this paper the more informal and hopefully less controversial term "Olympia nonglacial interval" is used in preference to both "Olympia Interglaciation" and "Olympia Interstade". It is possible, however, that as our understanding of Olympia climatic conditions improves, we will be in a better position to decide whether the interval is more appropriately identified as interglacial or interstadial.

[3] Radiocarbon years before present (B.P.), where "present" is taken to be A.D. 1950. Unless otherwise indicated, dates have been calculated using a ^{14}C half-life of 5570 ± 30 years.

[4] "Radiocarbon" and Geological Survey of Canada date lists are cited preferentially to other sources. Dates not published in these date lists are referenced to appropriate papers, reports, and theses.

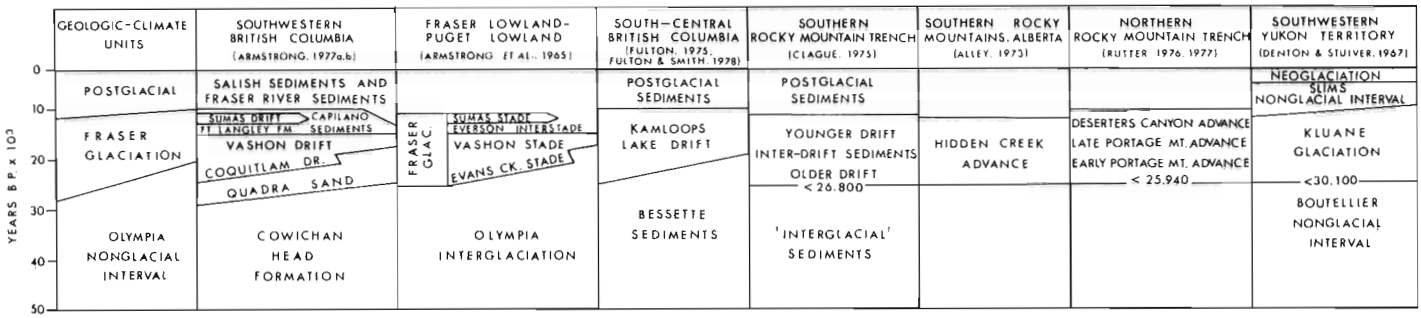

Figure 1. *Subdivisions of late Quaternary deposits in British Columbia and adjacent regions.*

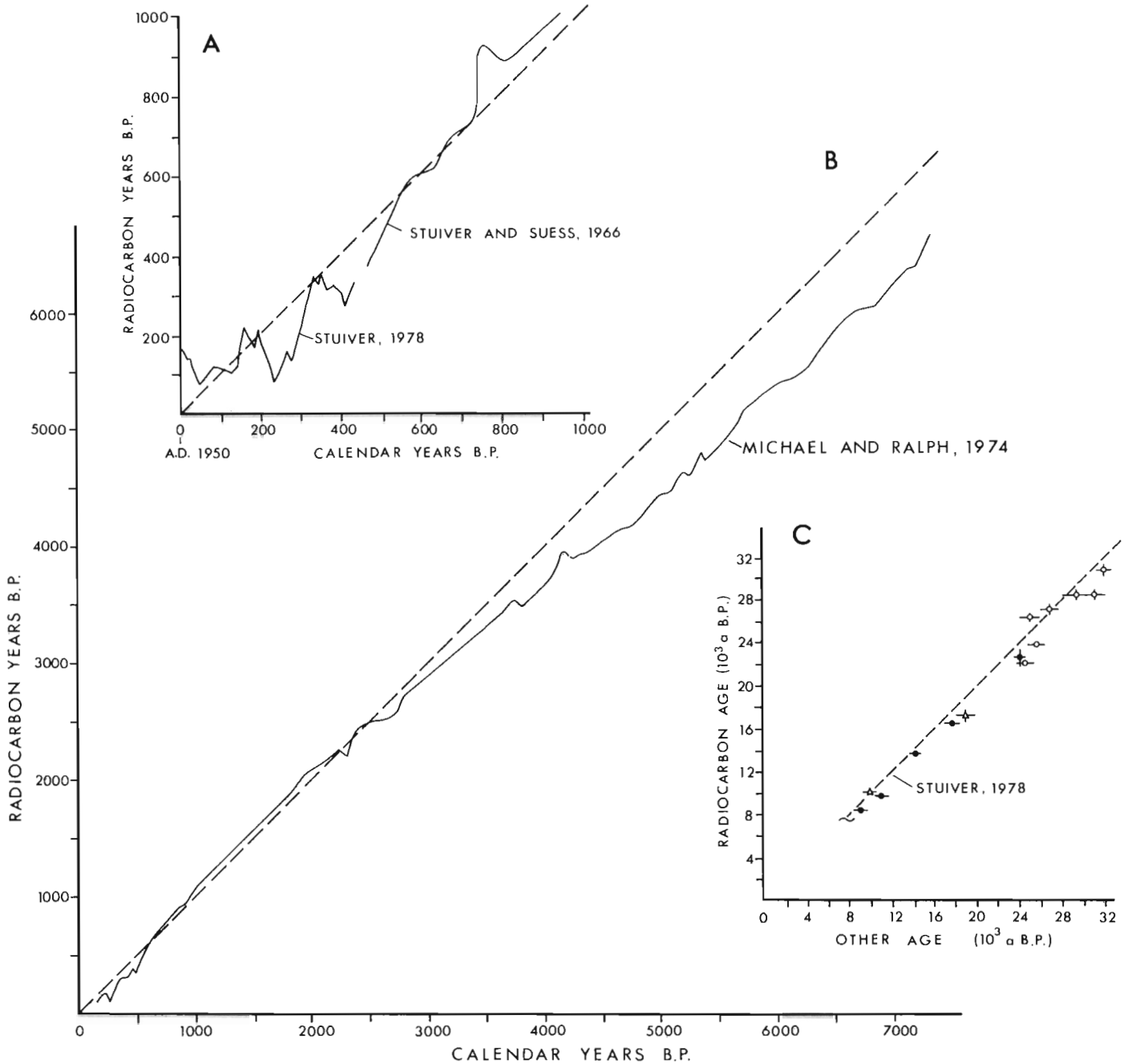

Figure 2. *Relationships between radiocarbon age and age obtained through other geochronological methods. A and B. Radiocarbon age versus tree-ring calendar age for the last 1000 and 7000 years, respectively. C. Comparison of radiocarbon dates with $^{230}Th/^{234}U$ dates on lake sediments (○), thermoluminescence dates on basalt (△), and magnetic dates (●). Vertical and horizontal bars denote one standard deviation. The dashed line in each plot indicates the ideal one-to-one relationship.*

however, are excluded from this report. Most British Columbia archeological dates have been catalogued and discussed by Wilmeth (1978), and the interested reader is referred to that publication for details and literature references.

The geographic coordinates of many radiocarbon dates in this report are only approximate. In the course of compiling the data which follow, it was noted that the published coordinates of many dates are grossly in error. The correct locations of these dates are listed in the following tables and supersede the incorrect published coordinates. The published locations of all other dates have been accepted as they stand, although in some cases errors of up to a few minutes of latitude or longitude may remain undetected.

Similarly, the published elevations of many dated samples are either in error or only approximate. Many authors do not specify the elevations at which their dated samples were collected. Thus, in most cases it was not possible to determine elevations of samples with any confidence. In view of these limitations, each sample in the following tables has been assigned to one of four elevation groupings. These groupings (<0 m, 0-200 m, 200-1000 m, and > 1000 m) correspond approximately to physiographic regions in British Columbia. For example, coastal lowlands and the lower reaches of adjacent valleys, in general, are below 200 m in elevation; major interior valleys, low plateaux, and plains are between 200 and 1000 m in elevation; mountains, high plateaux, and high, generally smaller valleys exceed 1000 m in elevation. More detailed elevation control is obviously required for radiocarbon dates bearing on past sea level positions. Fortunately, elevations have been published for most such dates, and these elevations are specified in Table 5. It must be emphasized, however, that even these elevations are approximate, in many cases originally determined from topographic maps rather than by barometric levelling. The elevations of coastal archeological dates are known with least assurance, having been supplied by the British Columbia Archaeological Sites Advisory Board and representing approximate "site", rather than sample, elevations. For this reason, the 'true' elevations of archaeological dates in Table 5 may vary from the cited elevations by up to several metres.

No attempt has been made to change radiocarbon ages to calendar ages because of the questionable appropriateness of doing so and because of uncertainties in available charts relating radiocarbon and calendar age. Readers who wish to correct radiocarbon ages for variations in past atmospheric radiocarbon activity are referred to the calibration charts and tables of Stuiver and Suess (1966), Olsson (1970), Suess (1970), Damon et al. (1972, 1974), Michael and Ralph (1974), and Stuiver (1978). These calibration charts have been prepared by radiocarbon dating large numbers of tree-ring samples of known dendrochronologic age. The accuracy of the radiocarbon method also has been evaluated from dated varve sequences (e.g., Buddemeier, 1969; Stuiver, 1970, 1971; Tauber, 1970; Yang, 1971; Yang and Fairhall, 1972) and by comparison with other radiometric dating techniques (e.g., Peng et al., 1978; Stuiver, 1978). All these studies have shown that the ratio of ^{14}C to ^{12}C in atmospheric CO_2 has undergone significant change in the past, thus radiocarbon ages calculated on the assumption of constancy of this ratio may vary substantially from the 'true' ages of dated materials (Fig. 2).

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Many individuals provided information which has been utilized directly and indirectly in this paper. Among these are D.N. Abbott, N.F. Alley, F.E. Anderson, J.H. Anderson, J.E. Armstrong, P. Billwiller, R.L. Carlson, W. Choquette, N. Condrashoff, N. Crozier, W.R. Danner, J.T. Dewhirst, K.R. Fladmark, D.C. Ford, H.D. Foster, R.J. Fulton, H.G. Gilchrist, G.F. Grabert, E.W. Grove, J.C. Haggarty, C.R. Harington, R.J. Hebda, S.R. Hicock, P.M. Hobler, D.E. Howes, R.I. Inglis, L.M. Lavkulich, S. Lawhead, E. Livingston, G.F. MacDonald, R.W. Mathewes, W.H. Mathews, R.G. Matson, A.D. McMillan, M.M. Miller, D.H. Mitchell, O. Mokievsky-Zubok, G.G. Monks, F.H. Mylrea, H.W. Nasmith, H. Nichols, G.D. Osborn, M.L. Parker, P.B. Read, K.E. Ricker, G.E. Rouse, J.M. Ryder, D. Sanger, P.D.S. Severs, B.O. Simonsen, J.G. Souther, A.H. Stryd, U. Surtees, A. Sutherland Brown, K.W.G. Valentine, J.A. Westgate, and R. Wilmeth.

Marcia Ruby and Sally Topham compiled and verified some of the information used in this paper, and their assistance is gratefully acknowledged.

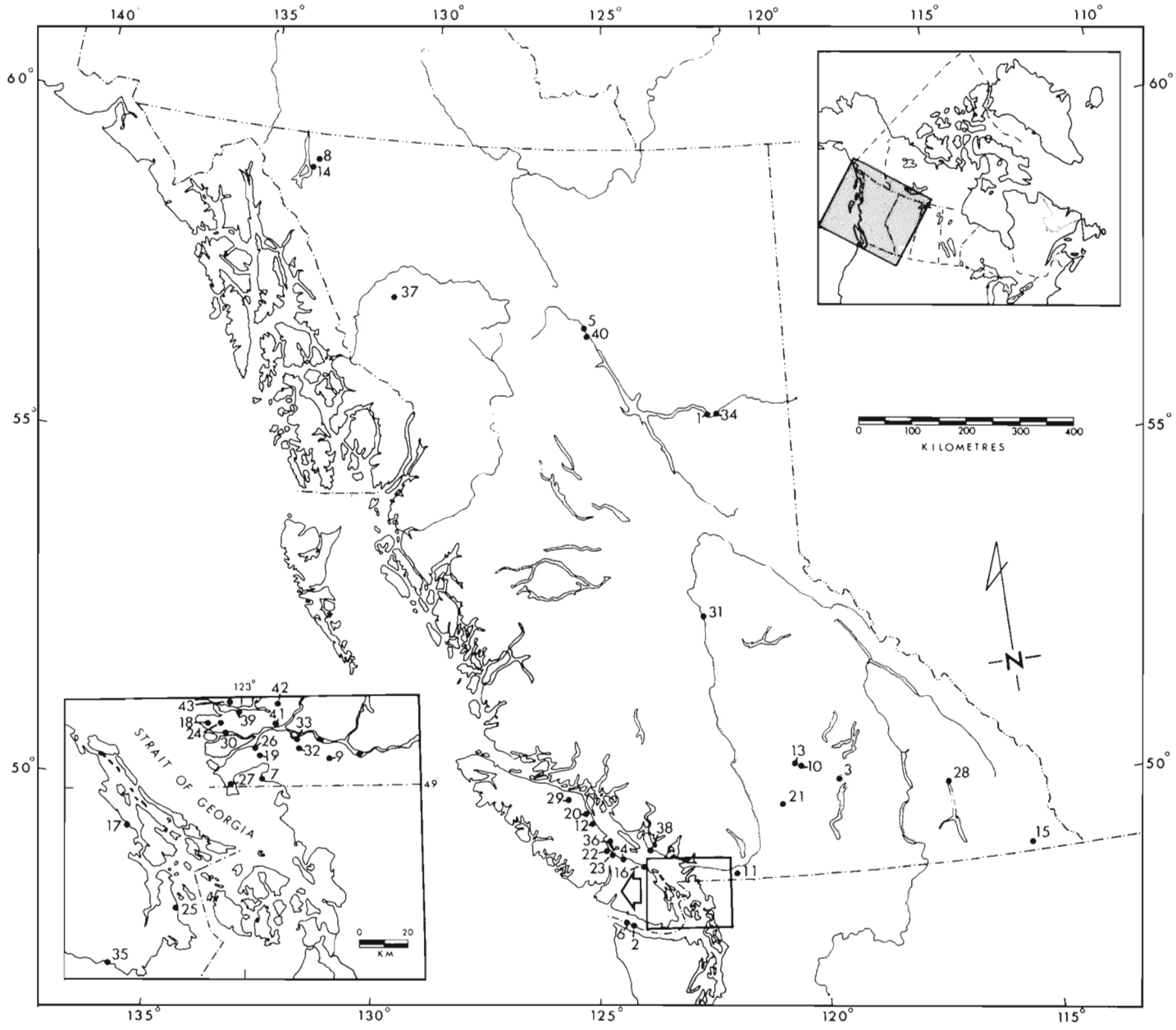

Figure 3. *Distribution of localities containing organic material beyond the range of radiocarbon dating. Numbers refer to dates listed in Table 1.*

Table 1. Dates on organic material beyond the range of radiocarbon dating.

Site, Fig. 3	Laboratory dating no.[a]	Date (yr. B.P.)	Locality	Location lat.	Location long.	Sample elevation grouping[b]	Reference[c]	Collector[d]	Material	Comments
1	I-2244A[e]	>11,600	Rocky Mountain Portage	ca. 56°01'	122°07'	3	99 (p. 17)	LTJ	mammoth tusk (collagen)	Fraser Glaciation kame moraine
2	I-2167	>21,500	Juan de Fuca Strait	48°23.7'	124°21.0'	1	7 (p. 427)	FEA	organic-rich mud	glaciomarine diamicton
3	GSC-479	>22,200	Salmon River	50°26.2'	119°27.5'	3	90 (p. 172)	RJF	charcoal	soil overlain by Kamloops Lake Drift
4	L-221B[f]	>24,000	Dashwood	49°22'	124°31'	2	22 (p. 157)	JGF	peat	Cowichan Head Formation
4	L-221A[g]	>26,000	Dashwood	49°22'	124°31'	2	22 (p. 157)	JGF	wood	Cowichan Head Formation
2	I-2168	>27,400	Juan de Fuca Strait	48°23.7'	124°21.0'	1	7 (p. 427)	FEA	organic-rich mud	overlain by glaciomarine diamicton
5	GSC-1057	>28,000	Finlay River	57°18'	125°27'	3	91 (p. 299)	NWR	wood	overlain by postglacial gravel
6	I-2170	>30,000	Juan de Fuca Strait	48°27.0'	124°28.5'	1	7 (p. 427)	FEA	organic-rich mud	overlain by glaciomarine diamicton
7	GSC-2433	>31,000	Semiahmoo Bay	49°01.6'	122°52.7'	2	89 (p. 9)	SRH	wood	overlain by Quadra Sand
8	AU-59	>31,000	Boulder Creek	59°38'	133°24'	3	120 (p. 11)	JHA,MMM	peat	overlain by two tills
9	GSC-2468	>32,000	Aldergrove	49°06.7'	122°29.8'	2	89 (p. 8)	ECH	wood[h]	overlain by Fort Langley Formation
10	GSC-275	>32,700	Peterson Creek	50°39.8'	120°19.7'	3	57 (p. 109)	RJF	wood	overlain by Kamloops Lake Drift
11	GSC-2230	>34,000	Chilliwack	49°06.3'	121°55.3'	2	92 (p. 14)	JEA	marine shells	overlain by Sumas Drift
12	I(GSC)-5	>35,000	Oyster River	49°53'	125°11'	2	149 (p. 48)	JGF	wood	overlain by two tills
13	GSC-413[i]	>35,500	Mission Flats	50°41.3'	120°26.5'	3	57 (p. 109)	RJF	freshwater shells[j]	overlain by Kamloops Lake Drift
4	L-475B	>35,600	Dashwood	49°22'	124°31'	2	115 (p. 148)	JGF	marine shells	overlain by Cowichan Head Formation
14	AU-114	>36,000	McKee Creek	59°28'	133°34'	3	120 (p. 13)	JHA,MMM	wood	bedrock-till interface
15	GX-2031	>36,000	Elk River	49°09.8'	115°13.4'	3	38 (p. 258)	JJC	wood	overlain by Fraser Glaciation drift
16	GSC-98	>36,200	Icarus Point	49°14.5'	124°00.5'	2	55 (p. 171)	JGF	peat	overlain by Vashon Drift
17	GSC-153	>36,500	Crofton	48°52.5'	123°38.7'	2	55 (p. 171)	ECH	wood	overlain by Vashon Drift
16	GSC-196	>36,650	Icarus Point	49°14.5'	124°00.5'	2	56 (p. 37)	ECH	peat	overlain by Vashon Drift
18	GSC-81	>36,800	Highbury Tunnel	49°15'	123°11'	2	54 (p. 48)	JEA	peat	overlain by Vashon Drift
19	GSC-60	>37,000	East Delta	49°06.7'	122°54.0'	2	54 (p. 47)	JEA	wood	overlain by Vashon Drift
20	GSC-52	>37,200	Campbell River	50°02.7'	125°18.5'	2	53 (p. 19)	JGF	wood	overlain by Vashon Drift
21	GSC-258	>37,200	Merritt	50°04.9'	120°48.2'	3	56 (p. 34)	RJF	freshwater shells[k]	overlain by Kamloops Lake Drift
22	GSC-78	>37,600	Wilfred Creek	49°28.4'	124°50.0'	2	54 (p. 50)	JGF	peat	overlain by Vashon Drift
16	GSC-155	>37,600	Icarus Point	49°14.5'	124°00.5'	2	55 (p. 171)	ECH	peat	overlain by two tills
23	GSC-99	>37,900	Chef Creek	49°27'	124°45'	2	54 (p. 50)	JGF	wood	overlain by Vashon Drift
24	GSC-36	>38,100	Tupper School	49°15'	123°06'	2	54 (p. 48)	JEA	wood	overlain by Vashon Drift
25	GSC-94[l]	>38,400	Cowichan Head	48°34'	123°22'	2	54 (p. 48)	JGF	wood	overlain by Cowichan Head Formation
17	GSC-163[m]	>38,800	Crofton	48°52.5'	123°38.7'	2	55 (p. 171)	ECH	peat	overlain by Vashon Drift
26	GSC-62[n]	>39,000	East Delta	49°09.3'	122°55.6'	2	54 (p. 47)	JEA	wood	overlain by Vashon Drift
4	GSC-2192	>39,000	Dashwood	49°22'	124°32'	2	3 (p. 222)	NFA	wood[o]	Cowichan Head Formation
27	GSC-2603	>39,000	Tsawwassen	49°00.6'	123°04.2'	2	89 (p. 10)	JEA	peat	overlain by Vashon Drift
19	GSC-2627	>39,000	East Delta	49°06.7'	122°54.0'	2	89 (p. 10)	SRH	peat	overlain by Quadra (?) Sand
28	GSC-219	>39,700	Duncan Lake damsite	50°14'	116°58'	3	56 (p. 32)	HWN	peat	overlain by Vashon Drift
29	GSC-30	>40,000	Salmon River	50°15'	125°48'	2	53 (p. 19)	JGF	wood	overlain by Vashon Drift
30	GSC-396	>40,000	Mitchell Island	49°12.2'	123°05.5'	1	57 (p. 111)	WLB	wood	overlain by Vashon Drift
31	GSC-851[p]	>40,000	Quesnel	53°00'	122°31'	3	84 (p. 228)	JEA	wood	till overlying Tertiary sediments
32	GSC-1697	>40,000	Langley	49°08.8'	122°40.0'	2	92 (p. 14)	ECH	wood[q]	overlain by Vashon (?) Drift
33	GSC-2067	>40,000	Langley	49°11.1'	122°40.9'	1	92 (p. 14)	ECH	wood[r]	overlain by Vashon (?) Drift
34	I-2259	>40,000	Peace River	56°00'	122°00'	3	25 (p. 264)	DDC	charcoal	overlain by Fraser Glaciation (?) drift
35	GSC-358	>40,300	Muir Point	48°21.5'	123°44.8'	2	57 (p. 112)	ECH	peat	overlain by Vashon Drift
4	GSC-207[s]	>40,500	Dashwood	49°22'	124°31'	2	56 (p. 37)	JGF	marine shells	overlain by Cowichan Head Formation
5	GSC-841	>41,000	Finlay River	57°18'	125°27'	3	91 (p. 299)	NWR	peat-like material	overlain by Fraser Glaciation (?) drift
36	L-475A	>41,500	Denman Island	49°36'	124°49'	2	115 (p. 147)	JGF	marine shells	overlain by Cowichan Head Formation
25	L-514C	>42,000	Cowichan Head	48°34'	123°22'	2	115 (p. 148)	JGF	wood	overlain by Cowichan Head Formation
37	GSC-771	>43,000	Mt. Edziza	57°41'	130°47'	4	91 (p. 301)	JGS	charred wood	base of 240 m section of basalt
38	GSC-2109	>43,000	Reception Point	49°28.4'	123°53.1'	2	89 (p. 10)	JJC	wood[r]	overlain by Cowichan Head (?) Formation
39	GSC-2228	>43,000	North Burnaby	49°17.5'	122°59.5'	2	92 (p. 15)	SRH	wood[o]	overlain by Vashon (?) Drift
40	GSC-837	>44,000	Finlay River	57°11'	125°20'	3	91 (p. 299)	NWR	wood	overlain by two tills
41	GSC-2091[t]	>44,000	Mary Hill	49°13.8'	122°46.5'	2	15 (p. 100)	JEA	wood[r]	overlain by two glacial sequences
42	GSC-2094[u]	>44,000	Coquitlam Valley	49°18.8'	122°46.8'	2	92 (p. 15)	JEA	wood[o]	overlain by two glacial sequences
17	GSC-163-2[m]	>47,400	Crofton	48°52.5'	123°38.7'	2	57 (p. 111)	ECH	peat	overlain by Quadra (?) Sand
41	GSC-2120[t]	>48,000	Mary Hill	49°13.8'	122°46.5'	2	15 (p. 100)	JEA	wood[r]	overlain by two glacial sequences
36	GSC-277	>49,000	Denman Island	49°35.6'	124°49.3'	2	57 (p. 112)	JGF	marine shells[v]	overlain by Cowichan Head Formation
42	GSC-2094-2[u]	>49,000	Coquitlam Valley	49°18.8'	122°46.8'	2	92 (p. 14)	JEA	wood[o]	overlain by two glacial sequences
26	GSC-2123[n]	>50,000	East Delta	49°09.3'	122°55.6'	2	89 (p. 9)	JEA	wood[r]	Cowichan Head Formation
25	GSC-94-2[l]	>51,000	Cowichan Head	48°34'	123°22'	2	64 (p. 9)	JGF	wood	overlain by Cowichan Head Formation
43	GSC-555	>52,300	Lynn Valley	49°19'	123°03'	2	90 (p. 173)	JEA	wood	overlain by two tills
41	QL-194[t]	>62,000	Mary Hill	49°13.8'	122°46.5'	2	89 (p. 9)	JEA	wood	overlain by two glacial sequences

[a] Laboratories: AU, University of Alaska; GSC, Geological Survey of Canada; GX, Geochron Laboratories; I, Teledyne Isotopes; L, Lamont; QL, Quaternary Isotope Laboratory.

[b] 1, <0 m; 2, 0-200 m (coastal lowlands and lower reaches of adjacent valleys); 3, 200-1000 m (most valleys and bordering plateaux and plains); 4, >1000 m (mountains, high valleys, and bordering plateaux).

[c] Non-bracketed numbers correspond to numbered citations in reference list.

[d] NFA, N.F. Alley; FEA, F.E. Anderson; JHA, J.H. Anderson; JEA, J.E. Armstrong; WLB, W.L. Brown; DDC, D.D. Campbell; JJC, J.J. Clague; RJF, R.J. Fulton; JGF, J.G. Fyles; ECH, E.C. Halstead; SRH, S.R. Hicock; LTJ, L.T. Jory; MMM, M.M. Miller; HWN, H.W. Nasmith; NWR, N.W. Rutter; JGS, J.G. Souther.

[e] Sample recently has been re-dated at 25,800±320 yr. B.P. (GSC-2859; W.H. Mathews, personal communication, 1979). A date of 7670±170 yr. B.P. (I-2244), reported earlier for the same tusk (Buckley *et al.*, 1968, p. 263) is based on analysis of its carbonate fraction and is believed to have been contaminated by young carbonates from circulating groundwater (Mathews, 1978, p. 17). I-2244A has been incorrectly cited as 11,600±1000 yr. B.P. (e.g., Bryan, 1969, p.340; Rutter, 1976, p. 431-433, 1977, p. 19-21).

[f] Superseded by L-221B (lignin), 23,450±300 yr. B.P.; L-221B (cellulose), 25,050±300 yr. B.P.; OWU-71, 23,382±400 yr. B.P. (see Table 2).

[g] Superseded by L-221A (lignin), 25,850±500 yr. B.P.; L-221A (cellulose), 25,900±300 yr. B.P.; GSC-14, 26,000±600 yr. B.P. (see Table 2).

[h] *Picea* sp. and possibly *Pseudotsuga menziesii*.

[i] The following determinations were made: outer fraction (10-55% leach, one 1-day count), >35,500 yr. B.P.; inner fraction (56-100% leach, one 3-day count), >34,400 yr. B.P.

[j] *Margaritifera margaritifera, Anodonta nuttalliana*.

[k] *Anodonta* sp.

[l] GSC-94-2 (>51,000 yr. B.P.) supersedes GSC-94 (>38,400 yr. B.P.).

[m] GSC-163-2 (>47,400 yr. B.P.) supersedes GSC-163 (>38,800 yr. B.P.).

[n] GSC-62 (>39,000 yr. B.P.), GSC-2123 (>50,000 yr. B.P.), and QL-195 (58,800+2900-2100 yr. B.P., Table 2) are from the same stratum.

[o] *Picea* sp.

[p] Dated sample possibly reworked from Tertiary sediments.

[q] *Pinus contorta* or *Pinus ponderosa*.

[r] *Abies* sp.

[s] The following determinations were made: outer fraction (0-20% leach, 2L counter), 37,100+1500-1300 yr. B.P.; inner fraction (21-100% leach, 2L counter), >37,400 yr. B.P.; inner fraction (21-100% leach, 5L counter), >40,500 yr. B.P.

[t] GSC-2091 (>44,000 yr. B.P.), GSC-2120 (>48,000 yr. B.P.), and QL-194 (>62,000 yr. B.P.) are from the same stratum. GSC-2120 supersedes GSC-2091.

[u] GSC-2094-2 (>49,000 yr. B.P.) supersedes GSC-2094 (>44,000 yr. B.P.).

[v] *Balanus evermanni*.

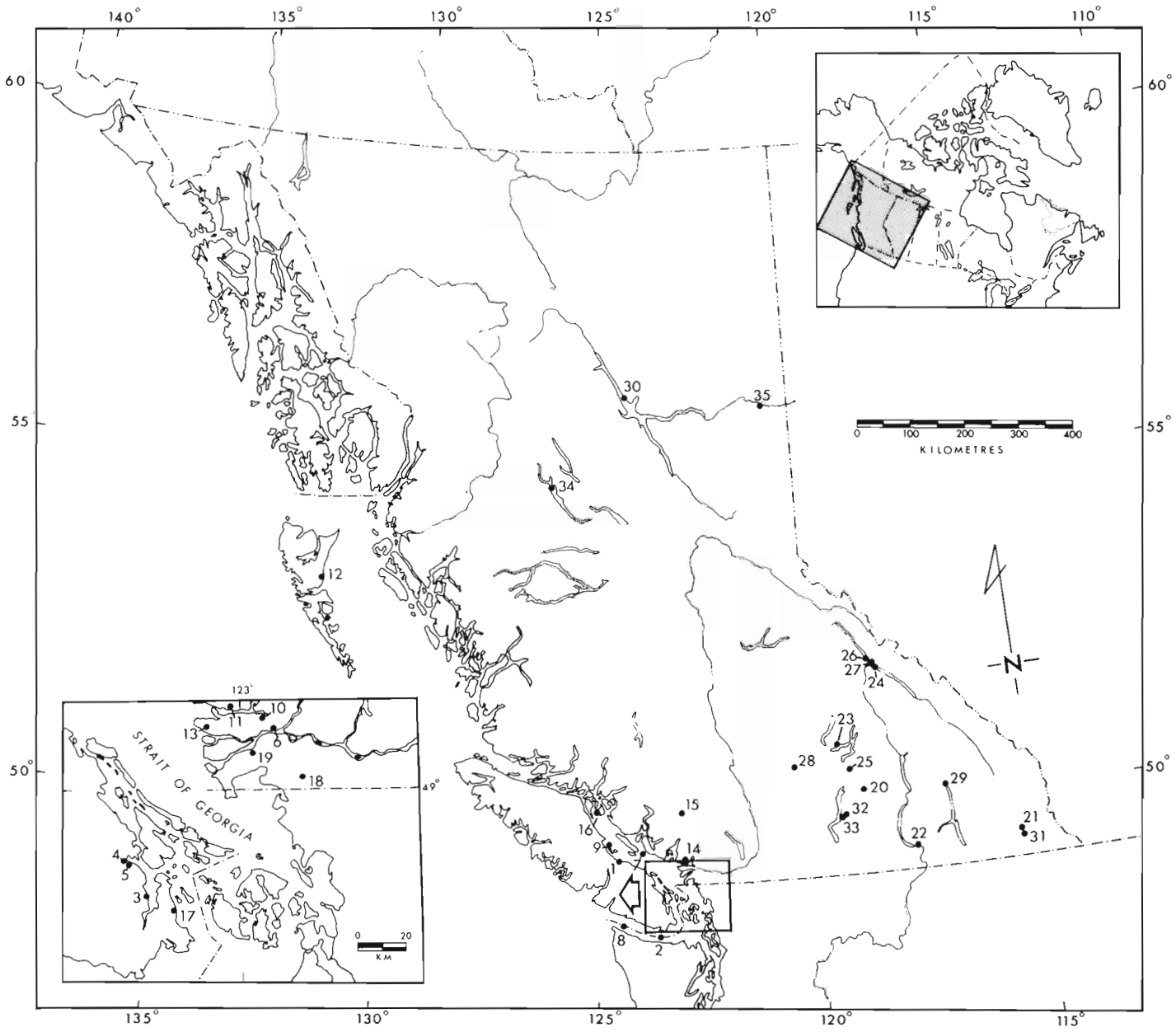

Figure 4. *Distribution of radiocarbon dates pertaining to the Olympia nonglacial interval. Numbers refer to dates listed in Table 2.*

Table 2. Radiocarbon dates pertaining to the Olympia nonglacial interval.

Site, Fig. 4	Laboratory dating no.[a]	Date (yr. B.P.)	Locality	Location Lat.	Location Long.	Sample elevation grouping[b]	Reference[c]	Collector[d]	Material	Dated sediments
Western System										
1	OWU-71[e]	23,382±400	Dashwood	49°22'	124°31'	2	113 (p. 341)	JGF	peat	Cowichan Head Formation
1	L-221B[e]	23,450±300	Dashwood	49°22'	124°31'	2	114 (p. 10)	JGF	peat (cellulose)	Cowichan Head Formation
2	no number	23,600±2100 1500	Juan de Fuca Strait	48°14.0'	123°36.5'	1	7 (p. 427)	FEA	organic-rich mud	overlain by glaciomarine diamicton
3	GSC-518	23,940±300	Mill Bay	48°37'	123°31'	2	90 (p. 173)	ECH	wood	Cowichan Head Formation
4	GSC-318	24,060±300	Koksilah River	48°45.4'	123°40.2'	2	57 (p. 111)	ECH	peat	Cowichan Head Formation
4	GSC-385	24,380±350	Koksilah River	48°45.4'	123°40.2'	2	57 (p. 111)	ECH	peat	Cowichan Head Formation
5	I-1225	24,560±800	Cowichan Bay	48°45'	123°38'	2	61 (p. 7)	ECH	wood	Cowichan Head Formation
1	L-221B[e]	25,050±300	Dashwood	49°22'	124°31'	2	114 (p. 10)	JGF	peat$_f$(lignin)	Cowichan Head Formation
6	GSC-2273	25,800±310	Mary Hill	49°13.9'	122°46.8'	2	13 (p. 1478)	JVM	wood[f]	Cowichan Head Formation
1	L-221A[g]	25,850±500	Dashwood	49°22'	124°31'	2	114 (p. 10)	JGF	wood (lignin)	Cowichan Head Formation
1	L-221A[g]	25,900±300	Dashwood	49°22'	124°31'	2	114 (p. 10)	JGF	wood$_f$(cellulose)	Cowichan Head Formation
6	GSC-2277	26,000±310	Mary Hill	49°13.9'	122°46.8'	2	13 (p. 1478)	SRH	wood[f]	Cowichan Head Formation
1	GSC-149[g]	26,000±600	Dashwood	49°22'	124°31'	2	53 (p. 15)	JGF	wood	Cowichan Head Formation
6	GSC-2191	26,200±320	Mary Hill	49°13.9'	122°46.8'	2	13 (p. 1478)	SRH	wood	Cowichan Head Formation
6	GSC-124	26,450±520	Mary Hill	49°14'	122°47'	2	55 (p. 171)	JEA	peaty silt	Cowichan Head Formation
6	GSC-2217	26,900±320	Mary Hill	49°13.9'	122°46.7'	2	13 (p. 1478)	SRH	wood[h]	Cowichan Head Formation
6	GSC-2263	27,000±490	Mary Hill	49°13.9'	122°46.9'	2	13 (p. 1478)	SRH	wood[f]	Cowichan Head Formation
6	GSC-536	27,180±460	Mary Hill	49°14'	122°47'	2	90 (p. 173)	JEA	wood	Cowichan Head Formation
6	GSC-2107	27,400±420	Mary Hill	49°13.8'	122°46.5'	2	13 (p. 1478)	JEA	wood[f]	Cowichan Head Formation
6	GSC-2349	27,500±360	Mary Hill	49°14.0'	122°46.9'	2	13 (p. 1478)	JEA	wood	Cowichan Head Formation

Table 2 (cont.)

Site, Fig. 4	Laboratory dating no.[a]	Date (yr. B.P.)	Locality	Location lat.	Location long.	Sample elevation grouping[b]	Reference[c]	Collector[d]	Material	Dated sediments
1	GSC-263	27,670±410	Dashwood	49°22'	124°31'	2	56 (p. 37)	JGF	peat	Cowichan Head Formation
7	GSC-232	27,960±420	North Thormanby Island	49°29.7'	123°59.5'	2	56 (p. 37)	RJM	wood[e]	Cowichan Head Formation or Quadra Sand
6	GSC-2139	28,200±200	Mary Hill	49°13.8'	122°46.5'	2	13 (p. 1478)	JEA	wood[f]	Cowichan Head Formation
6	GSC-2390	28,400±580	Mary Hill	49°14.0'	122°46.8'	2	13 (p. 1478)	SRH	wood[i]	Cowichan Head Formation
8	I-2171	28,700 +2700 −2000	Juan de Fuca Strait	48°27.0'	124°28.5	1	7 (p. 427)	FEA	organic-rich mud	overlain by glaciomarine diamicton
1	I-8448	29,010±920	Dashwood	49°22'	124°32'	2	3 (p. 222)	NFA	wood	Cowichan Head Formation
9	L-424C	29,300±1400	Denman Island	49°36'	124°49'	2	114 (p. 10)	JGF	wood	Cowichan Head Formation
6	GSC-2140	29,600±200	Mary Hill	49°13.8'	122°46.5'	2	13 (p. 1478)	JEA	sapropel	Cowichan Head Formation
9	L-424E[j]	30,000±1200	Denman Island	49°36'	124°49'	2	114 (p. 11)	JGF	wood	Cowichan Head Formation
9	L-424B[j]	30,200±1300	Denman Island	49°36'	124°49'	2	114 (p. 10)	JGF	peat	Cowichan Head Formation
10	GSC-2533	31,000±520	Port Moody	49°16.3'	122°50.3'	2	89 (p. 9)	JEA	peat	Cowichan Head Formation
1	I-9333	31,420±1130	Dashwood	49°22'	124°32'	2	3 (p. 222)	NFA	wood	Cowichan Head Formation
11	I(GSC)-214	32,200±3300	Lynn Valley	49°19'	123°03'	2	145 (p. 35)	JEA	peat	Cowichan Head Formation
12	GaK-3273	32,200 +2600 −1900	Lawn Point	53°25.8'	131°55.0'	2	60 (p. 11)	JH,KW,KF	wood	base of Fraser Glaciation till
13	GSC-221[k]	32,580±720	Highbury Tunnel	49°15'	123°11'	2	56 (p. 35)	JEA	wood	Cowichan Head Formation
1	GSC-2050	32,600±550	Dashwood	49°22'	124°32'	2	13 (p. 1478)	RJF,NFA	wood[l]	Cowichan Head Formation
1	GSC-2314	32,600±600	Dashwood	49°22'	124°32'	2	3 (p. 222)	NFA	wood[m]	Cowichan Head Formation
14	GSC-93[n]	33,200 +2300 −1800	Lynn Valley	49°21'	123°02'	2	54 (p. 48)	JEA	wood	Cowichan Head Formation
15	GSC-2169	34,200±800	Garibaldi	50°04.3'	123°05.7'	3	66 (p. 11)	JAR	carbonaceous material	silt between two basalt flows
16	GSC-202[o]	35,400±400	Marina Island	50°05'	125°02'	2	56 (p. 26)	JGF	wood[p]	Cowichan Head Formation
16	L-455B[o]	35,400±2200	Marina Island	50°05'	125°02'	2	115 (p. 147)	JGF	wood[p]	Cowichan Head Formation
17	GSC-200	35,600 +3000 −2200	Cowichan Head	48°34'	123°22'	2	56 (p. 36)	JGF	soil	Cowichan Head Formation
14	GSC-93[n]	36,200±500	Lynn Valley	49°21'	123°02'	2	56 (p. 26)	JEA	wood	Cowichan Head Formation
16	GSC-202[o]	36,500 +2400 −1900	Marina Island	50°05'	125°02'	2	56 (p. 26)	JGF	wood[p]	Cowichan Head Formation
6	GSC-2137[q]	40,200±400	Mary Hill	49°13.8'	122°46.5'	2	13 (p. 1478)	JEA	wood[f]	Cowichan Head Formation
18	GSC-1594	40,400±1900	Langley	49°03'	122°38'	2	86 (p. 26)	ECH,RJF	organic-rich mud	gravel lens in till
6	GSC-2167	40,500±1700	Mary Hill	49°13.9'	122°46.9'	2	13 (p. 1478)	SRH	wood[r]	Cowichan Head Formation
19	QL-195[s]	58,800 +2900 −2100	East Delta	49°09.3'	122°55.6'	2	41 (p. 15)	JEA	wood	Cowichan Head Formation
Interior System										
20	GSC-913	19,100±240	Bessette Creek	50°17.9'	118°51.8	3	85 (p. 72)	GWS	plant detritus	Bessette Sediments
21	GX-2033	19,100±850	Jaffray	49°23.4'	115°18.3'	3	38 (p. 258)	JJC	peat	Fraser outwash; peat from older unit
22	GSC-1188	19,900±230	Balfour Creek	49°21.0'	117°44.8'	3	91 (p. 293)	RJF	charcoal	Bessette Sediments
23	GSC-194	20,230±270	Shuswap Lake	50°56.2'	119°24.2'	3	56 (p. 33)	RJF	wood	Bessette Sediments
24	GSC-173	21,500±300	Boat Encampment	52°06'	118°23'	3	56 (p. 32)	HWN	wood	Bessette Sediments
25	GSC-477	21,630±870	Gardom Lake	50°37.5'	119°11.8'	3	90 (p. 172)	GWS	wood	Bessette Sediments
26	GSC-1258	21,700±240	Canoe Valley	52°11.7'	118°27.4'	3	91 (p. 294)	RAA	wood	Bessette Sediments
27	I-773	22,900±1500	Wood River	52°07'	118°24'	3	57 (p. 175)	FHM	wood	Bessette Sediments
28	GSC-79-2[t]	24,200±290	Mission Flats	50°41.3'	120°26.5'	3	90 (p. 172)	RJF	freshwater shells[u]	Bessette Sediments
28	GSC-79[t]	25,200±460	Mission Flats	50°41.3'	120°26.5'	3	54 (p. 46)	RJF	freshwater shells[u]	Bessette Sediments
20	GSC-1953	25,300±320	Bessette Creek	50°17.9'	118°51.8'	3	151 (Table 2)	RJF	wood	Bessette Sediments
20	GSC-1495	25,400±270	Bessette Creek	50°17.9'	118°51.8'	3	151 (Table 2)	RJF	detrital peat	Bessette Sediments
27	GSC-1802	25,800±310	Columbia River Valley	52°07'	118°24'	3	65 (p. 973)	RJF	wood	Bessette Sediments
29	GSC-715	25,840±320	Meadow Creek	50°15.1'	116°59.0'	3	84 (p. 225)	RJF	wood	Bessette Sediments
30	GSC-573	25,940±380	Finlay River	56°18'	124°21'	3	91 (p. 298)	JGF	plant material	Bessette Sediments
31	GX-2032	26,800 +1200 −1000	Sand Creek	49°21.4'	115°17.1'	3	38 (p. 258)	JJC	wood	Olympia nonglacial sediments
32	GSC-563	30,180±530	Black Mountain	49°54.8'	119°20.5'	3	85 (p. 73)	EL	wood	Bessette Sediments
33	GSC-1005	30,700±1090	Rutland	49°53.5'	119°24.5'	3	85 (p. 73)	EL	wood	Bessette Sediments
20	GSC-1938	31,100±480	Bessette Creek	50°17.9'	118°51.8'	3	151 (Table 2)	RJF	detrital peat	Bessette Sediments
20	GSC-2031	31,200±900	Bessette Creek	50°17.9'	118°51.8'	3	151 (Table 2)	RJF	wood	Bessette Sediments
29	GSC-493	32,710±800	Meadow Creek	50°15.1'	116°59.0'	3	84 (p. 224)	RJF	wood	Bessette Sediments
22	GSC-1008	33,000±280	Balfour Creek	49°21.0'	117°44.8'	3	85 (p. 70)	RJF	charcoal	Bessette Sediments
29	GSC-542[v]	33,700±300	Meadow Creek	50°15.1'	116°59.0'	3	84 (p. 224)	RJF	wood	Bessette Sediments
34	GSC-1754	34,000±690	Babine Lake	55°00'	126°14'	3	70 (p. 287)	HWT	mammoth bone (collagen)	Olympia nonglacial sediments
29	GSC-1017[w]	41,500±520	Meadow Creek	50°15.1'	116°59.0'	3	85 (p. 70)	RJF	peat	Bessette Sediments
29	GSC-716[x]	41,800±600	Meadow Creek	50°15.1'	116°59.0'	3	84 (p. 224)	RJF	wood	Bessette Sediments
29	GSC-733	41,900±600	Meadow Creek	50°15.1'	116°59.0'	3	84 (p. 224)	RJF	wood	Bessette Sediments
29	GSC-1015	42,300±650	Meadow Creek	50°15.1'	116°59.0'	3	85 (p. 70)	RJF	wood, moss	Bessette Sediments
29	GSC-720	42,300±700	Meadow Creek	50°15.1'	116°59.0'	3	84 (p. 224)	RJF	peat[f]	Bessette Sediments
34	GSC-1657	42,900±1860	Babine Lake	55°00'	126°14'	3	70 (p. 287)	HWT	wood[f]	Olympia nonglacial sediments
29	GSC-740-2[y]	43,000±600	Meadow Creek	50°15.1'	116°59.0'	3	91 (p. 293)	RJF	wood	Bessette Sediments
29	GSC-1017-2[w]	43,600±700	Meadow Creek	50°15.1'	116°59.0'	3	91 (p. 293)	RJF	peat	Bessette Sediments
29	GSC-740	43,800±800	Meadow Creek	50°15.1'	116°59.0'	3	84 (p. 224)	RJF	wood[h]	Bessette Sediments
34	GSC-1687	43,800±1830	Babine Lake	55°00'	126°14'	3	70 (p. 287)	HWT	wood[h]	Olympia nonglacial sediments
Interior Plains										
35	GSC-2034	27,400±580	Taylor	56°09'	120°42'	3	99 (p. 17)	CRH	mammoth tooth	gravel beneath postglacial terrace

[a] Laboratories: GaK, Gakushuin University; GSC, Geological Survey of Canada; GX, Geochron Laboratories; I, Teledyne Isotopes; L, Lamont; OWU, Ohio Wesleyan Associated Universities; QL, Quaternary Isotope Laboratory.

[b] 1, <0 m; 2, 0-200 m (coastal lowlands and lower reaches of adjacent valleys); 3, 200-1000 m (most valleys and bordering plateaux and plains). No dated samples from >1000 m (mountains, high valleys, and bordering plateaux).

[c] Non-bracketed numbers correspond to numbered citations in reference list.

[d] RAA, R.A. Achard; NFA, N.F. Alley; FEA, F.E. Anderson; JEA, J.E. Armstrong; JJC, J.J. Clague; KF, K. Fladmark; RJF, R.J. Fulton; JGF, J.G. Fyles; ECH, E.C. Halstead; CRH, C.R. Harington; SRH, S.R. Hicock; JH, J. Hunston; EL, E. Livingston; JVM, J.V. Matthews, Jr.; RJM, R.J. Mott; FHM, F.H. Mylrea; HWN, H.W. Nasmith; JAR, J.A. Roddick; GWS, G.W. Smith; HWT, H.W. Tipper; KW, K. Wildfong.

[e] Supersedes L-221B (>24,000 yr. B.P., see Table 1). Peat sample was moldy. A fresh sample from the same locality dated 27,670±410 yr. B.P. (GSC-263).

[f] *Picea* sp.

[g] Supersedes L-221A (>26,000 yr. B.P., see Table 1).

[h] *Abies* sp.

[i] *Betula* sp.?

[j] The following determinations were made: residue after humic-acid removal, 30,200±1300 yr. B.P.; humic acid, 32,300±1800 yr. B.P.

[k] Sample contained modern plant material. Date should be considered a minimum.

[l] *Pseudotsuga menziesii*.

[m] *Populus* sp.

[n] GSC-93 (36,200±500 yr. B.P.) supersedes GSC-93 (33,200+2300-1800 yr. B.P.).

[o] GSC-202 (35,400±400 yr. B.P.) supersedes GSC-202 (36,500+2400-1900 yr. B.P.). GSC-202 and L-455B (35,400±2200 yr. B.P.) are dates on the same sample.

[p] *Pinus* sp.

[q] Incorrectly cited as 40,200±430 yr. B.P. by Armstrong and Clague (1977, p. 1478).

[r] *Tsuga heterophylla*.

[s] Other samples from the same stratum yielded dates of >39,000 yr. B.P. (GSC-62) and >50,000 yr. B.P. (GSC-2123) (see Table 1).

[t] Date is anomalously young in comparison to GSC-413 (>35,500 yr. B.P., see Table 1), stratigraphically higher in the same exposure. Contamination by modern carbon is probable for GSC-79 and GSC-79-2.

[u] *Margaratifera margaratifera* var. *falcata*, *Anodonta nuttalliana*.

[v] The following determinations were made: one 1-day count in 2L counter, 35,700±1500 yr. B.P.; three 1-day counts in 5L counter, 33,700±300 yr. B.P.

[w] GSC-1017 (41,500±520 yr. B.P.) considered to be anomalously young. Superseded by GSC-1017-2 (43,600±700 yr. B.P.).

[x] The following determinations were made: one 1-day count in 2L counter, >36,000 yr. B.P.; one 3-day count and one 1-day count in 5L counter, 41,800±600 yr. B.P.

[y] Re-run of GSC-740 (43,800±800 yr. B.P.).

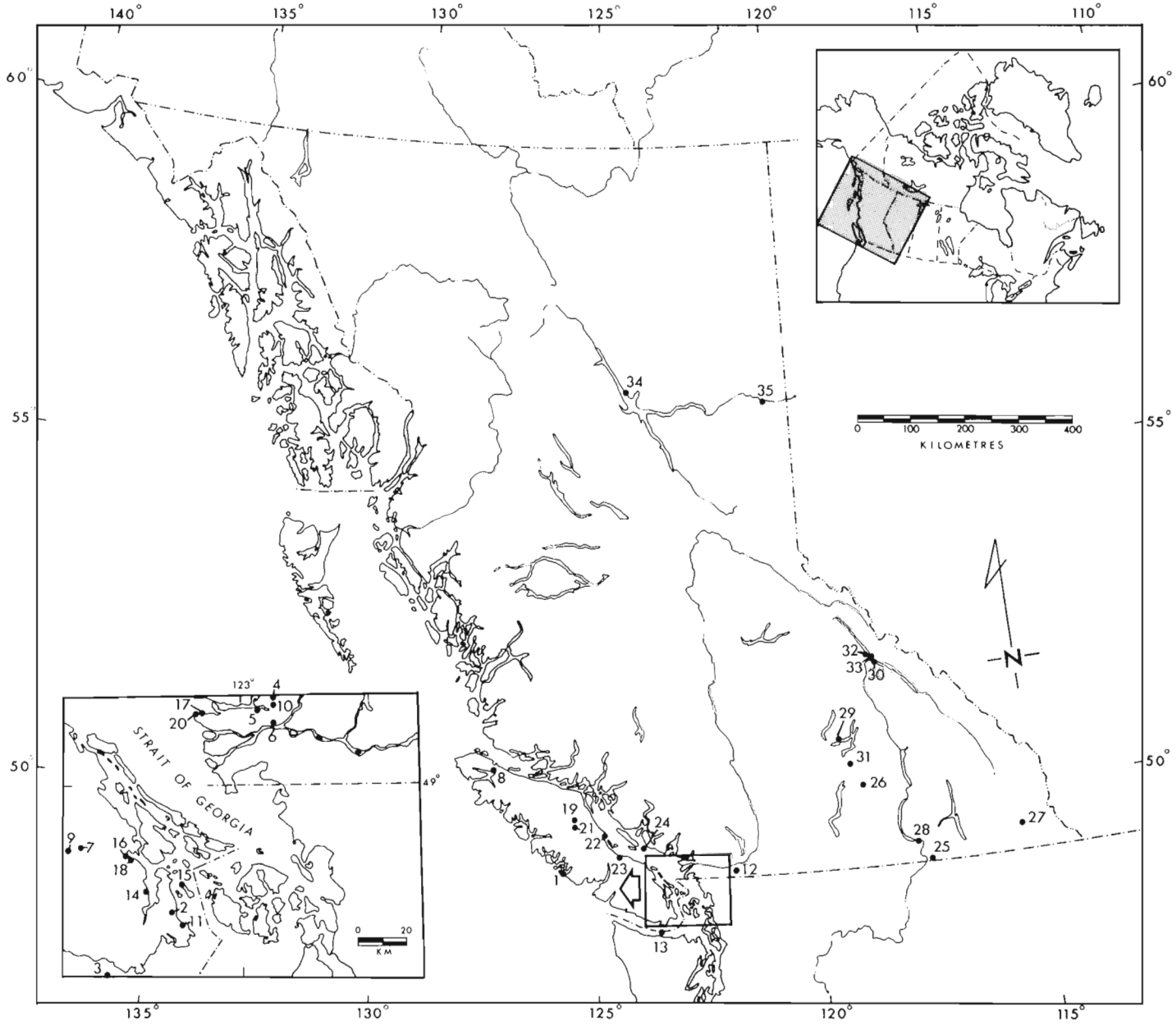

Figure 5. *Distribution of radiocarbon dates pertaining to the advance phase of the Fraser Glaciation. Numbers refer to dates listed in Table 3.*

Table 3. Radiocarbon dates pertaining to the advance phase of the Fraser Glaciation.

Site, Fig. 5	Laboratory dating no.[a]	Date (yr. B.P.)	Locality	Location lat.	Location long.	Sample elevation grouping[b]	Reference[c]	Collector[d]	Material	Significance[e]
Western System										
1	GSC-2768	16,700±150	Tofino	49°05.5'	125°50.8'	2	43	JJC	wood[f]	Vashon maximum
2	GSC-2829	17,000±240	Saanich Peninsula	48°31.9'	123°22.8'	2	77 (p. 20)	GRK	mammoth bone (collagen)	Vashon maximum
3	no number	$17,250^{+2600}_{-1900}$	Juan de Fuca Strait	48°17.8'	123°43.4'	1	7 (p. 427)	FEA	organic-rich mud	Vashon maximum
4	GSC-2297	17,800±150	Coquitlam Valley	49°20.2'	122°46.7'	3	92 (p. 15)	SRH	wood[g]	Vashon maximum, Coquitlam minimum
4	GSC-2371	18,000±150	Coquitlam Valley	49°20.2'	122°46.7'	3	89 (p. 8)	SRH	wood[g]	Vashon maximum, Coquitlam minimum
5	GSC-2322	18,300±170	Port Moody	49°17.2'	122°52.7'	2	89 (p. 8)	JEA	wood[g]	Vashon maximum, Coquitlam minimum, Quadra Sand
6	GSC-2194	18,600±190	Mary Hill	49°14.0'	122°47.0'	2	41 (p. 15)	JEA	wood[h]	Vashon maximum, Coquitlam minimum, Quadra Sand
6	GSC-2344	18,700±170	Mary Hill	49°14.0'	122°47.0'	2	11 (Fig. 1)	JEA	wood[i]	Vashon maximum, Coquitlam minimum, Quadra Sand
7	GSC-210	19,150±250	Marie Canyon	48°46.7'	123°53.6'	2	56 (p. 36)	ECH	organic silt	Fraser maximum
8	GSC-2505	20,600±330	Holberg Inlet	50°36.5'	127°27.5'	1	43	WHM	marine shells	Fraser maximum
9	GSC-2609	20,800±240	Skutz Falls	48°46.6'	123°56.9'	2	89 (p. 11)	SRH	wood[g]	Fraser maximum
9	GSC-195	21,070±290	Skutz Falls	48°46.5'	123°56.8'	2	56 (p. 36)	ECH	wood[j]	Fraser maximum
10	GSC-2536	21,500±240	Coquitlam Valley	49°18.7'	122°46.8'	2	89 (p. 8)	JEA	wood[j]	Coquitlam advance
4	GSC-2203	21,600±200	Coquitlam Valley	49°19.8'	122°46.6'	2	92 (p. 15)	JEA	wood[h]	Coquitlam maximum, Quadra Sand
4	GSC-2416	21,700±130	Coquitlam Valley	49°19.8'	122°46.6'	2	89 (p. 8)	SRH	wood[g]	Coquitlam maximum, Quadra Sand
4	GSC-2335	21,700±240	Coquitlam Valley	49°19.8'	122°46.6'	3	89 (p. 8)	SRH	wood[g]	Coquitlam maximum, Quadra Sand
7	GSC-317	21,730±230	Marie Canyon	48°46.7'	123°53.6'	2	57 (p. 111)	ECH	wood	Fraser maximum
11	GSC-84[k]	22,600±300	Cordova Bay	48°29.7'	123°19.2'	2	54 (p. 50)	JGF	plant fibres	Fraser maximum
12	GSC-2232	22,700±320	Chilliwack	49°06.3'	121°55.3'	?	11 (p. 11)	ECH	mammoth tusk (collagen)	Fraser maximum
13	no number	$23,600^{+2100}_{-1500}$	Juan de Fuca Strait	48°14.0'	123°36.5'	1	7 (p. 427)	FEA	organic-rich mud	Fraser maximum
14	GSC-518	23,840±300	Mill Bay	48°37'	123°31'	2	90 (p. 173)	ECH	wood	Fraser maximum
15	GSC-59	23,920±420	Sidney Island	48°38.7'	123°19.7'	2	54 (p. 51)	JGF	wood	Fraser maximum, Quadra Sand
16	GSC-316	24,060±300	Koksilah River	48°45.4'	123°40.2'	2	57 (p. 111)	ECH	peat	Fraser maximum
16	GSC-365	24,380±350	Koksilah River	48°45.4'	123°40.2'	2	57 (p. 111)	ECH	peat	Fraser maximum
17	L-502	24,400±900	Spanish Banks	49°17'	123°13'	2	115 (p. 148)	JEA	wood	Fraser maximum, Quadra Sand
17	GSC-108	24,500±500	Spanish Banks	49°17'	123°13'	2	54 (p. 47)	JEA	wood	Fraser maximum, Quadra Sand
18	I-1225	24,560±800	Cowichan Bay	48°45'	123°38'	2	61 (p. 7)	ECH	wood	Fraser maximum
19	GSC-58	25,000±400	Upper Campbell Lake	49°56.8'	125°35.8'	3	54 (p. 48)	JGF	wood	Fraser maximum
20	GSC-109	25,100±600	Point Grey	49°16'	123°15'	2	54 (p. 48)	JEA	peat	Fraser maximum, Quadra Sand
21	GSC-96	25,190±470	Buttle Lake	49°51.1'	125°37.3'	3	54 (p. 49)	JGF	wood[g]	Fraser maximum
6	GSC-2273	25,800±310	Mary Hill	49°13.9'	122°46.8'	2	13 (p. 1478)	JVM	wood[h]	Coquitlam maximum
Older Quadra Sand Dates										
20	GSC-1635	26,100±320	Point Grey	49°15.9'	123°15.8'	2	86 (p. 27)	WRD	wood[l]	Quadra Sand
22	GSC-53	26,100±400	Willemar Bluff	49°40.2'	124°53.8'	2	54 (p. 49)	JGF	wood	Quadra Sand
23	I-9332	27,160±790	Dashwood	49°22'	124°32'	2	3 (p. 222)	NFA	wood	Quadra Sand
24	GSC-232	27,960±420	North Thormanby Island	49°29.7'	123°59.5'	2	56 (p. 37)	RJM	wood	Quadra Sand or Cowichan Head Formation
22	GSC-95	28,800±740	Willemar Bluff	49°40.2'	124°53.8'	2	54 (p. 49)	JGF	wood	Quadra Sand
Interior System										
25	I-10022	17,240±330	Pend Oreille Valley	49°01.7'	117°30.2'	3	43	PB	wood[h]	Fraser maximum
25	I-10021	17,440±330	Pend Oreille Valley	49°01.7'	117°30.2'	3	43	PB	wood[h]	Fraser maximum
26	GSC-913	19,100±240	Bessette Creek	50°17.9'	118°51.8'	3	85 (p. 72)	GWS	plant detritus	Fraser maximum
27	GX-2033	19,100±850	Jaffray	49°23.4'	115°18.3'	3	38 (p. 258)	JJC	peat	Fraser maximum
28	GSC-1188	19,900±230	Balfour Creek	49°21.0'	117°44.8'	3	91 (p. 293)	RJF	charcoal	Fraser maximum
29	GSC-194	20,230±270	Shuswap Lake	50°56.2'	119°24.2'	3	56 (p. 33)	RJF	wood	Fraser maximum
30	GSC-173	21,500±300	Boat Encampment	52°06'	118°23'	3	56 (p. 32)	HWN	wood	Fraser maximum
31	GSC-477	21,630±870	Gardom Lake	50°37.5'	119°11.8'	3	90 (p. 172)	GWS	wood	Fraser maximum
32	GSC-1258	21,700±240	Canoe Valley	52°11.7'	118°27.4'	3	91 (p. 294)	RAA	wood	Fraser maximum
33	I-773	22,900±1500	Wood River	52°07'	118°24'	3	57 (p. 175)	FHM	wood	Fraser maximum
34	GSC-573[m]	25,940±380	Finlay River	56°18'	124°21'	3	91 (p. 293)	JGF	plant material	Fraser maximum
Interior Plains										
35	GSC-2034[m]	27,400±580	Taylor	56°09'	120°42'	3	99 (p. 17)	CRH	mammoth tooth	Fraser maximum

[a] Laboratories: GSC, Geological Survey of Canada; GX, Geochron Laboratories; I, Teledyne Isotopes; L, Lamont.

[b] 1, <0 m; 2, 0-200 m (coastal lowlands and lower reaches of adjacent valleys); 3, 200-1000 m (most valleys and bordering plateaux and plains). No dated samples from >1000 m (mountains, high valleys, and bordering plateaux).

[c] Non-bracketed numbers correspond to numbered citations in reference list.

[d] RAA, R.A. Achard; NFA, N.F. Alley; FEA, F.E. Anderson; JEA, J.E. Armstrong; PB, P. Billwiller; JJC, J.J. Clague; WRD, W.R. Danner; RJF, R.J. Fulton; JGF, J.G. Fyles; ECH, E.C. Halstead; CRH, C.R. Harington; SRH, S.R. Hicock; GRK, G.R. Keddie; WHM, W.H. Mathews; JVM, J.V. Matthews, Jr.; RJM, R.J. Mott; FHM, F.H. Mylrea; HWN, H.W. Nasmith; GWS, G.W. Smith.

[e] "Maximum" and "minimum" refer to times at which glacier ice occupied the locality.

[f] *Pinus contorta*.

[g] *Abies* sp.

[h] *Picea* sp.

[i] *Taxus brevifolia*.

[j] *Thuja plicata*.

[k] Dated material is from organic silt and fine sand, apparently deposited in a marine environment (Alley, 1979, p. 225). These sediments are overlain by glaciofluvial sand. Both units are assigned to the Fraser Glaciation (e.g., Clague, 1976, 1977; Alley, 1979, his Fig. 4).

[l] *Salix* sp.

[m] Date may not closely define the time of the Fraser Glaciation ice advance in this area (i.e., glacier occupation of the region probably occurred several thousand years later). The date is included in this table because no other limiting dates are available for this region.

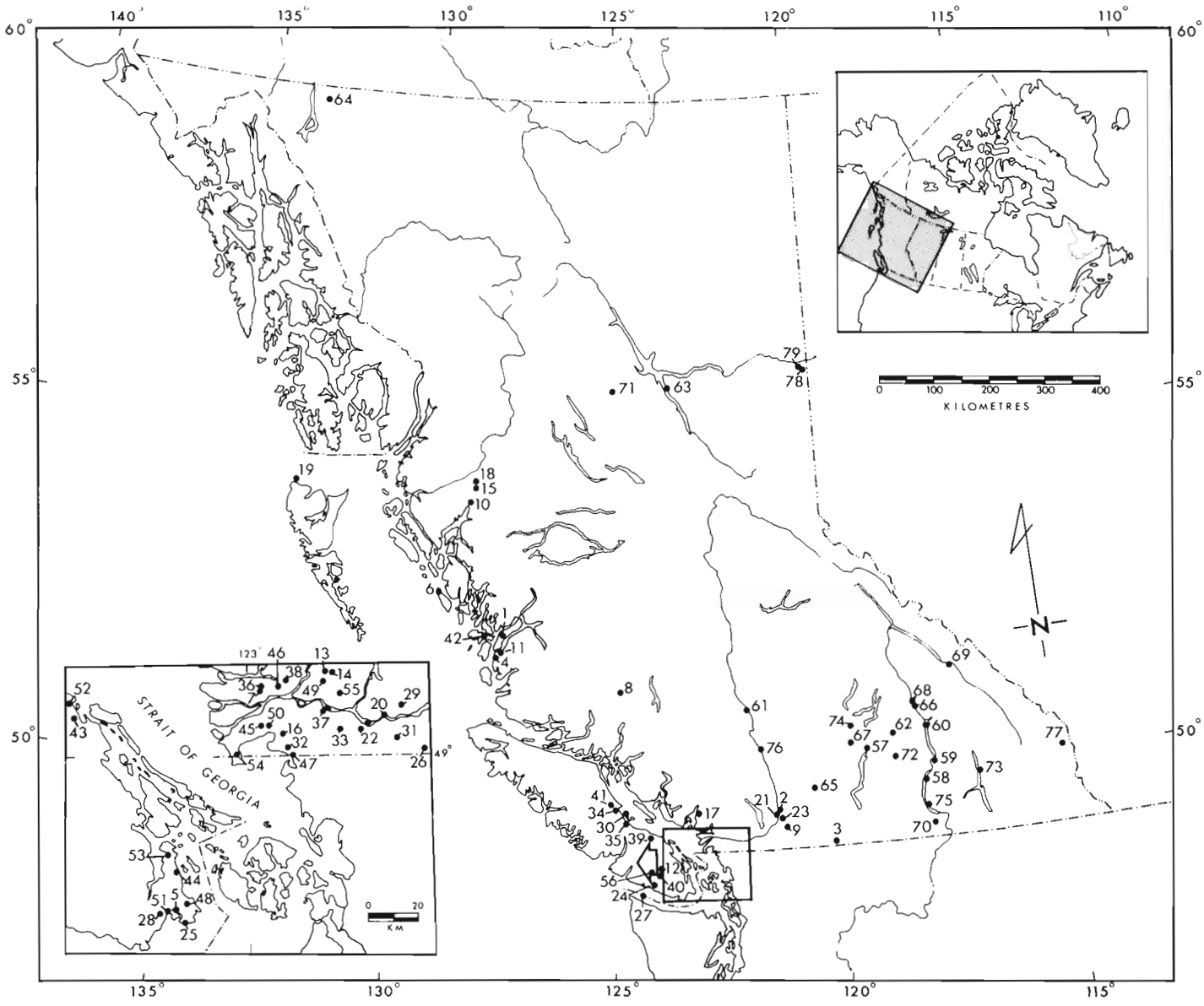

Figure 6. Distribution of radiocarbon dates pertaining to the recessional phase of the Fraser Glaciation. Numbers refer to dates listed in Table 4.

Table 4. Radiocarbon dates pertaining to the recessional phase of the Fraser Glaciation.

Site, Fig. 6	Laboratory dating no.[a]	Date (yr. B.P.)	Locality	Location lat.	Location long.	Sample elevation grouping[b]	Reference[c]	Collector[d]	Material	Significance[e]
Western System										
1	GSC-1640	8970±190	Four Lakes	52°13'	127°46'	2	9 (p. 347)	HN	peat	Fraser minimum
2	S-113[f]	9000±150	Fraser Canyon	49°33'	121°24'	2	104 (p. 77)	CEB	charcoal	Sumas and Vashon minima
3	GSC-1390[f]	9120±540	Keremeos	49°03.6'	120°08.5'	4	91 (p. 295)	ALVR	charcoal	Fraser minimum
4	GaK-3244[f]	9140±200	Namu	51°51.5'	127°51.8'	2	9 (p. 347)	RAL,KJC	charcoal	Fraser minimum
5	I-3676	9250±140	Portage Inlet	48°27.8'	123°25.3'	1	27 (p. 101)	HDF,PWM	peat	Vashon minimum
6	GSC-1843	9330±110	Aristazabal Island	52°48'	129°16'	2	9 (p. 347)	HN	peat	Fraser minimum
7	GSC-228	9420±180	Piper Avenue, Burnaby	49°15'	122°56'	2	56 (p. 35)	WHM,GER,LVH	peat	Vashon minimum
8	GSC-939	9510±160	Tiedemann Glacier	51°21.0'	124°56.5'	3	91 (p. 300)	RJF	peat	Fraser minimum
9	GSC-1433	9680±320	Hope Slide	49°17'	121°15'	3	86 (p. 25)	WHM	charred wood	Fraser minimum
10	GSC-522	9880±160	Minette Bay	54°03'	128°37'	2	90 (p. 174)	JEA	marine shells	Fraser minimum
11	GaK-3715	10,200±150	Hvidsten Point	ca. 51°57'	127°45'	2	9 (p. 347)	JTA,RMR	wood	Fraser minimum
12	I-8450	10,280±150	Cowichan Lake	48°49'	124°03'	2	4 (p. 1651)	NFA	peat	Fraser minimum
13	I-6967	10,340±155	Surprise Lake	49°19'	122°34'	3	96 (p. 2091)	RWM	gyttja	Vashon minimum
14	I-6820	10,370±145	Marion Lake	49°19'	122°33'	3	96 (p. 2097)	RWM	gyttja	Vashon minimum
15	GSC-535	10,420±160	Lakelse Lake	54°21'	128°31'	2	90 (p. 174)	JEA	marine shells	Fraser minimum
16	GSC-519	10,430±150	Nicomekl River flat	49°05.0'	122°47.8'	1	90 (p. 173)	ECH	marine shells	Vashon minimum
17	GSC-185[g]	10,690±180	Furry Creek	49°35'	123°13'	2	56 (p. 34)	JEA	wood[h]	Vashon minimum
18	GSC-523	10,790±180	Lakelse Lake	54°25'	128°31'	2	90 (p. 174)	JEA	marine shells	Fraser minimum
19	L-297C[i]	10,850±800	Langara Island	ca. 54°14'	133°00'	2	21 (p. 1325)	CJH	peat	Fraser minimum
20	L-331C[i]	10,950±200	Mission	49°09.5'	122°15.3'	2	21 (p. 1325)	JEA	wood	Vashon minimum
21	I-5346[j]	11,000±170	Pinecrest Lake	49°29.5'	121°26.0'	3	97 (p. 1057)	RWM	gyttja	Sumas and Vashon minima
22	L-221E[j]	11,000±900	Mt. Lehman Road	49°06.3'	122°22.8'	2	22 (p. 157)	JEA	wood	Vashon minimum
23	I-6058	11,140±260	Squeah Lake	49°29.0'	121°24.3'	3	97 (p. 1057)	RWM	gyttja	Sumas and Vashon minima
24	GSC-2041	11,200±110	San Juan Ridge	48°32'	124°13'	3	4 (p. 1651)	NFA	peat	Fraser minimum
25	GSC-1130	11,200±170	Cook Street, Victoria	48°24.8'	123°21.2'	2	91 (p. 297)	HWN	freshwater shells[k]	Fraser minimum
25	GSC-1142	11,200±190	Cook Street, Victoria	48°24.8'	123°21.2'	2	91 (p. 297)	HWN	black organic muck	Fraser minimum
13	I-5816	11,230±230	Surprise Lake	49°19'	122°34'	3	96 (p. 2091)	RWM	gyttja	Vashon minimum
26	GSC-2523	11,300±100	Cultus Lake	49°02.0'	122°01.5'	2	89 (p. 7)	JEA	wood[l]	Sumas maximum, Vashon minimum
17	GSC-2279,[m]	11,300±190	Furry Creek	49°35'	123°13'	2	56 (p. 34)	JEA	marine shells	Fraser minimum
27	I-2169	11,300±800	Juan de Fuca Strait	48°27.0'	124°28.5'	1	7 (p. 427)	FEA	organic-rich mud	Fraser minimum

Table 4 (cont.)

Site, Fig. 6	Laboratory dating no.[a]	Date (yr. B.P.)	Locality	Location lat.	Location long.	Sample elevation grouping[b]	Reference[c]	Collector[d]	Material	Significance[e]
20	GSC-1695	11,400±170	Mission	49°09.8'	122°15.7'	2	87 (p. 19)	GER,RHB,RWM	wood[n]	Sumas maximum, Vashon minimum
28	GSC-945	11,400±190	Rithets Bog	48°27'	123°29'	2	85 (p. 74)	JTF,HWN	gyttja	Fraser minimum
21	I-6057	11,430±150	Pinecrest Lake	49°29.5'	121°26.0'	3	97 (p. 1057)	RWM	gyttja	Sumas and Vashon minima
29	L-331A	11,450±150	Norrish Creek	49°11.7'	122°09.4'	2	21 (p. 1325)	JEA	wood	Vashon minimum
25	GSC-1131	11,500±160	Cook Street, Victoria	48°24.8'	123°21.2'	2	91 (p. 297)	HWN	plant material	Fraser minimum
30	L-441B	11,500±200	Denman Island	49°35'	124°49'	2	114 (p. 16)	JGF	marine shells	Fraser minimum
31	L-221D	11,500±1100	Sumas Mountain	49°04'	122°11.5'	2	22 (p. 157)	JEA	wood	Sumas maximum, Vashon minimum
32	GSC-226	11,590±280	Deas Island Highway	49°02.5'	122°47.0'	2	56 (p. 34)	JEA	wood	Vashon minimum
22	GSC-1675[j]	11,600±280	Mt. Lehman Road	49°06.3'	122°22.8'	2	86 (p. 26)	JEA	wood	Sumas maximum, Vashon minimum
33	GSC-186	11,680±180	County Line Overpass	49°06'	122°30'	2	56 (p. 35)	JEA	marine shells	Vashon minimum
29	L-331B	11,700±150	Norrish Creek	49°11.2'	122°09.2'	2	21 (p. 1325)	JEA	wood	Vashon minimum
5	I-3675	11,700±170	Portage Inlet	48°27.8'	123°25.3'	1	27 (p. 101)	MDF,PWM	organic-rich mud	Fraser minimum
34	I(GSC)-10	11,780±450	Courtenay	49°38.5'	125°00.2'	2	149 (p. 48)	JGF	peat	Fraser minimum
35	L-391F	11,850±300	Fanny Bay	49°29'	124°49'	2	114 (p. 15)	JGF	wood	Fraser minimum
36	L-391C	11,900±300	Burnaby	49°16'	122°56'	2	100 (p. 696)	FJW	marine shells	Vashon minimum
37	GSC-168	11,930±190	Fort Langley	49°10'	122°35'	2	55 (p. 170)	JEA	marine shells[o]	Sumas maximum, Vashon minimum
38	GSC-2177	12,000±100	Coquitlam	49°17.6'	122°47.2'	2	92 (p. 15)	JEA	marine shells[p]	Vashon minimum
39	I(GSC)-1[q]	12,000±450	Parksville	ca. 49°17'	124°16'	2	149 (p. 48)	JGF	wood	Fraser minimum
25	GSC-1114	12,100±160	Cook Street, Victoria	48°24.8'	123°21.2'	2	91 (p. 297)	HWN	marine shells[p]	Fraser minimum
39	L-391D[q]	12,150±250	Parksville	ca. 49°17'	124°16'	2	114 (p. 15)	JGF	wood	Fraser minimum
40	GSC-2182	12,200±140	Lens Creek	48°42'	124°02'	3	4 (p. 1651)	NFA	peat	Fraser minimum
41	GSC-24[r]	12,200±160	Puntledge River	49°41'	125°02'	2	53 (p. 19)	JGF	wood	Fraser minimum
42	GSC-1651	12,210±330	Shearwater	52°09'	128°06'	2	86 (p. 27)	JTA,RMR	marine shells[s]	Fraser minimum
7	GSC-74	12,230±200	Piper Avenue, Burnaby	49°15'	122°56'	2	54 (p. 45)	WHM,GER,LVH	marine shells[t]	Fraser minimum
14	I-5960	12,350±190	Marion Lake	49°19'	122°33'	3	96 (p. 2091)	RWM	gyttja	Vashon minimum
39	L-391E[q]	12,350±250	Parksville	ca. 49°17'	124°16'	2	114 (p. 15)	JGF	marine shells	Fraser minimum
41	GSC-38[r]	12,360±140	Puntledge River	49°41'	125°02'	2	53 (p. 19)	JGF	marine shells	Fraser minimum
39	GSC-1[q]	12,400±200	Parksville	ca. 49°17'	124°16'	2	53 (p. 15)	JGF	wood	Fraser minimum
43	GSC-80	12,420±150	Nanaimo	49°09.0'	123°58.2'	2	54 (p. 46)	ECH	marine shells[u]	Fraser minimum
44	GSC-398	12,440±230	Saanichton	48°35.5'	123°23.5'	2	57 (p. 113)	ECH	marine shells	Fraser minimum
45	GSC-64	12,460±170	North Delta	49°08'	122°55'	2	54 (p. 46)	JEA	marine worm tubes[v]	Vashon minimum
34	I(GSC)-9	12,500±450	Courtenay	49°38.7'	125°00.3'	2	149 (p. 48)	JGF	marine shells	Fraser minimum
46	GSC-2612	12,600±120	Port Moody	49°16.3'	122°48.7'	2	89 (p. 9)	JEA	marine shells[w]	Vashon minimum
47	I(GSC)-6	12,625±450	King George Highway	49°01'	122°45'	2	149 (p. 49)	JEA	marine shells	Vashon minimum
48	GSC-246	12,660±160	Blenkinsop Lake	48°28.5'	123°21.0'	2	56 (p. 36)	CHC	marine shells[x]	Fraser minimum
49	I-5959	12,690±190	Haney	49°16.5'	122°35.0'	2	96 (p. 2090)	RWM	marine shells[y]	Fraser minimum
50	GSC-2604	12,700±150	East Delta	49°07.6'	122°54.1'	2	89 (p. 9)	JEA	marine shells[z]	Vashon minimum
51	GSC-763	12,720±160	MacKenzie Avenue	48°27.6'	123°26.6'	2	85 (p. 73)	HWN	marine shells[aa]	Fraser minimum
52	GSC-389	12,740±170	Wellington	49°12.3'	124°00.0'	2	57 (p. 113)	ECH,JGF	marine worm tubes[v]	Fraser minimum
53	GSC-418	12,750±170	Patricia Bay	48°39.5'	123°26.0'	2	57 (p. 113)	EL	marine shells[bb]	Fraser minimum
54	I(GSC)-248	12,800±175	Boundary Bay	49°01'	123°04'	2	145 (p. 36)	JEA	marine shells[cc]	Vashon minimum
55	GSC-2193	12,900±170	Websters Corner	49°14.0'	122°29.6'	2	92 (p. 14)	JEA	marine shells[cc]	Vashon minimum
56	GSC-2223	13,100±130	Harris Creek	48°43'	124°11'	3	4 (p. 1651)	NFA	peat	Fraser minimum
Interior System										
57	GSC-193	8900±150	Deep Creek	50°23.2'	119°16.7'	3	56 (p. 33)	RJF	organic silt	Fraser minimum
58	GSC-1212	8910±150	Fauquier	49°52.2'	118°05.2'	3	88 (p. 10)	RAA	wood, plant detritus	Fraser minimum
59	GSC-1119	9100±140	Rodd Creek	50°05.6'	117°49.2'	4	91 (p. 293)	RJF,RAA	peat	Fraser minimum
60	GSC-1065	9160±150	Shelter Bay	50°38.2'	117°55.6'	3	88 (p. 10)	RJF	wood	Fraser minimum
58	GSC-1014	9170±150	Fauquier	49°52.2'	118°05.2'	3	88 (p. 10)	RJF	wood	Fraser minimum
61	GSC-511	9210±150	Jesmond Bog	51°05'	121°59'	3	84 (p. 227)	WHM,HWN,GER,CT	peat	Fraser minimum
62	GSC-923	9280±160	Lusk Lake	50°36.5'	118°43.5'	3	85 (p. 72)	GWS	peat	Fraser minimum
63	GSC-1497	9280±200	Finlay Forks	55°48'	123°38'	3	125 (p. 431)	KS	bighorn sheep horn	Fraser minimum
64	GX-2695	9315±540	Fourth of July Valley	ca. 59°50'	133°20'	4	120 (p. 12)	MMM,JHA	heath	Fraser minimum
65	GSC-256	9320±160	Otter Creek Bog	49°53.0'	120°37.5'	4	56 (p. 33)	RJF	peat	Fraser minimum
58	GSC-1152	9380±140	Fauquier	49°52.2'	118°05.2'	3	88 (p. 10)	RAA	wood, plant detritus	Fraser minimum
66	GSC-1306	9490±160	Revelstoke	51°00'	118°12'	3	91 (p. 294)	HWN	wood[dd]	Fraser minimum
58	GSC-1613	9590±150	Fauquier	49°52.2'	118°05.2'	3	88 (p. 10)	RJF	wood[dd]	Fraser minimum
67	GSC-526	9750±170	Paxton Creek	50°32.5'	119°45.2'	3	90 (p. 172)	RJF	plant fibres	Fraser minimum
68	GSC-1059	9990±150	Jordan River	51°01.2'	118°13.3'	3	88 (p. 10)	RJF	wood	Fraser minimum
69	GSC-1457	10,000±140	Oldman Creek	51°28.9'	117°13.4'	3	88 (p. 10)	RJF	peat	Fraser minimum
70	GSC-855	10,000±150	Sheep Lake	49°14.7'	117°58.8'	4	85 (p. 71)	RJF	peat	Fraser minimum
71	GSC-2036	10,100±90	Omineca Valley	55°47'	125°05'	3	6 (p. 8)	NFA	marl	Fraser minimum
58	GSC-1012	10,100±150	Fauquier	49°52.2'	118°05.2'	3	88 (p. 10)	RJF	wood	Fraser minimum
72	GSC-905	10,200±190	Bear Valley	50°15'	118°47'	3	85 (p. 72)	GWS	plant fibres	Fraser minimum
73	GSC-719	10,270±190	Leviathan Lake	49°57.0'	116°51.2'	3	84 (p. 223)	RJF	peat	Fraser minimum
74	GSC-1524	10,500±170	Chase	50°44.1'	119°43.5'	3	86 (p. 25)	RJF	silty marl ($CaCO_3$ fraction)	Fraser minimum
74	GSC-1524-2	10,500±370	Chase	50°44.1'	119°43.5'	3	86 (p. 25)	RJF	silty marl (plant organics)	Fraser minimum
75	GSC-909	11,000±180	Twobit Creek	49°30.5'	118°05.3'	3	85 (p. 71)	RJF	marl	Fraser minimum
76	GX-2612	11,285±1000	McGillivray Creek	50°30.1'	121°44.8'	3	127 (p. 63)	JMR	bone	Fraser minimum
58	GSC-1596[ee]	12,000±200	Fauquier	49°52.2'	118°05.2'	3	88 (p. 10)	RJF	freshwater shells[ff]	Fraser minimum
58	GSC-1718[ee]	12,800±250	Fauquier	49°52.2'	118°05.2'	3	88 (p. 10)	RJF	freshwater shells	Fraser minimum
Eastern System										
77	GSC-2142	11,900±100	Upper Elk Valley	50°09.5'	114°57.3'	4	88 (p. 9)	JEH	organic detritus	Fraser minimum
77	GSC-2275	12,200±160	Upper Elk Valley	50°09.5'	114°57.3'	4	88 (p. 9)	JEH	organic detritus	Fraser minimum
Interior Plains										
78	GSC-1548[gg]	9960±170	Dawson Creek	55°58.8'	120°14.6'	3	86 (p. 28)	THFR	freshwater shells[hh]	Fraser minimum
79	GSC-1654	10,400±170	Dawson Creek	55°59.0'	120°15.7'	3	86 (p. 28)	THFR	freshwater shells[ii]	Fraser minimum

[a] Laboratories: GaK, Gakushuin University; GSC, Geological Survey of Canada; GX, Geochron Laboratories; I, Teledyne Isotopes; L, Lamont; S, Saskatchewan.

[b] 1, <0 m; 2, 0-200 m (coastal lowlands and lower reaches of adjacent valleys); 3, 200-1000 m (most valleys and bordering plateaux and plains); 4, >1000 m (mountains, high valleys, and bordering plateaux).

[c] Non-bracketed numbers correspond to numbered citations in reference list.

[d] RAA, R.A. Achard; NFA, N.F. Alley; FEA, F.E. Anderson; JHA, J.H. Anderson; JTA, J.T. Andrews; JEA, J.E. Armstrong; RHB, R.H. Blunden; CEB, C.E. Borden; CHC, C.H. Clapp; KJC, K.J. Conover; MDF, M.D. Foster; RJF, R.J. Fulton; JGF, J.G. Fyles; JTF, F.T. Fyles; ECH, E.C. Halstead; JEH, J.E. Harrison; CJH, C.J. Heusser; LVH, L.V. Hills; EV, E. Livingston; RAL, R.A. Luebbers; PWM, P.W. Marshall; RWM, R.W. Mathewes; WHM, W.H. Mathews; MMM, M.M. Miller; HWN, H.W. Nasmith; HN, H. Nichols; THFR, T.H.F. Reimchen; RMR, R.M. Retherford; GER, G.E. Rouse; JMR, J.M. Ryder; GWS, G.W. Smith; KS, K. Sumanik; CT, C. Towers; ALVR, A.L. van Ryswyk; FJW, F.J. Wagner.

[e] "Maximum" and "minimum" refer to times at which glacier ice occupied the locality.

[f] Archaeological sample.

[g] GSC-185 (10,690±180 yr. B.P.) and GSC-227 (11,300±190 yr. B.P.) are from the same stratum.

[h] *Picea* sp.

[i] Dated material is overlain by Sumas till. Date is suspect because Sumas advance is thought to have occurred about 11,400 to 11,700 yr. B.P.

[j] GSC-1675 (11,600±280 yr. B.P.) is a re-date of, and supersedes, L-221E (11,000±900 yr. B.P.).

[k] *Gyraulus parvus, Lymnaea stagnalis.*

[l] *Tsuga heterophylla.*

[m] The following determinations were made: outer fraction (18-54% leach), 11,080±160 yr. B.P.; inner fraction (55-100% leach), 11,300±190 yr. B.P.

[n] *Salix?*

[o] *Macoma calcarea.*

[p] *Saxidomus giganteus.*

[q] L-391D (12,150±250 yr. B.P.), L-391E (12,350±250 yr. B.P.), I(GSC)-1 (12,000±450 yr. B.P.), and GSC-1 (12,400±200 yr. B.P.) are from the same stratum. L-391D, I(GSC)-1, and GSC-1 are dates on the same sample.

[r] GSC-24 (12,200±160 yr. B.P.) and GSC-38 (12,360±140 yr. B.P.) are from the same stratum.

[s] *Balanus* sp.

[t] *Chlamys* sp.

[u] *Mya* sp., *Serripes* sp., *Mytilus* sp.

[v] *Serpula* sp.

[w] *Fusitron oregonensis.*

[x] *Mya truncata.*

[y] *Macoma* sp.

[z] *Clinocardium nuttalli.*

[aa] *Hiatella arctica.*

[bb] *Saxidomus* sp.

[cc] *Mya truncata, Mya* sp.

[dd] *Populus* sp.

[ee] Shell dates (GSC-1596, 12,000±200 yr. B.P.; GSC-1718, 12,800±250 yr. B.P.) are anomalously older than wood dates of Fauquier series (GSC-1212, 8910±150 yr. B.P.; GSC-1014, 9170±150 yr. B.P.; GSC-1152, 9380±140 yr. B.P.; GSC-1613, 9590±150 yr. B.P.; GSC-1012, 10,100±150 yr. B.P.). The shell dates thus are suspect.

[ff] *Anodonta* cf. *nuttalliana* Lea.

[gg] GSC-1548 (9960±170 yr. B.P.) was reported incorrectly as 16,300±180 yr. B.P. by Reimchen and Rutter (1972, p. 177).

[hh] *Lymnaea elodes, Lymnaea stagnalis appressa, Gyraulus deflectus.*

[ii] *Lymnaea elodes.*

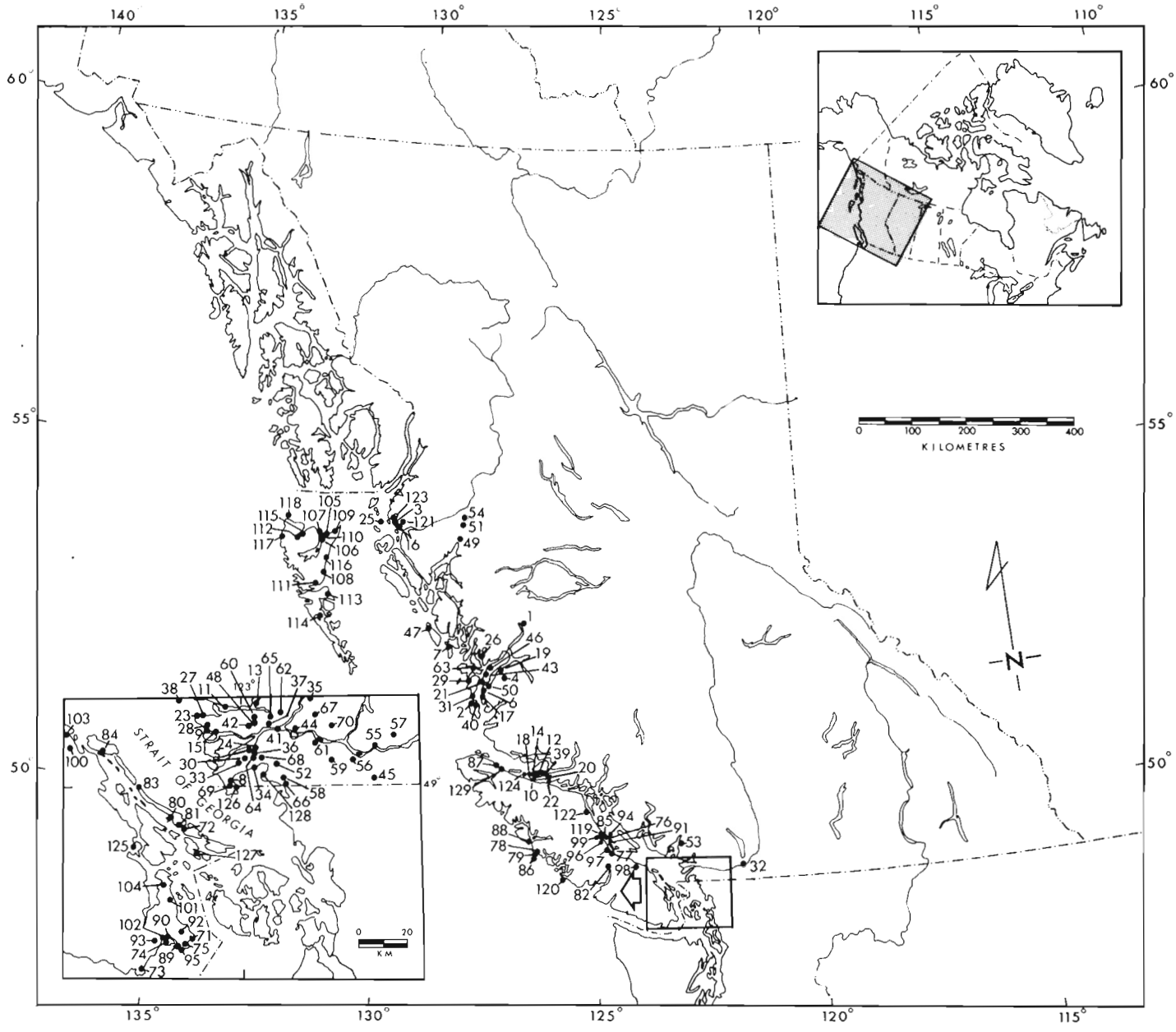

Figure 7. Distribution of radiocarbon dates bearing on postglacial sea levels. Numbers refer to dates listed in Table 5.

Table 5. Radiocarbon dates pertaining to postglacial sea levels.

Site, Fig. 7	Laboratory dating no.[a]	Date (yr. B.P.)	Locality	Location lat.	Location long.	Elevation (m)[b]	Reference[c]	Collector[d]	Material	Sea level position (m)[b]
Mainland Coast and Adjacent Islands										
1	GaK-3912[e]	0±80	Kimsquit	52°49.0'	126°56.9'	5-6[f]	34 (p. 5)	PMH	charcoal	<6[f]
1	GaK-3913[e]	0±80	Kimsquit	52°49.0'	126°56.9'	5-6[f]	34 (p. 5)	PMH	charcoal	<6[f]
1	GaK-3910[e]	20±80	Kimsquit	52°49.0'	126°56.9'	5-6[f]	34 (p. 5)	PMH	charcoal	<6[f]
2	GaK-3717[e]	50±80	North Calvert Island	ca. 51°40'	128°07'	-1	9 (p. 347)	JTA,RMR	midden material	<-1[f]
3	S-471[e,g]	125±70	Boardwalk site	54°17.3'	130°22.8'	0-7[f]	122 (p. 201)	GFM	charcoal	<7[f]
4	GaK-3209[e]	240±80	Kwatna	52°06.5'	127°22.7'	ca. 0	34 (p. 4)	PMH	wood	<0
4	GaK-3208[e,h]	360±90	Kwatna	52°06.5'	127°22.7'	ca. 0[f]	34 (p. 4)	PMH	wood	<0[f]
5	I-4686[e]	390±95	St. Mungo Cannery	49°09.4'	122°56.5'	8[f]	28 (p. 130)	GC,LC,SDI,RM	charcoal	<8[f]
6	GaK-3121[e]	480±80	Namu	51°51.5'	127°51.8'	-[f]	44 (p. 90)	RAL,KJC	charcoal	ca. 0[f]
7	GaK-2756[e]	480±90	Grant Anchorage	52°29'	128°45'	0[f]	81 (p. 63)	BOS	charcoal	<0
8	GaK-1479[e]	630±180	Beach Grove	49°01.8'	123°03.8'	3[f]	80 (p. 317)	CEB,JB2	charcoal	<3[f]
9	S-20[e]	660±130	Stselax Village	49°13'	123°12'	5[f]	103 (p. 77)	CEB	charcoal	<5[f]
6	GaK-3122[e]	680±90	Namu	51°51.5'	127°51.8'	-[f]	44 (p. 90)	RAL,KJC	charcoal	ca. 0[f]
3	GSC-1673[e]	750±130	Boardwalk site	54°17.3'	130°22.8'	0-7[f]	95 (p. 7)	GFM	charcoal	<7[f]
3	GSC-1722[e]	760±130	Boardwalk site	54°17.3'	130°22.8'	0-7[f]	95 (p. 8)	GFM	charcoal	<7[f]
10	GaK-2097[e]	770±140	Cracroft Island	50°32.7'	126°35.3'	1[f]	111 (p. 41)	DHM	marine shells	<1[f]
5	I-4687[e]	800±95	St. Mungo Cannery	49°09.4'	122°56.5'	8[f]	28 (p. 130)	GC,LC,SDI,RM	charcoal	<8[f]
3	GSC-1677[e]	940±140	Boardwalk site	54°17.3'	130°22.8'	0-7[f]	95 (p. 7)	GFM	charcoal	<7[f]
11	GSC-852	960±130	North Vancouver	49°18'	123°05'	-9	84 (p. 228)	MB,SW	marine shells[i]	>-9
6	GaK-3123[e]	980±100	Namu	51°51.5'	127°51.8'	-	44 (p. 90)	RAL,KJC	charcoal	ca. 0
12	GaK-2092[e]	1050±80	Turnour Island	50°35.2'	126°27.9'	2[f]	111 (p. 41)	DHM	marine shells	<2[f]
3	GSC-1720[e]	1060±130	Boardwalk site	54°17.3'	130°22.8'	0-7[f]	95 (p. 8)	GFM	charcoal	<7[f]
13	GaK-3904[e,j]	1070±80	Belcarra Park	49°18.6'	122°55.6'	<6[f]	34 (p. 5)	ASC	charcoal	<6[f]
5	I-4689[e]	1120±95	St. Mungo Cannery	49°09.4'	122°56.5'	8[f]	28 (p. 131)	GC,LC,SDI,RM	charcoal	<8[f]
14	GaK-2098[e]	1170±90	Turnour Island	50°35.7'	126°33.3'	2[f]	111 (p. 41)	DHM	marine shells	<2[f]

Table 5 (cont.)

Site, Fig. 7	Laboratory dating no.[a]	Date (yr. B.P.)	Locality	Location lat.	Location long.	Elevation (m)[b]	Reference[c]	Collector[d]	Material	Sea level position (m)[b]
3	S-749[e]	1270±90	Boardwalk site	54°17.3'	130°22.8'	0-7[f]	123 (p. 350)	RII,GFM	charcoal	<7[f]
4	GaK-3207[e]	1280±100	Kwatna	52°06.5'	127°22.7'	ca. 0[f]	34 (p. 4)	PMH	charcoal, wood	<0[f]
8	UW-42[e]	1390±25	Beach Grove	49°01.8'	123°03.8'	3[f]	131 (p. 56)	PDH,JHWS	charcoal	<3[f]
6	GaK-3125[e]	1470±80	Namu	51°51.5'	127°51.8'	-[f]	44 (p. 90)	RAL,KJC	charcoal	ca. 0[f]
14	GaK-2099[e]	1470±90	Turnour Island	50°36.3'	126°33.7'	5	111 (p. 41)	DHM	marine shells	<5
15	HAR-2183[e]	1510±90	Marpole	ca. 49°12'	123°08'	0[f]	31 (p. 16)	JBI	charcoal	<0[f]
16	S-991[e]	1525±55	Baldwin site	54°17.0'	130°21.4'	0[f]	124 (p. 70)	RII	charcoal	<0[f]
8	UW-43[e]	1540±130	Beach Grove	49°01.8'	123°03.8'	3[f]	58 (p. 503)	PDH	charcoal	<3[f]
17	DIC-329	1570±65	Koeye River	ca. 51°47'	127°52'	-1[f]	9 (p. 347)	JTA,RMR	peat	<-1[f]
8	UW-44[e]	1600±120	Beach Grove	49°01.8'	123°03.8'	3[f]	58 (p. 503)	JHWS	charcoal	<3[f]
18	GaK-2100[e]	1610±80	Indian Channel	50°35.5'	126°39.3'	9[f]	111 (p. 41)	DHM	marine shells	<9[f]
19	GaK-3906[e]	1610±80	Kwatna	52°11.3'	127°27.7'	1[f]	34 (p. 4)	RLC	charcoal	<1[f]
13	GaK-3905[e,k]	1610±90	Belcarra Park	49°18.6'	122°55.6'	<6[f]	34 (p. 5)	ASC	charcoal	<6[f]
16	S-808[e]	1630±100	Lachane site	54°17.3'	130°21.2'	ca. 0[f]	76 (p. 179)	RII	peat	<0[f]
3	S-754[e]	1695±75	Boardwalk site	54°17.3'	130°22.8'	0-7[f]	123 (p. 350)	RII,GFM	charcoal	<7[f]
13	GaK-3903[e]	1710±90	Belcarra Park	49°18.6'	122°55.6'	<6[f]	34 (p. 5)	ASC	charcoal	<6[f]
8	GSC-440[e]	1730±130	Beach Grove	49°01.8'	123°03.8'	3[f]	93 (p. 34)	DNA	charcoal	<3[f]
16	S-806[e]	1750±80	Lachane site	54°17.3'	130°21.2'	ca. 0[f]	76 (p. 179)	RII	peat	<0[f]
20	GaK-2090[e]	1750±90	Chatham Channel	50°35.4'	126°14.0'	3[f]	111 (p. 41)	DHM	marine shells	<3[f]
15	S-93[e]	1780±60	Marpole	ca. 49°12'	123°08'	0[f]	103 (p. 77)	CEB	charcoal	<0[f]
21	N-788[e]	1810±100	Kisameet	51°58'	127°53'	-1[f]	154 (p. 230)	TB	charcoal	<-1[f]
16	S-873[e]	1830±105	Baldwin site	54°17.0'	130°21.4'	0[f]	124 (p. 70)	RII	charcoal	<0[f]
6	GaK-3124[e]	1840±80	Namu	51°51.5'	127°51.8'	-[f]	44 (p. 90)	RAL,KJC	charcoal	<0[f]
16	S-807[e]	1865±85	Lachane site	54°17.3'	130°21.2'	ca. 0[f]	76 (p. 179)	RII	wood	<0[f]
3	S-753[e]	1870±75	Boardwalk site	54°17.3'	130°22.8'	0-7[f]	123 (p. 350)	RII,GFM	charcoal	<7[f]
6	GaK-3118a[e]	1880±90	Namu	51°51.5'	127°51.8'	-[f]	44 (p. 90)	RAL,KJC	marine shells	<0[f]
15	S-17[e,l]	1880±180	Marpole	49°12'	123°08'	ca. 0[f]	102 (p. 34)	CEB	charcoal	<0[f]
22	GaK-2088[e]	1900±80	Whitebeach Point	50°32.3'	126°12.7'	1[f]	111 (p. 41)	DHM	marine shells	<1[f]
23	GaK-1480[e]	1970±100	Point Grey	49°16.5'	123°14.5'	9-12[f]	80 (p. 316)	CM,PH	charcoal	<12[f]
7	S-721[e]	1980±70	Grant Anchorage	52°29'	128°45'	0[f]	123 (p. 347)	BOS	charcoal	<0[f]
3	GaK-1876[e,g]	2000±100	Dodge Island	54°17.5'	130°22.7'	3-7[f]	81 (p. 54)	GFM,KRF,ADM	charcoal	<7[f]
15	S-17e[e,l]	2015±166	Marpole	ca. 49°12'	123°08'	ca. 0[f]	102 (p. 34)	CEB	charcoal	<0[f]
24	GaK-4647[e]	2030±95	Glenrose Cannery	ca. 49°10'	122°56'	8[f]	101 (p. 18)	RGM,THL	charcoal	<8[f]
25	S-996[e]	2070±60	Lucy Island	54°17.6'	130°37.0'	0-8[f]	124 (p. 78)	BOS	charcoal	<8[f]
7	GaK-2757[e]	2090±100	Grant Anchorage	52°29'	128°45'	0[f]	81 (p. 63)	BOS	charcoal	<0[f]
15	L-337[e,l]	2100±90	Marpole	ca. 49°12'	123°08'	ca. 0[f]	21 (p. 1328)	THA	charcoal	<0[f]
7	GaK-2755[e]	2110±110	Grant Anchorage	52°29'	128°45'	0[f]	81 (p. 63)	BOS	charcoal	<0[f]
26	GaK-3126[e]	2140±100	Return Channel	52°19.0'	127°58.1'	5[f]	44 (p. 90)	RAL,KJC,JJH	charcoal	<5[f]
8	GaK-1478[e]	2170±70	Beach Grove	49°01.8'	123°03.8'	3[f]	80 (p. 317)	CEB,JB2	charcoal	<3[f]
3	S-985[e]	2175±65	Boardwalk site	54°17.3'	130°22.8'	0-7[f]	124 (p. 77)	RII	marine shells	<7[f]
3	GSC-1683[e]	2190±130	Boardwalk site	54°17.3'	130°22.8'	0-7[f]	95 (p. 7)	GFM	charcoal	<7[f]
19	GaK-3907[e]	2210±130	Kwatna	52°11.3'	127°27.7'	1[f]	34 (p. 4)	RLC	soil	<1[f]
3	GSC-1439[e,m]	2220±130	Dodge Island	54°17.5'	130°22.7'	3-7[f]	94 (p. 20)	KRF,ADM	charcoal	<7[f]
3	S-987[e]	2230±60	Boardwalk site	54°17.3'	130°22.8'	0-7[f]	124 (p. 77)	RII	marine shells	<7[f]
3	GSC-1439-2[e,m]	2240±170	Dodge Island	54°17.5'	130°22.7'	3-7[f]	94 (p. 20)	KRF, ADM	charcoal	<7[f]
27	S-3bis[e,n]	2270±100	Locarno Beach	49°16.5'	123°13.0'	2[f]	110 (p. 62)	CEB	charcoal	<2[f]
21	N-789[e]	2290±110	Kisameet	51°58'	127°53'	-2[f]	154 (p. 230)	TB	charcoal	<-2[f]
24	S-787[e]	2300±70	Glenrose Cannery	ca. 49°10'	122°56'	8[f]	143 (p. 198)	RGM,THL	charcoal	<8[f]
3	S-984[e]	2310±60	Boardwalk site	54°17.3'	130°22.8'	0-7[f]	124 (p. 77)	RII	marine shells	<7[f]
24	GaK-4646[e]	2310±105	Glenrose Cannery	ca. 49°10'	122°56'	8	101 (p. 18)	RGM	charcoal	<8
15	S-17c[e,l]	2340±60	Marpole	49°12'	123°08'	ca. 0[f]	110 (p. 63)	CEB	charcoal	<0[f]
24	S-790[e]	2340±115	Glenrose Cannery	ca. 49°10'	122°56'	8[f]	143 (p. 198)	RGM,THL	charcoal	<8[f]
15	S-17bis[e,l]	2350±60	Marpole	49°12'	123°08'	ca. 0[f]	103 (p. 77)	CEB	charcoal	<0[f]
28	GaK-1283[e]	2350±80	Musqueam North	49°13.5'	123°11.8'	23[f]	80 (p. 317)	CEB	charcoal	<23[f]
3	S-986[e]	2385±105	Boardwalk site	54°17.3'	130°22.8'	0-7[f]	124 (p. 77)	RII	marine shells	<7[f]
29	GaK-4913[e]	2420±95	Hunter Channel	51°58.5'	128°13.4'	ca. 0[f]	10 (p. 33)	RLC	charcoal	<0[f]
27	S-3[e,n]	2430±160	Locarno Beach	49°16.5'	123°13.0'	2[f]	102 (p. 34)	CEB	charcoal	<2[f]
6	GaK-3119[e]	2440±100	Namu	51°51.5'	127°51.8'	-[f]	44 (p. 90)	RAL,KJC	charcoal	<0[f]
16	S-805[e]	2470±90	Lachane site	54°17.3'	130°21.2'	ca. 0[f]	76 (p. 179)	RII	wood	<0[f]
3	GaK-1877[e,m]	2480±100	Dodge Island	54°17.5'	130°22.7'	3-7[f]	81 (p. 54)	GFM,KRF,ADM	charcoal	<7[f]
25	S-997[e]	2500±60	Lucy Island	54°17.6'	130°37.0'	0-8[f]	124 (p. 78)	BOS	charcoal	<8[f]
29	GaK-4911[e]	2520±90	Hunter Channel	51°58.5'	128°13.4'	ca. 0[f]	10 (p. 33)	RLC	charcoal	<0[f]
28	I-7790[e]	2550±85	Musqueam Northeast	49°14.1'	123°11.8'	23[f]	20 (p. 59)	CEB,DJWA	charcoal	<23[f]
3	GaK-1878[e]	2610±100	Dodge Island	54°17.5'	130°22.7'	3-5[f]	81 (p. 54)	GFM,KRF,ADM	charcoal	<5[f]
16	S-871[e]	2655±65	Baldwin site	54°17.0'	130°21.4'	0[f]	124 (p. 70)	RII	charcoal	<0[f]
3	S-983[e]	2735±65	Boardwalk site	54°17.3'	130°22.8'	0-7[f]	124 (p. 77)	RII	marine shells	<7[f]
16	S-990[e]	2740±110	Baldwin site	54°17.0'	130°21.4'	0[f]	124 (p. 70)	RII	charcoal	<0[f]
6	GaK-2714[e]	2810±100	Namu	51°51.5'	127°51.8'	-	44 (p. 90)	RAL,KJC	charcoal	<0
6	GaK-2713[e]	2880±100	Namu	51°51.5'	127°51.8'	-	44 (p. 90)	RAL,KJC	charcoal	<0
30	I-9593	2925±85	Burns Bog	49°07'	122°58'	3[o]	73 (p. 99)	RJH	peat	<3[o]
28	I-7791[e]	2970±90	Musqueam Northeast	49°14.1'	123°11.8'	23[f]	20 (p. 58)	CEB,DJWA	wood	<23[f]
3	S-748[e]	3170±110	Boardwalk site	54°17.3'	130°22.8'	0-7[f]	123 (p. 350)	RII,GFM	charcoal	<7[f]
31	GaK-3716[e]	3230±90	Stirling Island	ca. 51°46'	128°05'	-1[f]	9 (p. 347)	JTA,RMR	marine shells	<-1[f]
24	GaK-4863[e]	3280±105	Glenrose Cannery	ca. 49°10'	122°56'	8[f]	101 (p. 18)	RGM	charcoal	<8[f]
16	S-872[e]	3285±110	Baldwin site	54°17.0'	130°21.4'	0[f]	124 (p. 70)	RII	charcoal	<0[f]
2	GSC-1828[e]	3290±210	North Calvert Island	51°40'	128°08'	0	95 (p. 7)	JTA	marine shells[p]	<0
6	GaK-2715[e]	3400±100	Namu	51°51.5'	127°51.8'	-2[f]	9 (p. 347)	RAL,KJC	charcoal	<-2[f]
3	S-751[e]	3425±205	Boardwalk site	54°17.3'	130°22.8'	0-7[f]	123 (p. 350)	RII,GFM	charcoal	<7[f]
3	S-473[e]	3450±80	Boardwalk site	54°17.3'	130°22.8'	0-7[f]	122 (p. 201)	GFM	charcoal	<7[f]
3	S-472[e]	3460±80	Boardwalk site	54°17.3'	130°22.8'	0-7	122 (p. 201)	GFM	charcoal	<7
7	GaK-2758[e]	3480±140	Grant Anchorage	52°29'	128°45'	0[f]	81 (p. 63)	BOS	charcoal	<0[f]
24	GaK-4867[e,g]	3750±95	Glenrose Cannery	ca. 49°10'	122°56'	8[f]	101 (p. 18)	RGM	charcoal	<8[f]
3	S-750[e]	3625±105	Boardwalk site	54°17.3'	130°22.8'	0-7[f]	123 (p. 350)	RII,GFM	charcoal	<7[f]
12	GaK-2094[e]	3640±100	Turnour Island	50°34.8'	126°28.7'	2[f]	111 (p. 41)	DHM	marine shells	<2[f]
24	GaK-4864[e,g]	3700±120	Glenrose Cannery	ca. 49°10'	122°56'	8[f]	101 (p. 18)	RGM	charcoal	<8[f]
32	GaK-4926[e]	3860±110	Mauer site	49°13'	121°48'	ca. 20[o]	83 (p. 42)	RLC	soil	<20[o]
30	I-9594	3960±130	Burns Bog	49°07'	122°58'	0[o]	73 (p. 99)	RJH	fine organics	ca. 0[o]
5	I-4685[e]	3970±105	St. Mungo Cannery	49°09.4'	122°56.5'	8[f]	28 (p. 130)	GC,LC,SDI,RM	charcoal	<8[f]
2	GaK-3718	4020±100	North Calvert Island	51°40'	128°08'	9	9 (p. 347)	JTA,RMR	soil	<9
33	I-7627	4125±110	Burns Bog	49°06'	123°01'	0[o]	73 (p. 126)	RJH	peat	ca. 0[o]
3	GaK-1880[e]	4130±90	Dodge Island	54°17.5'	130°22.7'	3-6[f]	81 (p. 54)	GFM,KRF,ADM	charcoal	<6[f]
24	S-788[e]	4185±105	Glenrose Cannery	ca. 49°10'	122°56'	8[f]	101 (p. 18)	RGM,THL	charcoal	<8[f]
32	GaK-4919[e]	4220±100	Mauer site	49°13'	121°48'	ca. 20[o]	83 (p. 42)	RLC	soil	<20[o]
3	S-752[e]	4230±220	Boardwalk site	54°17.3'	130°22.8'	0-7[f]	123 (p. 350)	RII,GFM	charcoal	<7[f]
5	I-4688[e]	4240±105	St. Mungo Cannery	49°09.4'	122°56.5'	8[f]	28 (p. 130)	GC,LC,SDI,RM	charcoal	<8[f]
24	GaK-4648[e]	4240±110	Glenrose Cannery	ca. 49°10'	122°56'	8[f]	101 (p. 18)	RGM,THL	charcoal, shells	<8[f]
32	GaK-4922[e]	4240±110	Mauer site	49°13'	121°48'	ca. 20[o]	83 (p. 77)	RLC	peat	<20[o]
24	S-789[e]	4285±80	Glenrose Cannery	ca. 49°10'	122°56'	8[f]	143 (p. 199)	RGM,THL	charcoal	<8[f]
6	GaK-2717[e]	4290±120	Namu	51°51.5'	127°51.8'	-[f]	44 (p. 90)	RAL,KJC	charcoal	<<10[o]
5	I-4053[e]	4310±110	St. Mungo Cannery	49°09.4'	122°56.5'	8[f]	32 (p. 57)	GC,LC,SDI,RM	charcoal?	<8[f]
34	GX-0781	4350±110	Boundary Bay	49°04.5'	122°55.0'	-2[f]	78 (p. 83)	JWM	peat	<-2[f]
12	GaK-2093[e]	4490±100	Bend Island	50°34.6'	126°26.1'	1[f]	111 (p. 41)	DHM	marine shells	<1[f]
6	GaK-2716[e]	4540±140	Namu	51°51.5'	127°51.8'	-	44 (p. 90)	RAL,KJC	charcoal	<<10[o]
35	I-7047	4645±95	Pitt Lake	49°21'	122°36'	ca. 0[o]	16 (p. 7)	MJP	wood	<3[o]
33	I-7628	4670±100	Burns Bog	49°06'	123°01'	-1[o]	73 (p. 126)	RJH	fine organics	ca. -1[o]
32	GaK-4923[e]	4720±380	Mauer site	49°13'	121°48'	ca. 20[o]	83 (p. 42)	RLC	soil	<20[o]
32	GaK-4927[e]	4780±340	Mauer site	49°13'	121°48'	ca. 20[o]	83 (p. 42)	RLC	soil	<20[o]
3	GaK-1879[e]	4790±100	Dodge Island	54°17.5'	130°22.7'	3-5[f]	81 (p. 54)	GFM,KRF,ADM	charcoal	<5[f]
33	I-7629	4935±100	Burns Bog	49°06'	123°01'	-2[o]	73 (p. 126)	RJH	fine organics	ca. -2[o]
36	I-9595	5085±100	Burns Bog	49°08.5'	122°55.0'	-2[o]	73 (p. 143)	RJH	fine organics	ca. -2[o]

Table 5 (cont.)

Site, Fig. 7	Laboratory dating no.[a]	Date (yr. B.P.)	Locality	Location lat.	Location long.	Elevation (m)[b]	Reference[c]	Collector[d]	Material	Sea level position (m)[b]
37	GSC-1758	5380±140	Port Moody	49°14.2'	122°50.8'	6[f]	87 (p. 19)	WN	wood[q]	<6[f]
24	GaK-4650[e,g]	5730±125	Glenrose Cannery	ca. 49°10'	122°56'	8[f]	101 (p. 18)	RGM,THL	charred root	<8[f]
38	S-295	5770±150	Howe Sound	49°20'	123°19'	-25[f]	105 (p. 373)	JNM	marine shells	>-25[f]
39	GaK-2091[e]	6250±110	Farquarson Island	50°35.9'	126°19.5'	2[f]	111 (p. 41)	DHM	marine shells	<2[f]
40	GaK-3719	6500±100	B.C. Telephone site	ca. 51°39'	128°05'	6	9 (p. 347)	JTA,RMR	peat	<6
24	GaK-4865[e]	6780±135	Glenrose Cannery	ca. 49°10'	122°56'	8[f]	101 (p. 18)	RGM,THL	charcoal	<8[f]
2	GaK-5302[g]	6780±360	Foggy Cove	ca. 51°39'	128°09'	9	9 (p. 347)	JTA,RMR	organic detritus	>9[r]
8	GSC-395	6790±150	Fraser Delta	49°02.5'	123°04.0'	-14	57 (p. 110)	WLB	marine shells	>-14
41	S-99[s]	7300±120	Port Mann	49°13'	122°48'	-10[o]	104 (p. 73)	RAS	peat	<-10?[o]
42	GSC-321	7340±360	Burnaby Lake	49°14.8'	122°57.2'	ca. 8	57 (p. 110)	WHM	peat	<12
24	GaK-4649[e]	7430±340	Glenrose Cannery	ca. 49°10'	122°56'	8[f]	101 (p. 18)	RGM,THL	charcoal	<8[f]
41	GSC-2[s]	7600±150	Port Mann	49°13'	122°48'	-10[o]	53 (p. 15)	RAS	peat	<-10?[o]
6	GaK-3120[e]	7800±200	Namu	51°51.5'	127°51.8'	-	44 (p. 90)	RAL,KJC	charcoal	<10[o]
43	GSC-1658	7870±180	Codville Lake	52°05'	127°52'	55[f]	9 (p. 347)	HN	peat	<55[f]
24	GaK-4866[e]	8150±250	Glenrose Cannery	ca. 49°10'	122°56'	8[f]	101 (p. 18)	RGM	charcoal	<8[f]
44	GSC-229	8290±140	Pitt Meadows Airport	49°13'	122°42'	-10[o]	56 (p. 35)	AMI	peaty silt	<-10?[o]
45	GSC-225	8360±170	Sumas	49°02'	122°16'	-11[o]	56 (p. 35)	ECH	wood	<-11?[o]
46	GSC-1640	8970±190	Four Lakes	52°13'	127°46'	116	9 (p. 347)	HN	peat	<<116
6	GaK-3244[e]	9140±200	Namu	51°51.5'	127°51.8'	9	9 (p. 347)	RAL,KJC	charcoal	<9
47	GSC-1843	9330±110	Aristazabal Island	52°48'	129°16'	ca. 125	9 (p. 347)	HN	peat	<<125
48	GSC-228	9420±180	Piper Avenue, Burnaby	49°15'	122°56'	12[o]	56 (p. 35)	WHM,GER	peat	<12[o]
49	GSC-522	9680±160	Minette Bay	54°03'	128°37'	38[o]	90 (p. 174)	JEA	marine shells	>38[o]
50	GaK-3715	10,200±150	Hvidsten Point	ca. 51°57'	127°45'	6	9 (p. 347)	JTA,RMR	wood	>17
51	GSC-535	10,420±160	Lakelse Lake	54°21'	128°31'	ca. 90[o]	90 (p. 174)	JEA	marine shells	>90[o]
52	GSC-519	10,430±150	Nicomekl River flat	49°05.0'	122°47.8'	-33[o]	90 (p. 173)	ECH	marine shells	>-33[o]
53	GSC-185[t]	10,690±180	Furry Creek	49°35'	123°13'	41	56 (p. 34)	JEA	wood[u]	ca. 58
54	GSC-523	10,790±180	Lakelse Lake	54°25'	128°31'	ca. 90[o]	90 (p. 174)	JEA	marine shells	>90[o]
55	L-331C[g,v]	10,950±200	Mission	49°09.5'	122°15.3'	98[o]	21 (p. 1325)	JEA	wood	>98[o]
56	L-221E[w]	11,000±900	Mt. Lehman Road	49°06.3'	122°22.8'	75[o]	22 (p. 157)	JEA	wood	>75[o]
53	GSC-227[t,x]	11,300±190	Furry Creek	49°35'	123°13'	41	56 (p. 34)	JEA	marine shells	ca. 58
55	GSC-1695[v]	11,400±170	Mission	49°09.8'	122°15.7'	99[o]	87 (p. 19)	GER,RHB,RWM	wood[y]	>99[o]
57	L-331A	11,450±150	Norrish Creek	49°11.7'	122°09.4'	160[o]	21 (p. 1325)	JEA	wood	>160?[o]
58	GSC-226	11,590±280	Deas Island Highway	49°02.5'	122°47.0'	58[o]	56 (p. 34)	JEA	wood	>58[o]
56	GSC-1675[w]	11,600±280	Mt. Lehman Road	49°06.3'	122°22.8'	75[o]	86 (p. 26)	JEA	wood	>75[o]
59	GSC-186	11,680±180	County Line Overpass	49°06'	122°30'	95[o]	56 (p. 35)	JEA	marine shells	>95[o]
57	L-331B	11,700±150	Norrish Creek	49°11.2'	122°09.2'	35[o]	21 (p. 1325)	JEA	wood	>35[o]
60	L-391C	11,900±300	Burnaby	49°16'	122°56'	134[o]	100 (p. 696)	FJW	marine shells	>134[o]
61	GSC-168	11,930±190	Fort Langley	49°10'	122°35'	12[o]	55 (p. 170)	JEA	marine shells[z]	>12[o]
62	GSC-2177	12,000±100	Coquitlam	49°17.6'	122°47.2'	69[o]	92 (p. 15)	JEA	marine shells[p]	>69[o]
63	GSC-1651	12,210±330	Shearwater	52°09'	128°06'	11	86 (p. 27)	JTA,RMR	marine shells[aa]	>11
48	GSC-74	12,230±200	Piper Avenue, Burnaby	49°15'	122°56'	12[o]	54 (p. 45)	WHM,GER,LVH	marine shells[bb]	>12[o]
64	GSC-64	12,460±170	North Delta	49°08'	122°55'	65[o]	54 (p. 46)	JEA	marine worm tubes[cc]	>65[o]
65	GSC-2612	12,600±120	Port Moody	49°16.3'	122°48.7'	91[o]	89 (p. 9)	JEA	marine shells[dd]	>91[o]
66	I(GSC)-6	12,625±450	King George Highway	49°01'	122°45'	39[o]	149 (p. 49)	JEA	marine shells	>39[o]
67	I-5959	12,690±190	Haney	49°16.5'	122°35.0'	107[o]	96 (p. 2090)	RWM	marine shells[ee]	>107[o]
68	GSC-2604	12,700±150	East Delta	49°07.6'	122°54.1'	70[o]	89 (p. 9)	JEA	marine shells[ff]	>70[o]
69	I(GSC)-248	12,800±175	Boundary Bay	49°01'	123°04'	ca. 48[o]	145 (p. 36)	JEA	marine shells	>48[o]
70	GSC-2193	12,900±170	Websters Corner	49°14.0'	122°29.6'	154[o]	92 (p. 14)	JEA	marine shells[gg]	>154[o]
Vancouver Island and Gulf Islands										
71	GaK-2750[e,g]	0±80	Cadboro Bay	48°27.6'	123°17.4'	0[f]	81 (p. 61)	SD2	charcoal	<0[f]
72	GaK-3203[e]	90±80	Helen Point	48°51.4'	123°20.7'	2[f]	34 (p. 3)	RLC	charcoal, shells	<2[f]
73	GaK-1485[e,g]	140±180	Ash Point	48°20.8'	123°34.2'	0[f]	80 (p. 316)	DNA	wood	<0[f]
74	WSU-1539[e]	170±70	Maple Bank	48°26.6'	123°25.8'	3-5[f]	134 (p. 563)	AM2	charcoal	<5[f]
74	WSU-1541[e]	180±70	Maple Bank	48°26.6'	123°25.8'	3-5[f]	108 (p. 9)	AM2	charcoal	<5[f]
75	GaK-5101[e]	270±65	Willows Beach	48°26.0'	123°18.2'	ca. 5[o]	79 (p. 315)	RAK	charcoal	<5[o]
76	S-141[e,g]	450±60	Constable Property	49°40.3'	124°55.8'	5[f]	124 (p. 54)	KHC	charcoal	<5[f]
77	GaK-6034[e]	460±90	Deep Bay	49°28.0'	124°43.4'	ca. 6[o]	112 (p. 151)	GGM	charcoal	<6[o]
78	I-8114[e]	575±85	Rockshelter site	49°28.5'	126°26.2'	6[f]	68 (Table 1)	JCH	charcoal	<6[f]
79	I-8115[e,hh]	580±80	Rockshelter site	49°27.2'	126°27.2'	15[f]	68 (Table 1)	JCH	charcoal	<15[f]
72	GaK-3204[e]	640±90	Helen Point	48°51.4'	123°20.7'	2[f]	34 (p. 3)	RLC	charcoal	<2[f]
78	I-8113[e]	685±80	Rockshelter site	49°28.5'	126°26.2'	6[f]	68 (Table 1)	JCH	charcoal	<6[f]
72	GaK-3202[e]	700±110	Helen Point	48°51.4'	123°20.7'	2[f]	34 (p. 3)	RLC	charcoal	<2[f]
80	GSC-436[e]	730±130	Montague Harbour	48°53.4'	123°24.0'	1-3[f]	93 (p. 35)	DHM,JHWS,TM	charcoal	<3[f]
81	GaK-2752[e]	750±90	Tolan's Property	48°51.9'	123°20.9'	2[f]	81 (p. 62)	SD2	charcoal	<2[f]
77	GaK-6035[e]	790±80	Deep Bay	49°28.0'	124°43.4'	ca. 6[o]	112 (p. 151)	GGM	charcoal	<6[o]
80	GSC-423[e]	790±130	Montague Harbour	48°53.4'	123°24.0'	1-3	93 (p. 35)	DHM,JHWS,TM	charcoal	<3[f]
77	GaK-6036[e]	900±90	Deep Bay	49°28.0'	124°43.4'	ca. 6[o]	112 (p. 151)	GGM	charcoal	<6[o]
72	GaK-3200[e]	1100±90	Helen Point	48°51.4'	123°20.7'	2[f]	34 (p. 3)	RLC	charcoal	<2[f]
72	GaK-4936[e]	1120±100	Helen Point	48°51.4'	123°20.7'	2[f]	30 (p. 98)	RLC	charcoal	<2[f]
82	GaK-5432[e]	1130±85	Shoemaker Bay	49°15.3'	124°50.0'	4[f]	107 (p. 7)	ADM,DES	charcoal	<4[f]
74	WSU-1540[e]	1160±70	Maple Bank	48°26.6'	123°25.8'	3-5[f]	143 (p. 199)	DNA	charcoal	<5[f]
78	GaK-4395[e]	1180±60	Hesquiat Burial Cave	49°28.2'	126°26.4'	8[f]	67 (p. 9)	JCH	charcoal	<8[f]
78	I-8109[e]	1200±85	Hesquiat Burial Cave	49°28.2'	126°26.4'	8[f]	68 (Table 1)	JCH	charcoal	<8[f]
78	I-8111[e]	1285±85	Hesquiat Burial Cave	49°28.2'	126°26.4'	8[f]	68 (Table 1)	JCH	charcoal	<8[f]
72	GaK-4935[e]	1370±85	Helen Point	48°51.4'	123°20.7'	2[f]	30 (p. 98)	RLC	charcoal	<2[f]
83	GaK-2950[e]	1400±90	Dionisio Point	49°00.7'	123°34.5'	2[f]	110 (p. 165)	DHM	marine shells[ii]	<2[f]
82	GaK-5108[e]	1450±80	Shoemaker Bay	49°15.3'	124°50.0'	4[f]	106 (p. 71)	ADM,DES	charcoal	<4[f]
73	GaK-1484[e]	1580±100	Ash Point	48°20.8'	123°34.2'	0[f]	80 (p. 316)	DNA	charcoal	<0[f]
84	GaK-2754[e]	1670±90	False Narrows	49°08.1'	123°46.8'	0-3[f]	81 (p. 63)	JHWS	charcoal	<3[f]
82	GaK-5107[e]	1730±80	Shoemaker Bay	49°15.3'	124°50.0'	4[f]	106 (p. 71)	ADM,DES	charcoal	<4[f]
82	GaK-5106[e]	1730±90	Shoemaker Bay	49°15.3'	124°50.0'	4[f]	106 (p. 71)	ADM,DES	charcoal	<4[f]
85	GaK-4856[e]	1780±145	Millard Creek	49°40.0'	124°58.4'	8[f]	33 (p. 82)	KHC	charcoal	<8[f]
78	I-8110[e]	1790±90	Hesquiat Burial Cave	49°28.2'	126°26.4'	8[f]	68 (Table 1)	JCH	charcoal	<8[f]
71	GaK-2751[e]	1810±90	Cadboro Bay	48°27.6'	123°17.4'	0[f]	81 (p. 62)	SD2	charcoal	<0[f]
78	I-8112[e]	1810±115	Hesquiat Burial Cave	49°28.2'	126°26.4'	8[f]	68 (Table 1)	JCH	charcoal	<8[f]
83	GaK-2762[e]	1880±90	Dionisio Point	49°00.7'	123°34.5'	7	110 (p. 165)	DHM	marine shells[p]	<7
77	GaK-6037[e]	1910±110	Deep Bay	49°28.0'	124°43.4'	ca. 6[o]	112 (p. 151)	GGM	charcoal	<6[o]
72	GaK-4937[e]	2110±105	Helen Point	48°51.4'	123°20.7'	2[f]	30 (p. 98)	RLC	charcoal	<2[f]
83	GaK-2763[e]	2160±110	Dionisio Point	49°00.7'	123°34.5'	7	110 (p. 165)	DHM	marine shells[p]	<7
74	WSU-1582[e]	2245±70	Maple Bank	48°26.6'	123°25.8'	3-5[f]	134 (p. 563)	AM2	charcoal	<5[f]
86	GaK-4394[e]	2430±200	Hesquiat Village	49°23.7'	126°28.2'	2-9[f]	67 (p. 9)	JCH	charcoal	<9[f]
75	GaK-5103[e]	2490±85	Willows Beach	48°26.0'	123°18.2'	ca. 5[o]	79 (p. 310)	RAK	charcoal	<5[o]
87	GaK-3901[e]	2540±120	O'Connor site	50°42.9'	122°28.7'	ca. 0[f]	35 (p. 69)	MWC	charcoal	<0[f]
75	GaK-5102[e]	2630±95	Willows Beach	48°26.0'	123°18.2'	ca. 5[o]	79 (p. 310)	RAK	charcoal	<5[o]
77	GaK-6038[e]	2630±100	Deep Bay	49°28.0'	124°43.4'	ca. 5[o]	112 (p. 151)	GGM	charcoal	<5[o]
87	GaK-4918[e]	2690±90	O'Connor site	50°42.9'	127°28.7'	ca. 0[f]	36 (p. 146)	RLC	charcoal	<0[f]
81	GaK-2753[e]	2820±100	Tolan's Property	48°51.9'	123°20.9'	2[f]	81 (p. 62)	SD2	charcoal	<2[f]
82	GaK-5104[e]	2860±90	Shoemaker Bay	49°15.3'	124°50.0'	4[f]	106 (p. 70)	ADM,DES	charcoal	<4[f]
80	GSC-406[e]	2890±140	Montague Harbour	48°53.4'	123°24.0'	1-3[f]	93 (p. 34)	DHM,JHWS,TM	charred wood	<3[f]
87	GaK-4917[e]	2900±90	O'Connor site	50°42.9'	127°28.7'	ca. 0[f]	36 (p. 146)	RLC	charcoal	<0[f]
88	GaK-2180[e,jj]	3000±100	Yuquot Village	49°36'	126°37'	6[o]	95 (p. 7)	WJF,JTD	charcoal	>6?[o]
80	GSC-437[e]	3160±130	Montague Harbour	48°53.4'	123°24.0'	1-3[f]	93 (p. 35)	DHM,JHWS,TM	charcoal	<3[f]
85	GaK-4858[e]	3480±195	Millard Creek	49°40.0'	124°58.4'	8[f]	33 (p. 82)	KHC	charcoal	<8[f]
85	GaK-4857[e]	3520±110	Millard Creek	49°40.0'	124°58.4'	8[f]	33 (p. 82)	KHC	charcoal	<8[f]
88	GSC-1767[e,jj]	3590±190	Yuquot Village	49°36'	126°37'	6[o]	95 (p. 7)	WJF,JTD	charcoal	>6?[o]
72	WSU-1191[e]	3950±260	Helen Point	48°51.4'	123°20.7'	2[f]	34 (p. 3)	RLC	charcoal	<2[f]
72	GaK-3201[e]	3980±130	Helen Point	48°51.4'	123°20.7'	2[f]	34 (p. 3)	RLC	charcoal	<2[f]
89	GSC-1385	4000±200	Empress Hotel	48°25.2'	123°22.0'	-4[f]	91 (p. 297)	CBC,HWN	wood[u]	>-4,≤0
82	GaK-5105[e]	4030±105	Shoemaker Bay	49°15.3'	124°50.0'	4[f]	106 (p. 70)	ADM,DES	charcoal	<4[f]

Table 5 (cont.)

Site, Fig. 7	Laboratory dating no.[a]	Date (yr. B.P.)	Locality	Location lat.	Location long.	Elevation (m)[b]	Reference[c]	Collector[d]	Material	Sea level position (m)[b]
88	GaK-2179[e]	4080±80	Yuquot Village	49°36'	126°37'	6[o]	95 (p. 7)	WJF,JTD	charcoal	>6?[o]
88	GaK-2183[e]	4230±90	Yuquot Village	49°36'	126°37'	6[o]	95 (p. 7)	WJF,JTD	charcoal	>6?[o]
77	GaK-6039[e]	4860±180	Deep Bay	49°28.0'	124°43.4'	ca. 5[o]	112 (p. 151)	GGM	charcoal	<5[o]
72	GaK-4938[e]	5420±230	Helen Point	48°51.4'	123°20.7'	2[f]	19 (p. 93)	RLC	charcoal	<2[f]
90	I-3673	5470±115	Portage Inlet	48°27.8'	123°25.3'	-1[o]	27 (p. 101)	HDF,PWM	peat	<-1[o]
91	GSC-424	5680±130	Denman Island	49°36'	124°50'	2	100 (p. 696)	JGF	peat	<2
92	GSC-325	5790±140	Blenkinsop Lake	48°28.5'	123°21.5'	ca. 22	57 (p. 112)	ECH	peat	<27
93	GSC-963	6390±160	Rithets Bog	48°27'	123°29'	-	85 (p. 74)	JTF,HWN	gyttja	<15
90	I-3674	6670±120	Portage Inlet	48°27.8'	123°25.3'	-1[o]	27 (p. 101)	HDF,PWM	peat	<-1[o]
94	I-1227	6820±200	Willemar Bluff	49°40.3'	124°53.0'	-	100 (p. 696)	JGF?	wood	<0
94	GSC-265	8680±140	Willemar Bluff	49°40.3'	124°53.0'	3	57 (p. 113)	JGF	soil	<3
90	I-3676	9250±140	Portage Inlet	48°27.8'	123°25.3'	-2[o]	27 (p. 101)	HDF,PWM	peat	<-2[o]
95	GSC-1130	11,200±170	Cook Street, Victoria	48°24.8'	123°21.2'	1	91 (p. 297)	HWN	freshwater shells[kk]	<1
95	GSC-1142	11,200±190	Cook Street, Victoria	48°24.8'	123°21.2'	1	91 (p. 297)	HWN	black organic muck	<1
93	GSC-945	11,400±190	Rithets Bog	48°27'	123°29'	ca. 5[o]	85 (p. 74)	JTF,HWN	gyttja	<15[o]
95	GSC-1131	11,500±160	Cook Street, Victoria	48°24.8'	123°21.2'	1	91 (p. 297)	HWN	plant material	<1
91	L-441B	11,500±200	Denman Island	49°35'	124°49'	37	114 (p. 16)	JGF	marine shells	>37
90	I-3675	11,700±170	Portage Inlet	48°27.8'	123°25.3'	-3[o]	27 (p. 101)	HDF,PWM	organic detritus	>-3[o]
96	I(GSC)-10	11,780±450	Courtenay	49°38.5'	125°00.2'	-	149 (p. 48)	JGF	peat	ca. 150[o]
97	L-391F	11,850±300	Fanny Bay	49°29'	124°49'	-	114 (p. 15)	JGF	wood	ca. 21[o]
98	I(GSC)-1[ll]	12,000±450	Parksville	ca. 49°17'	124°16'	ca. 34[o]	149 (p. 48)	JGF	wood	ca. 52[o]
95	GSC-1114	12,100±160	Cook Street, Victoria	48°24.8'	123°21.2'	1	91 (p. 297)	HWN	marine shells[p]	>1
98	L-391D[ll]	12,150±250	Parksville	ca. 49°17'	124°16'	ca. 34[o]	114 (p. 15)	JGF	wood	ca. 52[o]
99	GSC-24[mm]	12,200±160	Puntledge River	49°41'	125°02'	-	53 (p. 19)	JGF	wood	ca. 53[o]
98	L-391E[ll]	12,350±250	Parksville	ca. 49°17'	124°16'	ca. 34[o]	114 (p. 15)	JGF	marine shells	ca. 52[o]
99	GSC-38[mm]	12,360±140	Puntledge River	49°41'	125°02'	-	53 (p. 19)	JGF	marine shells	ca. 53[o]
98	GSC-1[ll]	12,400±200	Parksville	ca. 49°17'	124°16'	ca. 34[o]	53 (p. 15)	JGF	wood	ca. 52[o]
100	GSC-80	12,420±150	Nanaimo	49°09.0'	123°58.2'	108[o]	54 (p. 46)	ECH	marine shells[nn]	>108[o]
101	GSC-398	12,440±230	Saanichton	48°35.5'	123°23.5'	8	57 (p. 113)	ECH	marine shells	>18
96	I(GSC)-9	12,500±450	Courtenay	49°38.7'	125°00.3'	-	149 (p. 48)	JGF	marine shells	ca. 150[o]
92	GSC-246	12,660±160	Blenkinsop Lake	48°28.5'	123°21.0'	27[o]	56 (p. 36)	CHC	marine shells[gg]	>27[o]
102	GSC-763	12,720±160	MacKenzie Avenue	48°27.6'	123°26.6'	26[o]	85 (p. 73)	HWN	marine shells[oo]	>26[o]
103	GSC-389	12,740±170	Wellington	49°12.3'	124°00.0'	70[o]	57 (p. 113)	ECH,JGF	marine worm tubes[cc]	>106[o]
104	GSC-418	12,750±170	Patricia Bay	48°39.5'	123°26.0'	20[o]	57 (p. 113)	EL	marine shells[pp]	>24[o]
Queen Charlotte Islands										
105	GSC-281[§]	940±60	Chown Brook	54°01.4'	132°01.1'	2[f]	71	JJC	marine shells	>2
106	GX-1628[e,qq]	1145±80	Skoglund's Landing	53°57.6'	132°07.5'	7-14[f]	94 (p. 21)	KRF	charcoal	<14[f]
107	S-934[e]	1425±70	Council site	54°02.1'	132°10.5'	5[f]	124 (p. 74)	PDSS	charcoal	<5[f]
106	GSC-1290[qq]	1940±140	Skoglund's Landing	53°57.6'	132°07.5'	7-14[f]	94 (p. 21)	HWN	wood[rr]	<14[f]
108	S-678[e]	2005±85	Lawn Point	53°25.8'	131°55.0'	11	152 (p. 70)	JH,KW,KRF	charcoal	<11
109	GaK-5440[e]	2050±115	Tow Hill	54°04.2'	131°47.5'	6-9[f]	130 (p. 15)	PDSS	charcoal	<9[f]
106	S-675[e,ss]	2150±85	Skoglund's Landing	53°57.6'	132°07.5'	7-14[f]	152 (p. 80)	KRF	charcoal	<14[f]
110	GaK-4883[e]	2270±85	Blue Jackets Creek	53°59.6'	132°08.4'	9[f]	124 (p. 75)	PDSS	charcoal	<9[f]
111	GaK-1870[e]	3040±100	Honna River	53°15.2'	132°07.5'	9-12[f]	81 (p. 52)	ADM,CA	charcoal	<12[f]
109	GaK-5439[e]	3280±210	Tow Hill	54°04.2'	131°47.5'	6-9	130 (p. 15)	PDSS	charcoal	<9
111	GaK-1871[e]	3300±100	Honna River	53°15.2'	132°07.5'	9-12[f]	81 (p. 52)	ADM,CA	charcoal	<12[f]
110	GaK-4884[e]	3750±145	Blue Jackets Creek	53°59.6'	132°08.4'	ca. 12	129 (p. 199)	PDSS	charcoal	<12
110	S-935[e]	3815±115	Blue Jackets Creek	53°59.6'	132°08.4'	4	124 (p. 75)	PDSS	charcoal	<4
110	S-936[e]	4150±90	Blue Jackets Creek	53°59.6'	132°08.4'	4	124 (p. 75)	PDSS	charcoal	<4
110	S-676[e]	4155±115	Blue Jackets Creek	54°00.0'	132°07.6'	14	152 (p. 57)	KRF	charcoal	<14
106	GX-1696[e,ss]	4165±80	Skoglund's Landing	53°57.6'	132°07.5'	7-14[f]	59 (p. 36)	KRF	charcoal	<14[f]
110	GSC-1554[e]	4290±130	Blue Jackets Creek	54°00.0'	132°07.6'	14	94 (p. 21)	KRF	charcoal	<14
112	I-9169	4445±90	Naden Harbour	53°57'	132°41'	-	5 (p. 19)	NFA	marine shells	ca. 12[tt]
112	I-9170	4990±95	Naden Harbour	53°57'	132°41'	-	5 (p. 19)	NFA	marine shells	ca. 15[uu]
110	GaK-5093[e]	5260±440	Blue Jackets Creek	53°59.6'	132°08.4'	9[f]	124 (p. 75)	PDSS	charcoal	<9[f]
113	GaK-3511[e]	5420±100	Kasta site	ca. 53°09'	131°48'	ca. 11	152 (p. 69)	BT	charcoal	<11
108	GaK-3271[e]	5750±110	Lawn Point	53°25.8'	131°55.0'	11	152 (p. 70)	JH,KW,KRF	charcoal	<11
113	S-677[e]	6010±95	Kasta site	ca. 53°09'	131°48'	ca. 11	152 (p. 69)	BT	charcoal	<11
108	GaK-3272[e]	7050±110	Lawn Point	53°25.8'	131°55.0'	11	152 (p. 70)	JH,KW,KRF	charcoal	<11
108	S-679[e]	7400±140	Lawn Point	53°25.8'	131°55.0'	11	152 (p. 70)	JH,KW,KRF	charcoal	<11
114	GSC-292	8060±140	Tasu Sound	52°47.5'	131°58.0'	4	91 (p. 301)	AS	marine shells[vv]	>4
115	GSC-2443[ww]	8460±80	Lignite Creek	53°58'	132°36'	10	5 (p. 18)	NFA	wood[xx]	>10
116	GSC-242	8620±150	Cape Ball	53°41.5'	131°53.2'	3	91 (p. 301)	AS	marine shells[yy]	>3
117	GSC-2534[zz]	8850±90	Haines Creek	53°56'	133°06'	0	5 (p. 18)	NFA	marine shells[aaa]	>0
118	L-297	10,850±800	Langara Island	ca. 54°14'	133°00'	ca. 60?[o]	21 (p. 1326)	CJH	peat	<60?[o]
Unknown Sea Level Positions[bbb]										
1	GaK-3911[e]	0±80	Kimsquit	ca. 52°49'	126°57'	-	34 (p. 5)	PMH	charcoal	-
4	GaK-3213[e]	0±90	Kwatna	52°06.9'	127°23.5'	-	34 (p. 4)	RLC	charcoal	-
4	GaK-3212[e,g]	0±120	Kwatna	52°06.9'	127°23.5'	-	34 (p. 4)	RLC	charcoal	-
4	GaK-3908[e]	30±80	Kwatna	52°06.9'	127°23.5'	-	34 (p. 4)	RLC	charcoal	-
4	GaK-3909[e,g]	330±80	Kwatna	52°06.9'	127°23.5'	-	34 (p. 4)	RLC	charcoal	-
119	S-105[e]	380±70	Courtenay	49°42'	125°00'	-	104 (p. 76)	KHC	charcoal	-
120	GX-438	390±90	Long Beach	ca. 49°04'	125°45'	-	82 (p. 147)	LKW	peat	-
119	S-104[e]	400±60	Courtenay	49°42'	125°00'	-	104 (p. 76)	KHC	charred wood	-
121	S-994[e]	620±55	Grassy Bay	54°18.9'	130°15.8'	-	124 (p. 78)	BOS	charcoal	-
4	GaK-3211[e]	670±80	Kwatna	52°06.9'	127°23.5'	-	34 (p. 4)	RLC	charcoal	-
122	S-144[e]	810±80	Campbell River	50°02.7'	125°15.0'	-[ccc]	124 (p. 55)	KHC	charcoal	-
123	GaK-1872[e]	910±80	Garden Island	54°19.1'	130°23.2'	-[ccc]	81 (p. 53)	GFM	charcoal	-
123	GaK-1873[e]	950±90	Garden Island	54°19.1'	130°23.2'	-[ccc]	81 (p. 53)	GFM	charcoal	-
12	GaK-2096[e]	1130±80	Kloaitsis Island	50°33.9'	126°28.1'	-	111 (p. 41)	DHM	marine shells	-
124	GaK-2101[e]	1140±60	Hanson Island	ca. 50°35'	126°45'	-	111 (p. 41)	DHM	marine shells	-
125	S-878[e]	1205±80	Bird's Eye Cove	48°46.8'	123°35.8'	-	124 (p. 71)	DNA	charcoal	-
125	S-876[e]	1310±70	Bird's Eye Cove	48°46.8'	123°35.8'	-[ccc]	124 (p. 71)	DNA	charcoal	-
123	GaK-1874[e]	1400±100	Garden Island	54°19.1'	130°23.2'	-[ccc]	81 (p. 53)	GFM	charcoal	-
4	GaK-3210[e]	1470±100	Kwatna	52°06.9'	127°23.5'	-	34 (p. 4)	RLC	charcoal	-
126	S-19[e]	1580±140	Whalen Farm site	49°00'	123°02'	-[ccc]	103 (p. 77)	CEB	charcoal	-
121	S-995[e]	1615±60	Grassy Bay	54°18.9'	130°15.8'	-	124 (p. 78)	BOS	charcoal	-
121	S-992[e]	1620±55	Grassy Bay	54°18.9'	130°15.8'	-	124 (p. 78)	BOS	charcoal	-
119	S-102[e]	1650±70	Courtenay	49°42'	125°00'	-	104 (p. 76)	KHC	charcoal	-
123	GaK-1251[e]	1660±80	Garden Island	54°19.1'	130°23.2'	-[ccc]	80 (p. 315)	GFM,PM	charcoal	-
121	S-993[e]	1700±60	Grassy Bay	54°18.9'	130°15.8'	-	124 (p. 78)	BOS	charcoal	-
125	S-877[e]	1900±75	Bird's Eye Cove	48°46.8'	123°35.8'	-[ccc]	124 (p. 71)	DNA	charcoal	-
123	GSC-744[e]	1970±130	Garden Island	54°19.1'	130°23.2'	-[ccc]	93 (p. 35)	GFM	charcoal	-
125	S-875[e]	2000±70	Bird's Eye Cove	48°46.8'	123°35.8'	-	124 (p. 71)	DNA	charcoal	-
127	M-1515[e]	2200±120	Pender Island Canal	48°45.8'	123°15.3'	-	45 (p. 137)	JEMK	charcoal	-
119	S-143[e]	2370±70	Mansfield Property	49°41'	124°59'	-	124 (p. 55)	KHC	charcoal	-
126	S-18[e]	2450±160	Whalen Farm site	49°00'	123°02'	-[ccc]	103 (p. 77)	CEB	charcoal	-
123	GaK-1250[e]	2520±100	Garden Island	54°19.1'	130°23.2'	-[ccc]	80 (p. 315)	GFM,PM	peat	-
75	GaK-2761[e]	2740±100	Bowker Creek	ca. 48°26'	123°18'	-	110 (p. 63)	DHM	marine shells	-
75	GaK-2760[e]	2910±100	Bowker Creek	ca. 48°26'	123°18'	-	110 (p. 63)	DHM	marine shells	-
128	WSU-1702[e]	2980±80	Crescent Beach	49°03.1'	122°52.8'	-	30 (p. 97)	RLC	charcoal	-
128	WSU-1703[e]	3030±80	Crescent Beach	49°03.1'	122°52.8'	-	30 (p. 97)	RLC	charcoal	-
16	GaK-1477[e]	3040±110	Co-op site	54°17.4'	130°21.3'	-	80 (p. 315)	CEB	charcoal	-
128	WSU-1701[e]	3260±80	Crescent Beach	49°03.1'	122°52.8'	-	30 (p. 97)	RLC	charcoal	-
20	GaK-2089[e]	3570±100	Chatham Channel	50°35.4'	126°13.6'	-	111 (p. 41)	DHM	marine shells	-
123	GaK-1875[e]	3660±110	Garden Island	54°19.1'	130°23.2'	-[ccc]	81 (p. 53)	GFM	charcoal	-
119	S-103[e]	3750±80	Courtenay	49°42'	125°00'	-	104 (p. 76)	KHC	charcoal	-
128	GaK-4925[e]	4270±80	Crescent Beach	49°03.1'	122°52.8'	-	118 (p. 29)	RLC,RCWP	marine shells	-
119	S-48[e]	4550±200	Courtenay	49°43'	125°02'	-	103 (p. 79)	KHC	charcoal	-
12	GaK-2095[e]	4860±100	Clio Channel	50°33.6'	126°29.6'	-	111 (p. 41)	DHM	marine shells	-
129	S-145[e]	5275±110	Fort Rupert	50°42'	127°24'	-	124 (p. 55)	KHC	charcoal	-
85	S-142[e,g]	8300±200	Millard Creek	49°40.0'	124°58.4	-	57 (p. 114)	KHC	charcoal	-

Table 5 (cont.)

[a] Laboratories: DIC, Dicar Corporation; GaK, Gakushuin University; GSC, Geological Survey of Canada; GX, Geochron Laboratories; HAR, Harwell; I, Teledyne Isotopes; L, Lamont; M, Michigan; N, Riken (Tokyo); S, Saskatchewan; UW, University of Washington; WSU, Washington State University.

[b] Datum is high water or is unknown unless otherwise indicated.

[c] Non-bracketed numbers correspond to numbered citations in reference list.

[d] DNA, D.N. Abbott; THA, T.H. Ainsworth; NFA, N.F. Alley; JTA, J.T. Andrews; DJWA, D.J.W. Archer; CA, C. Armstrong; JEA, J.E. Armstrong; JB1, J. Baker; JB2, J. Baldwin; WB, W. Barker; TB, T. Birkedal; RHB, R.H. Blunden; CEB, C.E. Borden; WLB; W.L. Brown; GC, G. Calvert; LC, L. Calvert; KHC, K.H. Capes; RLC, R.L. Carlson; ASC, A.S. Charlton; MWC, M.W. Chapman; JJC, J.J. Clague; CHC, C.H. Clapp; KJC, K.J. Conover; CBC, C.B. Crawford; SD1, S. Davidson; JTD, J.T. Dewhirst; SD2, S. Douglass; KRF, K.R. Fladmark; WJF, W.J. Folan; HDF, H.D. Foster; JGF, J.G. Fyles; JTF, J.T. Fyles; JCH, J.C. Haggarty; ECH, E.C. Halstead; PDH, P.D. Harrison; PH, P. Hayward; RJH, R.J. Hebda; JJH, J.J. Hester; CJH, C.J. Heusser; LVH, L.V. Hills; PMH, P.M. Hobler; JH, J. Hunston; RII, R.I. Inglis; RAK, R.A. Kenny; JEMK, J.E.M. Kew; EL, E. Livingston; THL, T.H. Loy; RAL, R.A. Luebbers; GFM, G.F. MacDonald; PWM, P.W. Marshall; RWM, R.W. Mathewes; WHM, W.H. Mathews; RGM, R.G. Matson; AM1, A. McLean; AM2, A. McMurdo; ADM, A.D. McMillan; DHM, D.H. Mitchell; GGM, G.G. Monks; PM, P. Monohan; TM, T. Moore; CM, C. Mossop; RM, R. Munro; JWM, J.W. Murray; HWN, H.W. Nasmith; HN, H. Nichols; WN, W. Nieuwenhuizen; RCWP, R.C.W. Percy; MJP, M.J. Pullen; RMR, R.M. Retherford; GER, G.E. Rouse; JHWS, J.H.W. Sendey; PDSS, P.D.S. Severs; BOS, B.O. Simonsen; RAS, R.A. Spence; DES, D.E. St. Clair; AS, A. Sutherland Brown; BT, B. Thomas; LKW, L.K. Wade; FJW, F.J. Wagner; KW, K. Wildfong; SW, S. Wooster.

[e] Archaeological date.

[f] Archaeological site elevation supplied by British Columbia Archaeological Sites Advisory Board. Exact elevation of sample is unknown.

[g] Date is suspect.

[h] GaK-3208 (360±90 yr. B.P.) is cited as 450±90 yr. B.P. by Hobler (1976, p. 152).

[i] *Solen sicarius*.

[j] GaK-3904 (1070±80 yr. B.P.) is cited as 1070±90 yr. B.P. by Charlton (1977, p. 190).

[k] GaK-3905 (1610±90 yr. B.P.) is cited as 1620±90 yr. B.P. by Charlton (1977, p. 190).

[l] S-17bis (2350±60 yr. B.P.) and S-17c (2340±60 yr. B.P.) supersede S-17 (2015±166 and 1880±180 yr. B.P.). A date of 2900±170 yr. B.P. for S-17bis is now presumed erroneous (McCallum and Dyck, 1960, p. 77). L-337 (2100±90 yr. B.P.) is from the same site as S-17bis.

[m] GaK-1877 (2480±100 yr. B.P.), GSC-1439 (2220±130 yr. B.P.) and GSC-1439-2 (2240±170 yr. B.P.) are dates on the same sample. GSC-1439—standard pretreatment except cold NaOH leach, one 3-day count in 5L counter; GSC-1439-2—Haynes' (1966) pretreatment, one 4-day count in 1L counter.

[n] S-3bis (2270±100 yr. B.P.) supersedes S-3 (2430±160 yr. B.P.).

[o] Datum is mean water.

[p] *Saxidomus giganteus*.

[q] *Thuja plicata*.

[r] Assumes that organic material was deposited in the nearshore sedimentary zone. If the organic mat is part of a paleosol, sea level was lower than 9 m above present high tide (see Andrews and Retherford, 1978, p. 343).

[s] S-99 (7300±120 yr. B.P.) and GSC-2 (7600±150 yr. B.P.) are dates on the same sample.

[t] GSC-185 (10,690±180 yr. B.P.) and GSC-227 (11,300±190 yr. B.P.) are from the same stratum.

[u] *Picea* sp.

[v] GSC-1695 (11,400±170 yr. B.P.) supersedes L-331C (10,950±200 yr. B.P.).

[w] GSC-1675 (11,600±280 yr. B.P.) is a re-date of, and supersedes, L-221E (11,000±900 yr. B.P.).

[x] The following determinations were made: outer fraction (18-45% leach), 11,080±160 yr. B.P.; inner fraction (55-100% leach), 11,300±190 yr. B.P.

[y] *Salix* sp.?

[z] *Macoma calcarea*.

[aa] *Balanus* sp.

[bb] *Chlamys* sp.

[cc] *Serpula* sp.

[dd] *Fusitron oregonensis*.

[ee] *Macoma* sp.

[ff] *Clinocardium nuttalli*.

[gg] *Mya truncata*.

[hh] I-8115 (580±80 yr. B.P.) was reported incorrectly as 850±80 yr. B.P. by Haggarty and Crozier (1975, their Table 1).

[ii] *Schizothoerus nuttalli*.

[jj] GSC-1767 (3590±190 yr. B.P.) is a re-date of GaK-2180 (3000±100 yr. B.P.). Both dates are suspect because overlying samples are older (GaK-2179, 4080±80 yr. B.P.; GaK-2183, 4230±90 yr. B.P.).

[kk] *Cyraulus parvus, Lymnaea stagnalis*.

[ll] L-391D (12,150±250 yr. B.P.), L-391E (12,350±250 yr. B.P.), I(GSC)-1 (12,000±450 yr. B.P.), and GSC-1 (12,400±200 yr. B.P.) are from the same stratum. L-391D, I(GSC)-1, and GSC-1 are dates on the same sample.

[mm] GSC-24 (12,200±160 yr. B.P.) and GSC-38 (12,360±140 yr. B.P.) are from the same stratum.

[nn] *Mya* sp., *Serripes* sp., *Mytilus* sp.

[oo] *Hiatella arctica*.

[pp] *Saxidomus* sp.

[qq] GX-1628 (1145±80 yr. B.P.) and GSC-1290 (1940±140 yr. B.P.) are from the same stratum.

[rr] *Chamaecyparis nootkatensis*.

[ss] S-675 (2150±85 yr. B.P.) and GX-1696 (4165±80 yr. B.P.) are from the same cultural horizon. GX-1696 was reported as 4165±130 yr. B.P. by Fladmark (1970, p. 36).

[tt] Incorrectly cited as 15 m by Alley and Thomson (1978, p. 19).

[uu] Incorrectly cited as 18 m by Alley and Thomson (1978, p. 19).

[vv] *Ostrea lurida* Carpenter.

[ww] Uncorrected age for GSC-2443, 8500±80 yr. B.P., was reported by Alley and Thomson (1978, p. 18).

[xx] *Abies* sp.

[yy] *Saxidomus giganteus* Deshayes.

[zz] Uncorrected age for GSC-2534, 8840±90 yr. B.P., was reported by Alley and Thomson (1978, p. 18).

[aaa] *Protothaca tenerrima*.

[bbb] Dated samples are from coastal localities less than about 30 m above present sea level. Because the exact elevations of the samples are unknown, the significance of the dates is uncertain. These dates are not subdivided according to geographic regions as are the other dates in this table.

[ccc] Sample is probably within a few metres of present sea level.

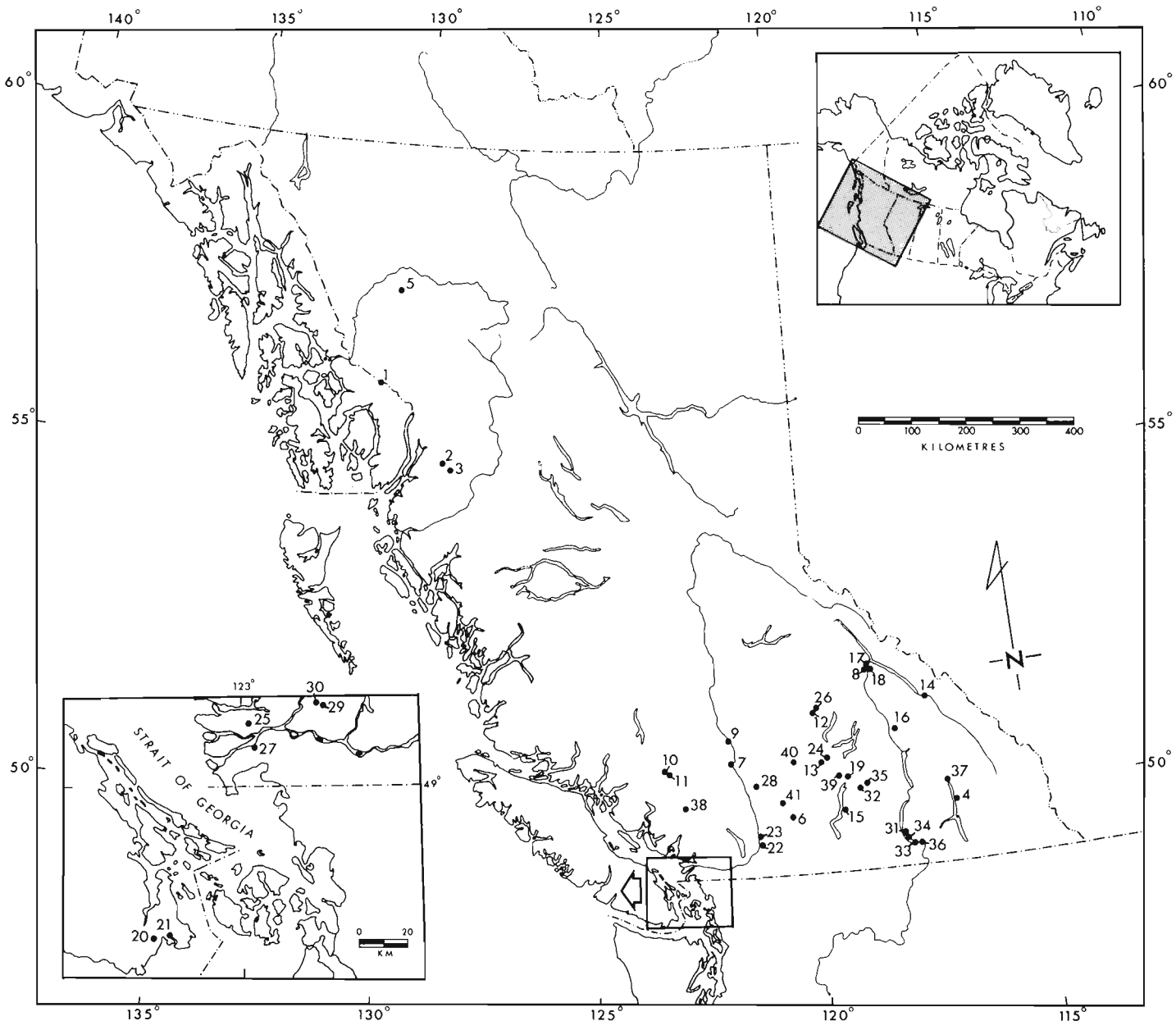

Figure 8. *Distribution of radiocarbon dates relating to volcanic flows and tephras. Numbers refer to dates listed in Table 6.*

Table 6. Radiocarbon dates pertaining to lava flows and tephras.

Site, Fig. 8	Laboratory dating no.[a]	Date (yr. B.P.)	Locality	Location lat.	Location long.	Sample elevation grouping[b]	Reference[c]	Collector[d]	Material	Significance
Lava Fork Lava Flow										
1	GX-3494	<150	Lava Fork, Unuk River	56°21'	130°55'	3	133 (p. 261)	EWG	charcoal	age of lava flow
Aiyansh Lava Flow and Pyroclastic Cone										
2	GSC-1124[e]	250±130	Aiyansh	55°13'	129°08'	2	91 (p. 300)	PH	wood[f]	age of most recent eruption and Aiyansh flow
3	S-1046	625±70	Aiyansh	55°07'	128°54'	3	153 (p. 1037)	VW	charred wood	age of early eruption
St. Helens W Tephra										
4	GSC-832	1220±130	Leviathan Lake	49°57.0'	116°51.2'	3	85 (p. 70)	RJF	wood	maximum date for tephra
Edziza Tephra										
5	GSC-566	1340±130	Edziza Peak	57°47'	130°35'	4	90 (p. 174)	JGS	wood	within tephra
Bridge River Tephra										
6	GSC-1950	1860±70	Otter Creek Bog	49°53.0'	120°37.5'	4	150 (p. 2598)	JAW	peat	minimum date for younger tephra
6	GSC-1939	2070±80	Otter Creek Bog	49°53.0'	120°37.5'	4	150 (p. 2598)	JAW	peat	maximum date for younger tephra
7	S-580[g]	2185±85	Mitchell site	50°44.4'	121°55.5'	3	123 (p. 335)	AHS	charcoal	minimum date for older tephra
8	GSC-1520[h]	2240±130	Mica Creek	52°01.2'	118°33.5'	3	88 (p. 11)	RJF	peat	minimum date for older tephra
9	GSC-529	2440±140	Jesmond Bog	51°05'	121°59'	4	84 (p. 227)	WHM,HWN,GER,CT	peat	maximum date for older tephra
8	GSC-1532[i]	2450±130	Mica Creek	52°01.2'	118°33.5'	3	88 (p. 11)	RJF	peat	maximum date for older tephra
10	GSC-2587	2480±60	Pebble Creek	50°40'	123°30'	3	89 (p. 10)	TLS	charcoal[j]	within reworked tephra
11	GSC-2571[k]	2500±50	Lillooet River Canyon	50°39.7'	123°26.8'	3	89 (p. 10)	PBR	charred wood[j]	within tephra
7	S-581[g]	2550±80	Mitchell site	50°44.4'	121°55.5'	3	123 (p. 335)	AHS	charcoal	minimum date for older tephra
7	S-582[g]	2775±75	Mitchell site	50°44.4'	121°55.5'	3	123 (p. 335)	AHS	charcoal	maximum date for older tephra

Table 6 (cont.)

Site, Fig. 8	Laboratory dating no.[a]	Date (yr. B.P.)	Locality	Location lat.	Location long.	Sample elevation grouping[b]	Reference[c]	Collector[d]	Material	Significance
St. Helens P Tephra?										
6	GSC-1939	2070±80	Otter Creek Bog	49°53.0'	120°37.5'	4	150 (p. 2598)	JAW	peat	minimum date for tephra
6	GSC-1946	3220±70	Otter Creek Bog	49°53.0'	120°37.5'	4	150 (p. 2598)	JAW	peat	maximum date for tephra
St. Helens Yn Tephra										
6	GSC-1946	3220±70	Otter Creek Bog	49°53.0'	120°37.5'	4	150 (p. 2598)	JAW	peat	minimum date for tephra
12	GX-4038	3220±155	Dunn Peak	51°26'	119°57'	4	51 (p. 75)	JMD	charcoal	maximum date for tephra
6	GSC-298	3390±130	Otter Creek Bog	49°53.0'	120°37.5'	4	57 (p. 110)	RJF	peat	maximum date for tephra
13	GSC-345	3410±130	Pemberton Creek	50°41.4'	119°50.8'	3	57 (p. 110)	RJF	charcoal	maximum date for tephra
14	GSC-1461[l]	3460±140	Oldman Creek	51°28.9'	117°13.4'	3	88 (p. 9)	RJF	wood[m]	minimum date for tephra
15	GSC-1868	3640±70	Kelowna Bog	49°56'	119°23'	3	89 (p. 7)	NFA	wood[n]	maximum date for tephra
Mazama Tephra										
16	GSC-1183	5500±140	Mt. Revelstoke	51°04.4'	118°04.2'	4	91 (p. 294)	RDM	peat	minimum date for tephra
17	I-3807	5550±120	Columbia River	52°06'	118°33'	3	61 (p. 21)	KER	wood	minimum date for tephra
18	I-3158	6190±120	Columbia River	52°00'	118°30'	3	26 (p. 62)	HLM	charcoal	minimum date for tephra
19	GSC-214	6270±140	Deep Creek	50°23.2'	119°16.7'	3	56 (p. 33)	RJF	organic muck	minimum date for tephra
20	GSC-963	6390±160	Rithets Bog	48°27'	123°29'	2	85 (p. 74)	JTF,HWN	gyttja	maximum date for tephra
17	I-3809	6560±115	Columbia River	52°06'	118°33'	3	61 (p. 21)	KER	charcoal	within tephra
21	I-3674	6670±120	Portage Inlet	48°27.8'	123°25.2'	1	27 (p. 101)	HDF,PWM	peat	minimum date for tephra
22	I-5347	6930±135	Squeah Lake	49°29.0'	121°24.3'	3	97 (p. 1056)	CEB	gyttja	maximum date for tephra
23	GSC-459[g]	7190±150	Fraser Canyon	49°33'	121°24'	2	93 (p. 30)	CEB,PDH	charcoal	maximum date for tephra
24	GSC-1487[o]	7190±150	Chase	50°44.1'	119°43.5'	3	86 (p. 24)	RJF	marl, peat	maximum date for tephra
25	GSC-321	7340±360	Burnaby Lake	49°14.6'	122°57.2'	2	57 (p. 110)	WHM	peat	maximum date for tephra
23	S-61[g]	7350±150	Fraser Canyon	49°33'	121°24'	2	103 (p. 78)	CEB	charcoal	maximum date for tephra
26	GX-4039	7390±250	Dunn Peak	51°27'	119°55'	4	52 (p. 87)	JMD	charcoal	maximum date for tephra
24	GSC-1487-2[o]	7400±160	Chase	50°44.1'	119°43.5'	3	86 (p. 25)	RJF	marl, peat	maximum date for tephra
27	GaK-4649[g]	7430±340	Glenrose Cannery	ca. 49°10'	122°56'	2	101 (p. 18)	RGM,THL	charcoal	maximum date for tephra
19	GSC-206	7510±150	Deep Creek	50°23.2'	119°16.7'	3	56 (p. 33)	RJF	organic muck	maximum date for tephra
28	GSC-530[g]	7530±270	Drynoch Slide	ca. 50°22'	121°23'	3	93 (p. 31)	DS	charcoal	maximum date for tephra
29	I-6821	7645±340	Marion Lake	49°19'	122°33'	3	96 (p. 2091)	RWM	gyttja	maximum date for tephra
18	I-3159	7670±220	Columbia River	52°00'	118°30'	3	26 (p. 62)	HLM	charcoal	maximum date for tephra
30	I-6966	8275±135	Surprise Lake	49°19'	122°34'	3	96 (p. 2091)	RWM	gyttja	maximum date for tephra
31	GSC-875[p]	8310±150	Twobit Creek	49°30.5'	118°05.3'	3	85 (p. 71)	RJF	peaty marl	maximum date for tephra
32	GSC-1004	8320±140	Lavington	50°14.2'	119°01.5'	3	85 (p. 73)	RJF	fibrous organic matter	maximum date for tephra
33	GSC-213	8380±150	Lower Arrow Lake	49°20'	117°52'	3	56 (p. 32)	HWN	plant detritus	maximum date for tephra
Unidentified Postglacial Tephra										
34	GaK-2896[g]	3150±170	Lower Arrow Lake	49°24.3'	118°00.2'	3	147 (p. 105)	CJT	charcoal	maximum date for tephra
34	GX-11979[g,r]	3215±180	Lower Arrow Lake	49°24.3'	118°00.2'	3	147 (p. 105)	CJT	charcoal	maximum date for tephra
Pre-Fraser Glaciation Tephras[s] and Flows										
35	GSC-913	19,100±240	Bessette Creek	50°17.9'	118°51.8'	3	85 (p. 72)	GWS	plant detritus	minimum date for Cherryville tephra
36	GSC-1188	19,900±230	Balfour Creek	49°21.0'	117°44.8'	3	91 (p. 293)	RJF	charcoal	approximate age of Rialto Creek tephra
35	GSC-1953	25,300±320	Bessette Creek	50°17.9'	118°51.8'	3	151 (Table 2)	RJF	wood	minimum date for Riggins Road tephra
35	GSC-1495	25,400±270	Bessette Creek	50°17.9'	118°51.8'	3	151 (Table 2)	RJF	detrital peat	maximum date for Cherryville tephra
35	GSC-1938	31,100±480	Bessette Creek	50°17.9'	118°51.8'	3	151 (Table 2)	RJF	detrital peat	maximum date for Riggins Road tephra
35	GSC-2031	31,200±900	Bessette Creek	50°17.9'	118°51.8'	3	151 (Table 2)	RJF	wood	maximum date for Riggins Road tephra
37	GSC-493[t]	32,710±800	Meadow Creek	50°15.1'	116°59.0'	3	84 (p. 224)	RJF	wood	minimum date for Duncan Lake tephra
37	GSC-542[t]	33,700±300	Meadow Creek	50°15.1'	116°59.0'	3	84 (p. 224)	RJF	wood	minimum date for Duncan Lake tephra
38	GSC-2169	34,200±800	Garibaldi	50°04.3'	123°05.7'	3	66 (p. 11)	JAR	carbonaceous material	maximum date for lava flow
37	GSC-716[u]	41,800±600	Meadow Creek	50°15.1'	116°59.0'	3	84 (p. 224)	RJF	wood	maximum date for Duncan Lake tephra
37	GSC-733	41,900±600	Meadow Creek	50°15.1'	116°59.0'	3	84 (p. 224)	RJF	wood	maximum date for Duncan Lake tephra
39	GSC-479	>22,200	Salmon River	50°26.2'	119°27.5'	3	90 (p. 172)	RJF	charcoal	minimum date for Sweetsbridge tephra
40	GSC-413[v]	>35,500	Mission Flats	50°41.3'	120°26.5'	3	57 (p. 109)	RJF	freshwater shells[w]	minimum date for Mission Flats tephra
41	GSC-258	>37,200	Merritt	50°04.9'	120°48.2'	3	56 (p. 34)	RJF	freshwater shells[x]	minimum date for Coutlee tephra

[a] Laboratories: GaK, Gakushuin University; GSC, Geological Survey of Canada; GX, Geochron Laboratories; I, Teledyne Isotopes; S, Saskatchewan.

[b] 1, <0 m; 2, 0-200 m (coastal lowlands and lower reaches of adjacent valleys); 3, 200-1000 m (most valleys and bordering plateaux and plains); 4, >1000 m (mountains, high valleys, and bordering plateaux).

[c] Non-bracketed numbers correspond to numbered citations in reference list.

[d] NFA, N.F. Alley; CEB, C.E. Borden; JMD, J.M. Duford; HDF, H.D. Foster; RJF, R.J. Fulton; JTF, J.T. Fyles; EWG, E.W. Grove; PDH, P.D. Harrison; PH, P. Hughan; THL, T.H. Loy; PWM, P.W. Marshall; RWM, R.W. Mathewes; WHM, W.H. Mathews; RGM, R.G. Matson; HLM, H.L. Minch; RDM, R.D. Muir; HWN, H.W. Nasmith; PBR, P.B. Read; KER, K.E. Ricker; JAR, J.A. Roddick; GER, G.E. Rouse; TLS, T.L. Sadlier-Brown; DS, D. Sanger; GWS, G.W. Smith; JGS, J.G. Souther; AHS, A.H. Stryd; CT, C. Towers; CJT, C.J. Turnbull; JAW, J.A. Westgate; VW, V. Wuorinen.

[e] Uncorrected age for GSC-1124, 220±130 yr. B.P., was reported by Sutherland Brown (1969, p. 1467) and Souther (1970, p. 560).

[f] *Populus* sp.

[g] Archaeological date.

[h] Uncorrected age for GSC-1520, 2290±130 yr. B.P., was reported by Fulton (1971, p. 21).

[i] Uncorrected age for GSC-1532, 2480±130 yr. B.P., was reported by Fulton (1971, p. 21).

[j] *Pseudotsuga menziesii*.

[k] Sample was collected near the centre of a tree, about 150 years old, which was enclosed by tephra. The age of the tephra is thus about 2350±50 yr. B.P.

[l] Uncorrected age for GSC-1461, 3430±140 yr. B.P., was reported by Fulton (1971, p. 21).

[m] *Picea* sp. or *Larix* sp.

[n] *Betula* sp?

[o] GSC-1487 (7190±150 yr. B.P.) and GSC-1487-2 (7400±160 yr. B.P.) are dates on the same sample. GSC-1487 dates $CaCO_3$ fraction of the sediment; GSC-1487-2 dates the plant organic fraction.

[p] The following determinations were made: inorganic fraction (one 3-day count), 8540±140 yr. B.P.; organic fraction (one 3-day count), 8310±150 yr. B.P.

[r] Incorrectly cited as 3215±120 yr. B.P. by Turnbull (1977, p. 105).

[s] See Westgate and Fulton (1975) for details regarding pre-Fraser Glaciation tephras.

[t] The following determinations were made: one 1-day count in 2L counter, 35,700±1500 yr. B.P.; three 1-day counts in 5L counter 33,700±300 yr. B.P.

[u] The following determinations were made: one 1-day count in 2L counter, >36,000 yr. B.P.; one 3-day count and one 1-day count in 5L counter, 41,800±600 yr B.P.

[v] The following determinations were made: outer fraction (10-55% leach, one 1-day count), >35,500 yr. B.P.; inner fraction (56-100% leach, one 3-day count), >34,400 yr. B.P.

[w] *Margaritifera margaritifera, Anodonta nuttalliana*.

[x] *Anodonta* sp.

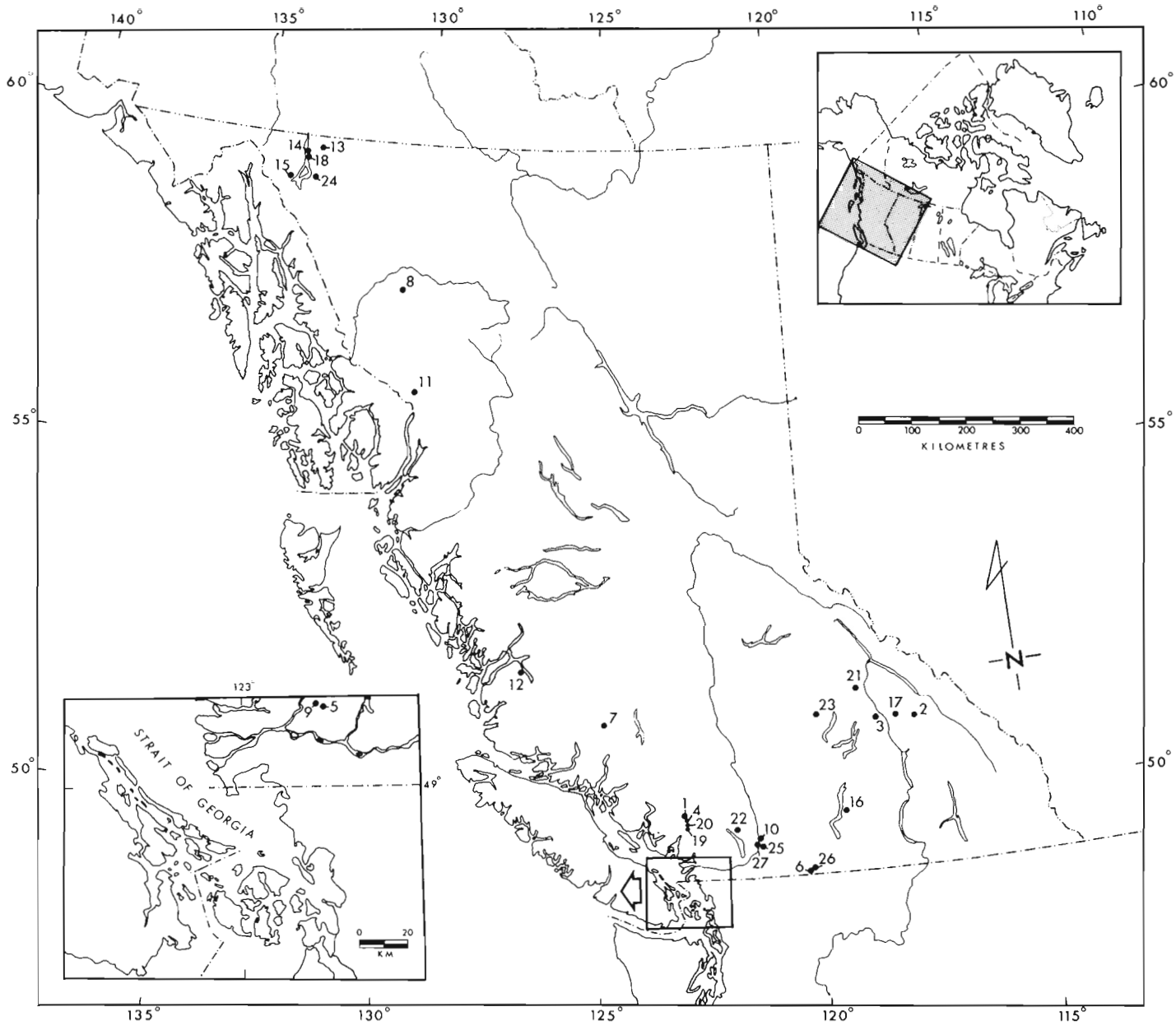

Figure 9. *Distribution of radiocarbon dates bearing on postglacial climates. Numbers refer to dates listed in Table 7.*

Table 7. Radiocarbon dates pertaining to postglacial climates.

Site, Fig. 9	Laboratory dating no.[a]	Date (yr. B.P.)	Locality	Location lat.	Location long.	Sample elevation grouping[b]	Reference[c]	Collector[d]	Material	Significance
1	Y-346[e]	"modern"	Helm Glacier	ca. 50°00'	123°00'	4	17 (p. 909)	WHM	wood	antedates Neoglacial maximum
2	GSC-538	270±140	Nakimu Caves	51°16'	117°35'	4	84 (p. 225)	DCF	wood	subsequent colder interval
3	GSC-571	450±130	Big Eddy Creek	51°17'	118°29'	4	90 (p. 171)	JOW	wood	colder
4	Y-347	460±40	Sphinx Glacier	ca. 49°56'	122°59'	4	17 (p. 909)	WHM	wood	antedates Neoglacial maximum
5	I-6833	520±115	Marion Lake	49°19'	122°33'	3	96 (p. 2091)	RWM	gyttja	similar to present
6	GSC-2156	820±50	Cathedral Lakes Park	49°03.4'	120°09.5'	4	87 (p. 18)	WHM	wood[f]	warmer ca. 1200 yr. B.P.
5	I-5961	890±90	Marion Lake	49°19'	122°33'	3	96 (p. 2091)	RWM	gyttja	similar to present
7	GSC-977	1270±140	Tiedemann Glacier	51°21.0'	124°56.5'	3	91 (p. 300)	RJF	peat	colder
8	GSC-566	1340±130	Edziza Peak	57°47'	130°35'	4	90 (p. 174)	JGS	wood	postdates Neoglacial maximum
9	I-6964	1555±130	Surprise Lake	49°19'	122°34'	3	96 (p. 2091)	RWM	gyttja	similar to present
5	I-6832	2140±125	Marion Lake	49°19'	122°33'	3	96 (p. 2091)	RWM	gyttja	similar to present
7	GSC-948	2250±130	Tiedemann Glacier	51°21.0'	124°56.5'	3	91 (p. 300)	RJF	peat	colder
10	S-1129[g,h]	2360±60	Fraser Canyon	49°33'	121°24'	2	104 (p. 77)	CEB	charcoal	colder?
11	GSC-1372	2730±170	Tide Lake	56°16'	130°03'	3	86 (p. 27)	drillers[i]	wood	colder
10	M-15129[g,h]	2790±130	Fraser Canyon	49°33'	121°24'	2	45 (p. 136)	CEB,DR,TD,DM	charcoal	colder?
10	M-1513[g,h]	2800±130	Fraser Canyon	49°33'	121°24'	2	45 (p. 136)	CEB,DR,TD,DM	charcoal	colder?
7	GSC-938	2940±130	Tiedemann Glacier	51°21.0'	124°56.5'	3	91 (p. 300)	RJF	peat	colder
12	GaK-3721	3010±100	South Bentinck Arm	52°09'	126°55'	3	9 (p. 347)	JTA,RMR	peat	postdates Neoglacial maximum?
13	AU-107	3090±170	Fourth of July Valley	ca. 59°50'	133°20'	4	120 (p. 12)	MMM,JHA	peat	warmer, wetter
14	M-2050	3200±160	Mile 47 Bog	59°43.5'	133°44.8'	3	46 (p. 198)	JHA	peat, marl	warmer, wetter

Table 7 (cont.)

Site, Fig. 9	Laboratory dating no.[a]	Date (yr. B.P.)	Locality	Location lat.	Location long.	Sample elevation grouping[b]	Reference[c]	Collector[d]	Material	Significance
15	AU-77A	3470±90	Cathedral Glacier	59°21'	134°04'	4	120 (p. 12)	JHA,MMM	silty peat	warmer?
16	GSC-1868	3640±70	Kelowna Bog	49°56'	119°23'	3	55 (p. 170)	NFA	wood[j]	warm, dry
17	GSC-169	3760±140	Downie Creek	51°18'	118°01'	4	89 (p. 7)	JOW	wood[k]	warmer
5	I-6823	4035±105	Marion Lake	49°19'	122°33'	3	96 (p. 2091)	RWM	gyttja	similar to present
18	M-2054	4160±180	Piddlin' Pond Bog	59°40.1'	133°42.5'	3	46 (p. 198)	JHA	peat	warmer, wetter
9	I-6965	4715±100	Surprise Lake	49°19'	122°34'	3	96 (p. 2091)	RWM	gyttja	similar to present
5	I-6822	4860±105	Marion Lake	49°19'	122°33'	3	96 (p. 2091)	RWM	gyttja	similar to present
19	Y-140bis[l]	5260±200	Mount Garibaldi	49°52'	122°59'	4	138 (p. 58)	WHM	wood[m]	warmer
20	GSC-2027	5300±70	Sentinel Glacier	49°54'	122°59'	4	87 (p. 20)	OM	wood[n]	warmer
21	GSC-197	5470±140	Ruddock Creek	51°46.5'	118°54.0'	4	57 (p. 109)	EDD	wood[k]	warmer
19	Y-140[l]	5850±180	Mount Garibaldi	49°52'	122°59'	4	119 (p. 956)	WHM	wood[m]	warmer
22	GSC-760	5950±140	Mount Breakenridge	49°44'	121°57'	4	84 (p. 226)	EDD	wood[o]	warmer
20	GSC-1477	6170±150	Sentinel Glacier	49°53'	122°58'	4	86 (p. 26)	OM	wood[o]	warmer
23	GX-4039	7390±250	Dunn Peak	51°27'	119°55'	4	52 (p. 87)	JMD	charcoal	postdates Holocene glacier advance
4	GSC-1993	7640±80	Sphinx Glacier	49°55'	122°58'	4	87 (p. 20)	OM	wood[n]	warmer
5	I-6821	7645±340	Marion Lake	49°19'	122°33'	3	96 (p. 2091)	RWM	gyttja	similar to present[p]
24	M-2221	8000±350	August 22nd Bog	59°22.2'	133°24.1'	3	46 (p. 199)	JHA	peat	similar to present
13	GX-2694	8050±530	Fourth of July Valley	ca. 59°50'	133°20'	4	120 (p. 12)	MMM,JHA	heath	similar to present
9	I-6966	8275±135	Surprise Lake	49°19'	122°34'	3	96 (p. 2091)	RWM	gyttja	similar to present[p]
16	GSC-1867	8410±100	Kelowna Bog	49°56'	119°23'	3	89 (p. 7)	NFA	wood[i]	colder, wetter
14	M-2051[r]	8600±330	Mile 47 Bog	59°43.5'	133°44.8'	3	46 (p. 198)	JHA	shells, fine organics	colder, drier
25	I-5185	8620±135	Squeah Lake	49°29.0'	121°24.3'	3	98 (p. 749)	RWM	gyttja	warmer, drier
26	GSC-1390	9120±540	Keremeos	49°03.6'	120°08.5'	4	91 (p. 295)	ALVR	charcoal	warmer
13	GX-2695	9315±540	Fourth of July Valley	ca. 59°50'	133°20'	4	120 (p. 12)	MMM,JHA	heath	colder, drier
9	I-6967	10,340±155	Surprise Lake	49°19'	122°34'	3	96 (p. 2091)	RWM	gyttja	similar to present?
5	I-6820	10,370±145	Marion Lake	49°19'	122°33'	3	96 (p. 2097)	RWM	gyttja	similar to present?
27	I-5346	11,000±170	Pinecrest Lake	49°29.5'	121°26.0'	3	97 (p. 1057)	RWM	gyttja	colder, wetter
25	I-6058	11,140±260	Squeah Lake	49°29.0'	121°24.3'	3	97 (p. 1057)	RWM	gyttja	colder, wetter
27	I-6057	11,430±150	Pinecrest Lake	49°29.5'	121°26.0'	3	97 (p. 1057)	RWM	gyttja	colder, wetter
5	I-5960	12,350±190	Marion Lake	49°19'	122°33'	3	96 (p. 2091)	RWM	gyttja	colder

[a] Laboratories: AU, University of Alaska; GaK, Gakushuin University; GSC, Geological Survey of Canada; GX, Geochron Laboratories; I, Teledyne Isotopes; M, Michigan; S, Saskatchewan; Y, Yale University.

[b] 2, 0-200 m (coastal lowlands and lower reaches of adjacent valleys); 3, 200-1000 m (most valleys and bordering plateaux and plains); 4, >1000 m (mountains, high valleys, and bordering plateaux). No dated samples from <0 m.

[c] Non-bracketed numbers correspond to numbered citations in reference list.

[d] NFA, N.F. Alley; JHA, J.H. Anderson; JTA, J.T. Andrews; CEB, C.E. Borden; TD, T. Denton; EDD, E.D. Dodson; JMD, J.M. Duford; DCF, D.C. Ford; RJF, R.J. Fulton; RWM, R.W. Mathewes; WHM, W.H. Mathews; OM, O. McLeod; MMM, M.M. Miller; OM, O. Mokievsky-Zubok; RMR, R.M. Retherford; DR, D. Rice; JGS, J.G. Souther; ALVR, A.L. van Ryswyk; JOW, J.O. Wheeler.

[e] Dated material is from tree overridden by Helm Glacier and exposed by glacier retreat since A.D. 1940. "Modern" age is incompatible with field evidence.

[f] *Larix* sp.

[g] Archaeological sample.

[h] Dated sample is from the base of what are presumed to be Neoglacial eolian sediments (e.g., Borden, 1965, p. 170). Sedimentological study of these materials is required before paleoclimatic inference of colder conditions can be accepted.

[i] Submitted by W.H. Mathews.

[j] *Betula* sp?

[k] *Picea* sp.

[l] Y-140bis (5260±200 yr. B.P.) supersedes Y-140 (5850±180 yr. B.P.).

[m] *Chamaecyparis nootkatensis*?

[n] *Tsuga heterophylla*.

[o] *Abies* sp.

[p] Climate may have been slightly warmer and/or drier at this time.

[q] *Salix* sp.

[r] The following determinations were made: organic fraction, 8600±330 yr. B.P.; inorganic fraction, 8670-900 yr. B.P.

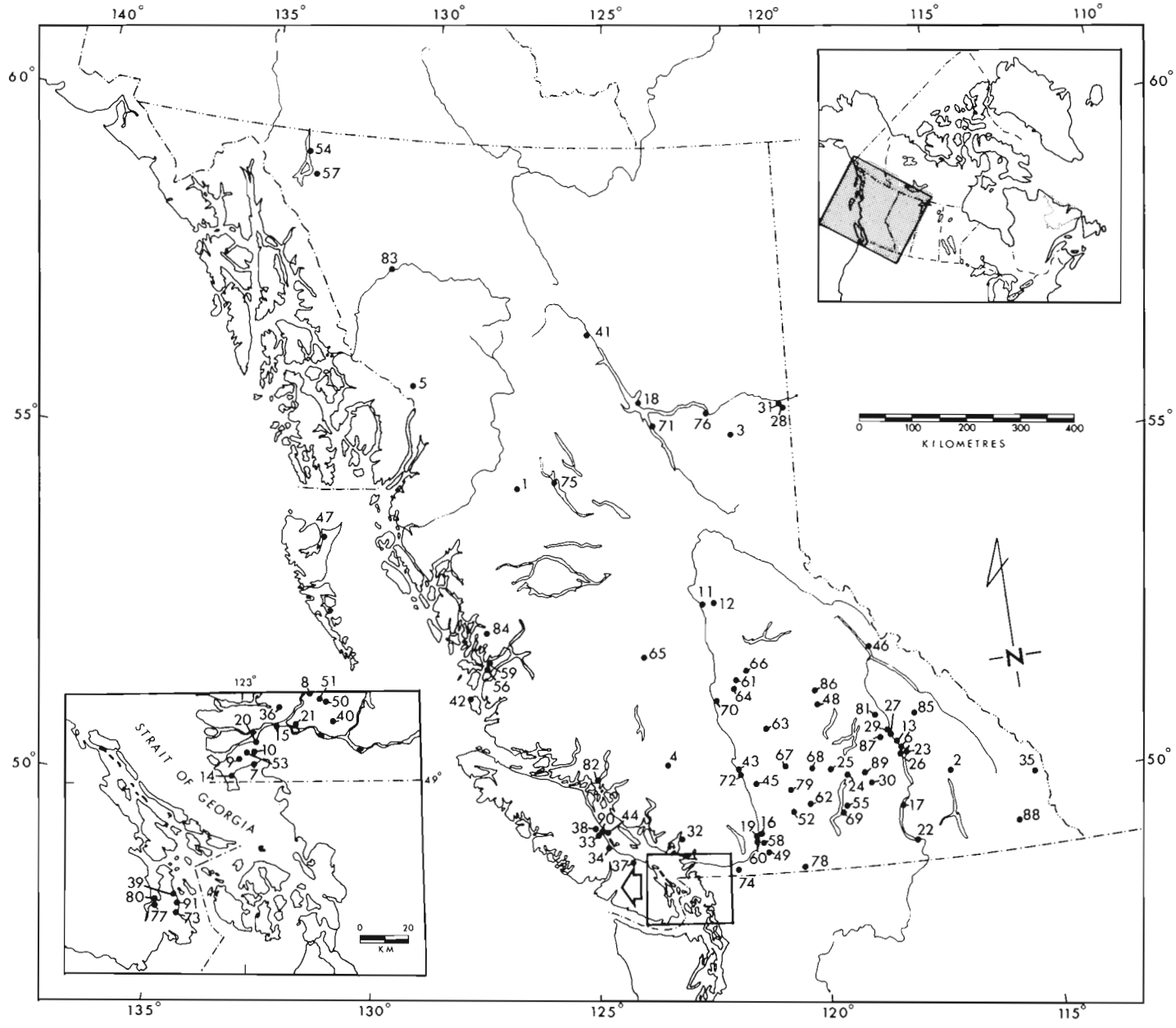

Figure 10. *Distribution of miscellaneous radiocarbon dates. Numbers refer to dates listed in Table 8.*

Table 8. Miscellaneous radiocarbon dates.

Site, Fig. 10	Laboratory dating no.[a]	Date (yr. B.P.)	Locality	Location lat.	Location long.	Sample elevation grouping[b]	Reference[c]	Collector[d]	Material	Comment
Postglacial Fluvial Sedimentation, Erosion, and Delta Growth										
1	GSC-2552	150±50	Toboggan Lake	54°51.9'	127°14.0'	3	89 (p. 11)	JJC	wood[e]	dates growth of alluvial fan
2	I-2245	355±90	Duncan River	50°20'	116°55'	3	25 (p. 263)	PO	wood[f]	maximum date for Duncan River aggradation
1	GSC-2535	660±50	Toboggan Lake	54°51.9'	127°14.0'	3	89 (p. 11)	JJC	wood[f]	dates growth of alluvial fan
3	GSC-1274	2000±130	Sukunka River	55°35.0'	121°36.5'	3	91 (p. 296)	NWR	wood[f]	maximum date for late postglacial lake
4	GSC-2587	2480±60	Pebble Creek	50°40'	123°30'	3	89 (p. 10)	TLS	charcoal[g]	approximate age of alluvial terrace
5	GSC-1372	2730±170	Tide Lake	56°16'	130°03'	3	86 (p. 27)	drillers[h]	wood	age of Neoglacial Tide Lake
6	GSC-809	3480±130	Sidmouth	50°43.4'	117°58.2'	3	84 (p. 226)	RJF	wood, plant detritus	dates growth of delta of Columbia River
6	GSC-819	3780±140	Sidmouth	50°43.4'	117°58.2'	3	84 (p. 226)	RJF	wood	dates growth of delta of Columbia River
7	GX-0781	4350±110	Boundary Bay	49°04.5'	122°55.0'	1	78 (p. 83)	JWM	peat	dates growth and emergence of Fraser Delta
8	I-7047	4645±95	Pitt Lake	49°21'	122°36'	2	16 (p. 7)	MJP	wood	dates growth of Fraser Delta
9	I-7629	4935±100	Burns Bog	49°06'	123°01'	1	73 (p. 126)	RJH	disseminated organics	dates growth and emergence of Fraser Delta
10	I-9595	5085±100	Burns Bog	49°08.5	122°55.0'	1	73 (p. 143)	RJH	disseminated organics	dates growth and emergence of Fraser Delta
11	GSC-825	5790±140	Quesnel	53°05'	122°31'	3	84 (p. 227)	JEA	wood	antedates major degradation by Fraser River
12	GSC-853	6640±140	Quesnel	53°05.0'	122°15.5'	3	84 (p. 227)	JEA	wood	antedates major degradation by Cottonwood River
13	GSC-798	6700±140	Greenslide	50°51.3'	118°06.2'	3	84 (p. 226)	RJF	wood	dates growth of delta of Columbia River
14	GSC-395	6790±150	Fraser Delta	49°02.5'	123°04.0'	1	57 (p. 110)	WLB	marine shells	dates growth of Fraser Delta
13	GSC-778	6970±150	Greenslide	50°51.3'	118°06.2'	3	84 (p. 225)	RJF	wood	dates growth of delta of Columbia River
15	S-99[i]	7300±120	Port Mann	49°13'	122°48'	1	104 (p. 73)	RAS	peat	dates growth of Fraser Delta
16	S-61[j]	7350±150	Fraser Canyon	49°33'	121°24'	2	103 (p. 78)	CEB	charcoal	antedates major degradation by Fraser River
17	GSC-961	7370±140	Fauquier	49°52.3'	118°05.7'	3	85 (p. 72)	HGG	wood	rate of sedimentation in Lower Arrow Lake

Table 8 (cont.)

Site, Fig. 10	Laboratory dating no.[a]	Date (yr. B.P.)	Locality	Location lat.	Location long.	Sample elevation grouping[b]	Reference[c]	Collector[d]	Material	Comment
18	GSC-1069	7470±140	Ospika River	56°10'	124°07'	3	91 (p. 298)	NWR	wood	minimum date for early postglacial lake
18	GSC-1161[k]	7480±150	Ospika River	56°10'	124°07'	3	91 (p. 298)	NWR	peat	minimum date for early postglacial lake
19	GSC-2163[k]	7490±70	Yale	49°32.7'	121°26.2'	2	92 (p. 13)	JEA	charred wood	minimum date for lake in Fraser Canyon
15	GSC-2[l]	7600±150	Port Mann	49°13'	122°48'	1	53 (p. 15)	RAS	peat	dates growth of Fraser Delta
20	GaK-4866[j]	8150±250	Glenrose Cannery	ca. 49°10'	122°56'	2	101 (p. 18)	RGM	charcoal	dates growth of Fraser Delta
16	S-47[j]	8150±300	Fraser Canyon	49°33'	121°24'	2	103 (p. 78)	CEB	charcoal	antedates major degradation by Fraser River
21	GSC-229	8290±140	Pitt Meadows Airport	49°13'	122°42'	1	56 (p. 35)	AM	peaty silt	dates growth of Fraser Delta
22	GSC-213	8380±150	Lower Arrow Lake	49°20'	117°52'	3	56 (p. 32)	HWN	plant detritus	dates growth of alluvial fan
23	GSC-1070	8390±140	Galena Bay	50°40.1'	117°51.0'	3	88 (p. 10)	RAA	wood	age of early postglacial lake in Columbia Valley
24	GSC-193	8900±150	Deep Creek	50°23.2	119°16.7'	3	56 (p. 33)	RJF	organic silt	minimum date for lakes Penticton and Shuswap
25	GSC-526	8900±150	Paxton Creek	50°32.5'	119°45.2'	3	90 (p. 172)	RJF	plant fibres	minimum date for early postglacial lake
17	GSC-1212	8910±150	Fauquier	49°52.2'	118°05.2'	3	88 (p. 10)	RAA	wood, plant detritus	age of early postglacial lake in Columbia Valley
16	S-113[j]	9000±150	Fraser Canyon	49°33'	121°24'	2	104 (p. 77)	CEB	charcoal	antedates major degradation by Fraser River
26	GSC-1065	9160±150	Shelter Bay	50°38.2'	117°55.6'	3	88 (p. 10)	RJF	wood	age of early postglacial lake in Columbia Valley
17	GSC-1014	9170±150	Fauquier	49°52.2'	118°05.2'	3	88 (p. 10)	RJF	wood	age of early postglacial lake in Columbia Valley
17	GSC-1152	9380±140	Fauquier	49°52.2'	118°05.2'	3	88 (p. 10)	RAA	wood, plant detritus	age of early postglacial lake in Columbia Valley
27	GSC-1306	9490±160	Revelstoke	51°00'	118°12'	3	91 (p. 294)	HWN	wood[i]	age of early postglacial lake in Columbia Valley
17	GSC-1613[m]	9590±150	Fauquier	49°52.2'	118°05.2'	3	88 (p. 10)	RJF	wood[i]	age of early postglacial lake in Columbia Valley
28	GSC-1548[m]	9960±170	Dawson Creek	55°58.8'	120°14.6'	3	86 (p. 28)	THFR	freshwater shells[n]	age of late Lake Peace or subsequent ponds
29	GSC-1059	9990±150	Jordan River	51°01.2'	118°13.3'	3	88 (p. 10)	RJF	wood	age of early postglacial lake in Columbia Valley
17	GSC-1012	10,100±150	Fauquier	49°52.2'	118°05.2'	3	88 (p. 10)	RJF	wood	age of early postglacial lake in Columbia Valley
30	GSC-905	10,200±190	Bear Valley	50°15'	118°47'	3	85 (p. 72)	GWS	plant fibres	age of early postglacial lake
31	GSC-1654	10,400±170	Dawson Creek	55°59.0'	120°15.7'	3	86 (p. 28)	THFR	freshwater shells[o]	age of late Lake Peace or subsequent ponds
32	GSC-185[p]	10,690±180	Furry Creek	49°35'	123°13'	2	56 (p. 34)	JEA	wood[q]	age of early postglacial marine delta
32	GSC-227[p,r]	11,300±190	Furry Creek	49°35'	123°13'	2	56 (p. 34)	JEA	marine shells	age of early postglacial marine delta
33	I(GSC)-10	11,780±450	Courtenay	49°38.5'	125°00.2'	2	149 (p. 48)	JGF	peat	minimum date for ice-contact marine delta
34	L-391F	11,850±300	Fanny Bay	49°29'	124°49'	2	114 (p. 15)	JGF	wood	age of early postglacial marine delta
35	GSC-2142	11,900±100	Upper Elk Valley	50°09.5'	114°57.3'	4	88 (p. 9)	JEH	organic detritus	postdates initial postglacial valley cutting
36	GSC-2177	12,000±100	Coquitlam	49°17.6'	122°47.2'	2	92 (p. 15)	JEA	marine shells[s]	age of early postglacial marine delta
17	GSC-1596[t]	12,000±200	Fauquier	49°52.2'	118°05.2'	3	88 (p. 10)	RJF	freshwater shells[u]	age of early postglacial lake
37	I(GSC)-1[v]	12,000±450	Parksville	ca. 49°17'	124°16'	2	149 (p. 48)	JGF	wood	age of early postglacial marine delta
37	L-391D[v]	12,150±250	Parksville	ca. 49°17'	124°16'	2	114 (p. 15)	JGF	wood	age of early postglacial marine delta
38	GSC-24[w]	12,200±160	Puntledge River	49°41'	125°02'	2	53 (p. 19)	JGF	wood	age of early postglacial marine delta
35	GSC-2275	12,200±160	Upper Elk Valley	50°09.5'	114°57.3'	4	88 (p. 9)	JEH	organic detritus	postdates initial postglacial valley cutting
37	L-391E[v]	12,350±250	Parksville	ca. 49°17'	124°16'	2	114 (p. 15)	JGF	marine shells	age of early postglacial marine delta
38	GSC-38[w]	12,360±140	Puntledge River	49°41'	125°02'	2	53 (p. 19)	JGF	marine shells	age of early postglacial marine delta
37	GSC-1[v]	12,400±200	Parksville	ca. 49°17'	124°16'	2	53 (p. 15)	JGF	wood	age of early postglacial marine delta
39	GSC-398	12,440±230	Saanichton	48°35.5'	123°23.5'	2	57 (p. 113)	ECH	marine shells	maximum date for early postglacial marine delta
33	I(GSC)-9	12,500±450	Courtenay	49°38.7'	125°00.3'	2	149 (p. 48)	JGF	marine shells	maximum date for ice-contact marine delta
17	GSC-1718[t]	12,800±250	Fauquier	49°52.2'	118°05.2'	3	88 (p. 10)	RJF	freshwater shells	age of early postglacial lake
40	GSC-2193	12,900±170	Webster Corners	49°14.0'	122°29.6'	2	92 (p. 14)	JEA	marine shells[x]	age of ice-contact marine delta
Eolian Sedimentation										
41	GSC-927[k,y]	520±140	Finlay River	57°11'	125°18'	3	91 (p. 299)	NWR	wood, charcoal	maximum date for eolian sand
41	GSC-944[k,y]	840±140	Finlay River	57°11'	125°18'	3	91 (p. 299)	NWR	wood, charcoal	maximum date for eolian sand
16	S-112[j]	2360±60	Fraser Canyon	49°33'	121°24'	2	104 (p. 77)	CEB	charcoal	maximum date for eolian (?) sediments
16	M-1512[j]	2790±130	Fraser Canyon	49°33'	121°24'	2	45 (p. 136)	CEB,DR,TD,DM	charcoal	maximum date for eolian (?) sediments
16	M-1513[j]	2800±120	Fraser Canyon	49°33'	121°24'	2	45 (p. 136)	CEB,DR,TD,DM	charcoal	maximum date for eolian (?) sediments
42	GaK-3718	4020±100	North Calvert Island	51°40'	128°08'	2	9 (p. 347)	JTA,RMR	soil	dates soil formation between eolian phases
43	GX-4081[j,k]	5635±190	Nesikep Creek	ca. 50°32'	121°46'	3	128 (p. 188)	DS	bone (collagen)	maximum date for eolian sand
44	I-1227	6820±200	Willemar Bluff	49°40.3'	124°53.0'	2	100 (p. 696)	JGF?	wood	dates dune construction
45	GSC-530	7530±270	Drynoch Slide	ca. 50°22'	121°23'	3	93 (p. 31)	DS	charcoal	dates eolian sand
44	GSC-265	8680±140	Willemar Bluff	49°40.3'	124°53.0'	2	57 (p. 113)	JGF	soil	maximum date for dune construction
Mass Movement										
46	GSC-123[l]	0±140	Dawson Creek Slide	52°15'	118°32'	4	91 (p. 295)	RAA	wood	age of rockslide
47	GX-1628[j,z]	1145±80	Skoglund's Landing	53°57.6'	132°07.5'	2	94 (p. 21)	KRF	charcoal	maximum date for creep or landsliding
47	GSC-1290[z]	1940±140	Skoglund's Landing	53°57.6'	132°07.5'	2	94 (p. 21)	HWN	wood[aa]	maximum date for creep or landsliding
45	I-462	3175±150	Drynoch Slide	ca. 50°22'	121°23'	3	144 (p. 66)	COB	wood	Drynoch earthflow was active at this time
48	GX-4040	5580±185	Granite Mountain	51°30'	119°55'	4	51 (p. 75)	JMD	charcoal	maximum date for solifluction activity[bb]
11	GSC-825	5790±140	Quesnel	53°05'	122°31'	3	84 (p. 227)	JEA	wood	limiting date for older and younger landslides
49	GSC-1433	9680±320	Hope Slide	49°17'	121°15'	3	86 (p. 25)	WHM	charred wood	approximate age of rockslide
Microfossil Zonation in Bog and Lake Sediments[cc]										
50	I-6833	520±115	Marion Lake	49°19'	122°33'	3	96 (p. 2091)	RWM	gyttja	pollen diagram - ref. 96 (Fig. 5)
50	I-5951	890±90	Marion Lake	49°19'	122°33'	3	96 (p. 2091)	RWM	gyttja	pollen diagram - ref. 96 (Fig. 5)
51	I-6964	1555±130	Surprise Lake	49°19'	122°34'	3	96 (p. 2091)	RWM	gyttja	pollen diagram - ref. 96 (Fig. 6)
52	GSC-1950	1860±70	Otter Creek Bog	49°53.0'	120°37.5'	4	150 (p. 2598)	JAW	peat	pollen diagram - ref. 63 (Fig. 11-2)
52	GSC-1939	2070±80	Otter Creek Bog	49°53.0'	120°37.5'	4	150 (p. 2598)	JAW	peat	pollen diagram - ref. 63 (Fig. 11-2)
50	I-6832	2140±125	Marion Lake	49°19'	122°33'	3	96 (p. 2091)	RWM	gyttja	pollen diagram - ref. 96 (Fig. 5)
53	I-9593	2925±85	Burns Bog	49°07'	122°58'	2	73 (p. 99)	RJH	peat	pollen diagram - ref. 73 (Fig. 29)
54	M-2050	3200±160	Mile 47 Bog	59°43.5'	133°44.8'	3	46 (p. 198)	JHA	peat, marl	pollen diagram - ref. 7 (Fig. 23)
52	GSC-1946	3220±70	Otter Creek Bog	49°53.0'	120°37.5'	4	150 (p. 2598)	JAW	peat	pollen diagram - ref. 63 (Fig. 11-2)
52	GSC-298	3390±130	Otter Creek Bog	49°53.0'	120°37.5'	4	57 (p. 110)	RJF	peat	pollen diagram - ref. 63 (Fig. 11-2)
55	GSC-1868	3640±70	Kelowna Bog	49°56'	119°23'	3	89 (p. 7)	NFA	wood[dd]	pollen diagram - ref. 2 (Fig. 3)
53	I-9594	3960±130	Burns Bog	49°07'	122°58'	1	73 (p. 99)	RJH	disseminated organics	pollen diagram - ref. 73 (Fig. 29)
50	I-6823	4035±105	Marion Lake	49°19'	122°33'	3	96 (p. 2091)	RWM	gyttja	pollen diagram - ref. 96 (Fig. 5)
9	I-7627	4125±110	Burns Bog	49°06'	123°01'	1	73 (p. 126)	RJH	peat	pollen diagram - ref. 73 (Fig. 37)
9	I-7628	4670±100	Burns Bog	49°06'	123°01'	1	73 (p. 126)	RJH	disseminated organics	pollen diagram - ref. 73 (Fig. 37)
51	I-6965	4715±100	Surprise Lake	49°19'	122°34'	3	96 (p. 2091)	RWM	gyttja	pollen diagram - ref. 96 (Fig. 6)
50	I-6822	4860±105	Marion Lake	49°19'	122°33'	3	96 (p. 2091)	RWM	gyttja	pollen diagram - ref. 96 (Fig. 5)
9	I-7629	4935±100	Burns Bog	49°06'	123°01'	1	73 (p. 126)	RJH	disseminated organics	pollen diagram - ref. 73 (Fig. 37)
10	I-9595	5085±100	Burns Bog	49°08.5'	122°55'	1	73 (p. 143)	RJH	disseminated organics	pollen diagram - ref. 73 (Fig. 45)
50	I-6821	7645±340	Marion Lake	49°19'	122°33'	3	96 (p. 2091)	RWM	gyttja	pollen diagram - ref. 96 (Fig. 5)
56	GSC-1658	7870±180	Codville Lake	52°05'	127°52'	2	9 (p. 347)	HN	peat	pollen diagram in preparation
57	M-2221	8000±350	August 22nd Bog	59°22.2'	133°24.1'	3	46 (p. 199)	JHA	peat	pollen diagram - ref. 7 (Fig. 25)
51	I-6966	8275±135	Surprise Lake	49°19'	122°34'	3	96 (p. 2091)	RWM	gyttja	pollen diagram - ref. 96 (Fig. 6)
55	GSC-1867	8410±100	Kelowna Bog	49°56'	119°23'	3	89 (p. 7)	NFA	wood[f]	pollen diagram - ref. 2 (Fig. 3)
54	M-2051[ee]	8600±330	Mile 47 Bog	59°43.5'	133°44.8'	3	46 (p. 198)	JHA	shells, fine organics	pollen diagram - ref. 7 (Fig. 23)
58	I-5185	8620±135	Squeah Lake	49°29.0'	121°24.3'	3	98 (p. 749)	RWM	gyttja	pollen diagram - ref. 98 (Fig. 4)
59	GSC-1640	8970±190	Four Lakes	52°13'	127°46'	2	9 (p. 347)	HN	peat	pollen diagram in preparation
52	GSC-256	9320±160	Otter Creek Bog	49°53.0'	120°37.5'	4	56 (p. 33)	RJF	peat	pollen diagram - ref. 63 (Fig. 11-2)
51	I-6967	10,340±155	Surprise Lake	49°19'	122°34'	3	96 (p. 2091)	RWM	gyttja	pollen diagram - ref. 96 (Fig. 6)
50	I-6820	10,370±145	Marion Lake	49°19'	122°33'	3	96 (p. 2097)	RWM	gyttja	pollen diagram - ref. 96 (Fig. 5)
60	I-5346	11,000±170	Pinecrest Lake	49°29.5'	121°26.0'	3	97 (p. 1057)	RWM	gyttja	pollen diagram - ref. 98 (Fig. 3)
58	I-6058	11,140±260	Squeah Lake	49°29.0'	121°24.3'	3	97 (p. 1057)	RWM	gyttja	pollen diagram - ref. 98 (Fig. 4)
51	I-5186	11,230±230	Surprise Lake	49°19'	122°34'	3	96 (p. 2091)	RWM	gyttja	pollen diagram - ref. 96 (Fig. 6)
60	I-6057	11,430±150	Pinecrest Lake	49°29.5'	121°26.0'	3	97 (p. 1057)	RWM	gyttja	pollen diagram - ref. 98 (Fig. 3)
50	I-5960	12,350±190	Marion Lake	49°19'	122°33'	3	96 (p. 2091)	RWM	gyttja	pollen diagram - ref. 96 (Fig. 5)
Animal Habitation										
61	S-537	110±55	Maze Lake	ca. 51°57'	121°42'	3	122 (p. 210)	HBM	elk antler[ff]	
62	S-493	184±75	Pennask Lake	ca. 50°00'	120°09'	4	122 (p. 209)	RWR	elk antler[ff]	
63	S-497	367±75	Upper Loon Lake	ca. 51°10'	121°05'	4	122 (p. 210)	RWR	elk antler[ff]	
63	S-496	390±75	Upper Loon Lake	ca. 51°10'	121°05'	4	122 (p. 209)	RWR	elk antler[ff]	
64	S-539	615±70	Moose Meadow	ca. 51°49'	121°48'	3	122 (p. 210)	HBM	elk antler[ff]	
65	S-541	1105±65	Chezacut	ca. 52°20'	124°01'	3	122 (p. 210)	HBM	elk antler[ff]	
66	S-540	1200±65	Squawk Lake	ca. 52°03'	121°34'	4	122 (p. 210)	HBM	elk antler[ff]	
67	S-495	1430±85	Dominic Lake	ca. 50°35'	120°41'	4	122 (p. 209)	RWR	elk antler[ff]	
68	S-454	1740±75	McGlashan Lake	ca. 50°30'	120°05'	4	122 (p. 209)	RWR	elk antler[ff]	
69	I-9993	2225±90	Kelowna	ca. 49°52'	119°30'	3	140 (p. 3)	NW	elk antler[ff]	

Table 8 (cont.)

Site, Fig. 10	Laboratory dating no.[a]	Date (yr. B.P.)	Locality	Location lat.	Location long.	Sample elevation grouping[b]	Reference[c]	Collector[d]	Material	Comment
70	S-538	3625±75	Dog Creek	ca. 51°35'	122°15'	3	122 (p. 210)	HBM	elk antler[ff]	
71	GSC-1497	9280±200	Finlay Forks	55°48'	123°38'	3	125 (p. 431)	KS	bighorn sheep horn	
72	GX-2612	11,285±1000	McGillivray Creek	50°30.1'	121°44.8'	3	127 (p. 63)	JMR	sheep (?) bone, moose (?) tooth	
73	GSC-2629	17,000±240	Saanich Peninsula	48°31.9'	123°22.8'	2	77 (p. 20)	GRK	mammoth bone (collagen)	
74	GSC-2232	22,700±320	Chilliwack	49°06.3'	121°55.3'	2	11 (p. 11)	ECH	mammoth tusk (collagen)	
75	GSC-1754	34,000±690	Babine Lake	55°00'	126°14'	3	70 (p. 287)	HWT	mammoth bone (collagen)	
76	I-2244A[gg]	>11,600	Rocky Mountain Portage	ca. 56°01'	122°07'	3	99 (p. 17)	LTJ	mammoth tusk (collagen)	
Relationship between Radiocarbon Age and Calendar Age[hh]										
77	UW-610	1055±80	Saanich Inlet	48°33.9'	123°30.2'	1	29 (p. 72)	RWB	organic-rich mud	mean varve age = 270 years
77	UW-614	1085±120	Saanich Inlet	48°33.9'	123°30.2'	1	29 (p. 72)	RWB	organic-rich mud	mean varve age = 220 years
77	UW-622	1610±50	Saanich Inlet	48°33.9'	123°30.2'	1	29 (p. 81)	RWB	organic-rich mud	mean varve age = 625 years
77	UW-655	1620±90	Saanich Inlet	48°33.9'	123°30.2'	1	29 (p. 81)	RWB	organic-rich mud	mean varve age = 737 years
77	UW-618	1725±70	Saanich Inlet	48°33.9	123°30.2'	1	29 (p. 81)	RWB	organic-rich mud	mean varve age = 762 years
77	UW-601	1810±160	Saanich Inlet	48°33.9'	123°30.2'	1	29 (p. 81)	RWB	organic-rich mud	mean varve age = 1175 years
77	UW-617	1835±40	Saanich Inlet	48°33.9'	123°30.2'	1	29 (p. 81)	RWB	organic-rich mud	mean varve age = 830 years
77	UW-600	1860±180	Saanich Inlet	48°33.9'	123°30.2'	1	29 (p. 81)	RWB	organic-rich mud	mean varve age = 794 years
77	UW-656	1870±100	Saanich Inlet	48°33.9'	123°30.2'	1	29 (p. 81)	RWB	organic-rich mud	mean varve age = 895 years
77	UW-623	1875±90	Saanich Inlet	48°33.9'	123°30.2'	1	29 (p. 81)	RWB	organic-rich mud	mean varve age = 912 years
77	UW-624	1960±90	Saanich Inlet	48°33.9'	123°30.2'	1	29 (p. 81)	RWB	organic-rich mud	mean varve age = 1039 years
77	UW-657	2065±90	Saanich Inlet	48°33.9'	123°30.2'	1	29 (p. 81)	RWB	organic-rich mud	mean varve age = 1015 years
77	UW-625	2225±65	Saanich Inlet	48°33.9'	123°30.2'	1	29 (p. 81)	RWB	organic-rich mud	mean varve age = 1219 years
77	UW-639	2345±45	Saanich Inlet	48°33.9'	123°30.2'	1	29 (p. 81)	RWB	organic-rich mud	mean varve age = 1356 years
77	UW-638	2395±80	Saanich Inlet	48°33.9'	123°30.2'	1	29 (p. 81)	RWB	organic-rich mud	mean varve age = 1477 years
77	UW-645	2475±130	Saanich Inlet	48°33.9'	123°30.2'	1	29 (p. 81)	RWB	organic-rich mud	mean varve age = 1554 years
77	UW-619	2500±95	Saanich Inlet	48°33.9'	123°30.2'	1	29 (p. 81)	RWB	organic-rich mud	mean varve age = 1330 years
77	UW-628	2590±120	Saanich Inlet	48°33.9'	123°30.2'	1	29 (p. 81)	RWB	organic-rich mud	mean varve age = 2377 years
77	UW-620	2695±160	Saanich Inlet	48°33.9'	123°30.2'	1	29 (p. 81)	RWB	organic-rich mud	mean varve age = 1515 years
77	UW-602	2710±140	Saanich Inlet	48°33.9'	123°30.2'	1	29 (p. 81)	RWB	organic-rich mud	mean varve age = 1740 years
77	UW-626	2750±100	Saanich Inlet	48°33.9'	123°30.2'	1	29 (p. 81)	RWB	organic-rich mud	mean varve age = 1697 years
77	UW-643	2765±55	Saanich Inlet	48°33.9'	123°30.2'	1	29 (p. 81)	RWB	organic-rich mud	mean varve age = 1781 years
77	UW-642	2845±80	Saanich Inlet	48°33.9'	123°30.2'	1	29 (p. 81)	RWB	organic-rich mud	mean varve age = 1847 years
77	UW-654	2855±90	Saanich Inlet	48°33.9'	123°30.2'	1	29 (p. 81)	RWB	organic-rich mud	mean varve age = 1627 years
77	UW-640	2870±110	Saanich Inlet	48°33.9'	123°30.2'	1	29 (p. 81)	RWB	organic-rich mud	mean varve age = 2525 years
77	UW-627	2890±120	Saanich Inlet	48°33.9'	123°30.2'	1	29 (p. 81)	RWB	organic-rich mud	mean varve age = 1880 years
77	UW-653	2950±80	Saanich Inlet	48°33.9'	123°30.2'	1	29 (p. 81)	RWB	organic-rich mud	mean varve age = 1812 years
77	UW-647	3315±110	Saanich Inlet	48°33.9'	123°30.2'	1	29 (p. 81)	RWB	organic-rich mud	mean varve age = 2328 years
77	UW-644	3400±85	Saanich Inlet	48°33.9'	123°30.2'	1	29 (p. 81)	RWB	organic-rich mud	mean varve age = 2196 years
77	UW-652	3425±100	Saanich Inlet	48°33.9'	123°30.2'	1	29 (p. 81)	RWB	organic-rich mud	mean varve age = 2247 years
77	UW-621	3500±100	Saanich Inlet	48°33.9'	123°30.2'	1	29 (p. 81)	RWB	organic-rich mud	mean varve age = 2139 years
77	UW-651	3625±80	Saanich Inlet	48°33.9'	123°30.2'	1	29 (p. 81)	RWB	organic-rich mud	mean varve age = 2285 years
77	UW-650	3730±100	Saanich Inlet	48°33.9'	123°30.2'	1	29 (p. 81)	RWB	organic-rich mud	mean varve age = 2492 years
77	UW-641	3780±170	Saanich Inlet	48°33.9'	123°30.2'	1	29 (p. 81)	RWB	organic-rich mud	mean varve age = 2460 years
77	UW-629	3860±55	Saanich Inlet	48°33.9'	123°30.2'	1	29 (p. 81)	RWB	organic-rich mud	mean varve age = 2574 years
77	UW-603	3885±230	Saanich Inlet	48°33.9'	123°30.2'	1	29 (p. 81)	RWB	organic-rich mud	mean varve age = 2422 years
77	UW-649	5085±60	Saanich Inlet	48°33.9'	123°30.2'	1	29 (p. 88)	RWB?	charcoal	
77	UW-673	7880±80	Saanich Inlet	48°33.9'	123°30.2'	1	29 (p. 88)	RWB?	organic-rich mud	estimated varve age = 5600 years
Unclassified[ii]										
74	GSC-2543[jj]	"modern"	Chilliwack	49°06.6'	121°55.3'	2	89 (p. 7)	JEA	wood[e]	Sumas outwash?
78	GSC-1249	0±130	Keremeos	49°04.0'	120°19.0'	4	91 (p. 296)	ALVR	moss	contemporary peat formation
79	GSC-1986	140±50	Nicola	50°13.2'	120°34.7'	3	87 (p. 19)	FMS	charcoal	soil fused by combustion of sawmill wastes
80	UW-28	610±110	Saanich Inlet	48°35'	123°30'	1	58 (p. 498)	MGG	wood	dates varved mud in Saanich Inlet
81	GSC-198	910±130	Big Eddy Creek	51°17'	118°29'	4	90 (p. 171)	JOW	wood	date on centre of tree stump
82	S-492	1025±80	Bute Inlet	ca. 50°30'	125°10'	1	122 (p. 197)	TCJ	waxy material	forest residue
83	S-747[j]	1975±310	Ice Mountain site	ca. 58°00'	131°00'	2	123 (p. 349)	JNS	charcoal	cross-check of obsidian hydration dates
84	GaK-3824	2470±170	Ellerslei Creek	52°38'	127°53'	2	9 (p. 347)	JTA,RMR	soil	paleosol
84	GaK-3720	2480±100	Ellerslei Creek	52°38'	127°53'	2	9 (p. 347)	JTA,RMR	soil	paleosol
86	I-939	3100±200	Saanich Inlet	48°35'	123°30'	1	146 (p. 174)	SMG,JSC,MGG	organic-rich mud	dates varved mud in Saanich Inlet
85	GSC-574	4350±350	Nakimu Caves	51°16'	117°35'	4	84 (p. 225)	DCF	wood	dates formation of cave in limestone
86	GX-4041[k]	5020±180	Raft Mountain	51°44'	119°53'	4	51 (p. 76)	JMD	charcoal	sample underlies Mazama tephra
19	I-820B	5240±100	Yale	ca. 49°33'	121°26'	2	79 (p. 58)	CEF	charcoal	dates forest fire
87	GSC-947	7640±150	Three Valley Lake	50°55'	118°28'	3	91 (p. 295)	GWS	peat	basal bog date
88	GX-2034[kk]	14,000±750	Bull River	49°27.8'	115°27.8'	3	38 (p. 258)	JJC	peat	recessional outwash of Fraser Glaciation
89	GSC-946[ll]	15,000±330	Trinity Valley	50°25'	118°54'	3	91 (p. 295)	GWS	peaty marl	basal bog date
90	S-944	16,910±270	Millard Creek	49°49'	124°58'	2	33 (p. 82)	KBC	charcoal	archaeological sample contaminated with coal
91	I-4452[mm]	33,750±2000	Cowichan Head	48°34.0'	123°22.5'	2	24 (p. 282)	HDF	marine shells[nn]	minimum date for glaciomarine diamicton
91	I-4453[mm]	34,900±2300	Cowichan Head	48°34.0'	123°22.5'	2	24 (p. 282)	HDF	marine shells[nn]	minimum date for glaciomarine diamicton
91	L-514D[mm]	35,000±1600	Cowichan Head	48°34'	123°22'	2	115 (p. 148)	JGF	marine shells	minimum date for glaciomarine diamicton

[a] Laboratories: GaK, Gakushuin University; GSC, Geological Survey of Canada; GX, Geochron Laboratories; I, Teledyne Isotopes; L, Lamont; M, Michigan; S, Saskatchewan; UW, University of Washington.

[b] 1, <0 m; 2, 0-200 m (coastal lowlands and lower reaches of adjacent valleys); 3, 200-1000 m (most valleys and bordering plateaux and plains); 4, >1000 m (mountains, high valleys, and bordering plateaux).

[c] Non-bracketed numbers correspond to numbered citations in reference list.

[d] RAA, R.A. Achard; NFA, N.F. Alley; JHA, J.H. Anderson; JTA, J.T. Andrews; JEA, J.E. Armstrong; CEB, C.E. Borden; COB, C.O. Brawner; WLB, W.L. Brown; RWB, R.W. Buddemeier; KHC, K.H. Capes; JJC, J.J. Clague; JSC, J.S. Creager; TD, T. Denton; JMD, J.M. Dufford; KRF, K.R. Fladmark; DCF, D.C. Ford; HDF, H.D. Foster; RJF, R.J. Fulton; JGF, J.G. Fyles; MGG, M.G. Gilchrist; MGS, M.G. Gross; SMG, S.M. Gucluer; ECH, E.C. Halstead; JEH, J.E. Harrison; RJH, R.J. Hebda; TCJ, T.C. Jain; LTJ, L.T. Jory; GRK, G.R. Keddie; RWM, R.W. Mathewes; WHM, W.H. Mathews; RGM, R.G. Matson; AM, A. McLean; DM, D. McLeod; HBM, H.B. Mitchell; JWM, J.W. Murray; HMN, H.M. Nasmith; HN, H. Nichols; PO, P. Ottesen; MJP, M.J. Pullen; TMFR, T.M.F. Reimchen; RMR, R.M. Retherford; DR, D. Rice; RWR, R.W. Ritcey; NWR, N.W. Rutter; JMR, J.M. Ryder; TLS, T.L. Sadlier-Brown; DS, D. Sanger; FMS, F.M. Smith; GWS, G.W. Smith; JWS, J.W. Smith; RAS, R.A. Spence; KS, K. Sumanik; WWT, W.W. Tipper; ALVR, A.L. van Ryswyk; NW, N. Wade; JAW, J.A. Westgate; JOW, J.O. Wheeler.

[e] *Alnus* sp.

[f] *Salix* sp.

[g] *Pseudotsuga menziesii*.

[h] Submitted by W.H. Mathews.

[i] S-99 (7300±120 yr. B.P.) and GSC-2 (7600±150 yr. B.P.) are dates on the same sample.

[j] Archaeological date.

[k] Date is suspect.

[l] *Populus* sp.

[m] GSC-1548 (9960±170 yr. B.P.) was reported incorrectly as 16,360±180 yr. B.P. by Reimchen and Rutter (1972, p. 177).

[n] *Lymnaea elodes, Lymnea stagnalis appressa, Aplexa deflecta*.

[o] *Lymnea elodes*.

[p] GSC-185 (10,690±180 yr. B.P.) and GSC-227 (11,300±190 yr. B.P.) are from the same stratum.

[q] *Picea* sp.

[r] The following determinations were made: outer fraction (18-45% leach), 11,980±160 yr. B.P.; inner fraction (5%-100% leach), 11,300±190 yr. B.P.

[s] *Saxidomus giganteus*.

[t] Shell dates (GSC-1596, 12,000±200 yr. B.P.; GSC-1718, 12,800±250 yr. B.P.) are anomalously older than wood dates of Fraser series (GSC-1212, 8910±150 yr. B.P.; GSC-1014, 9170±150 yr. B.P.; GSC-1152, 9360±140 yr. B.P.; GSC-1613, 9500±150 yr. B.P.; GSC-1012, 10,100±150 yr. B.P.). The shell dates thus are suspect.

Table 8 (cont.)

[u] *Anodonta* cf. *nuttalliana* Lea.

[v] L-391D (12,150±250 yr. B.P.), L-391E (12,350±250 yr. B.P.), I(GSC)-1 (12,000±450 yr. B.P.), and GSC-1 (12,400±200 yr. B.P.) are from the same stratum. L-391D, I(GSC)-1, and GSC-1 are dates on the same sample.

[w] GSC-24 (12,200±160 yr. B.P.) and GSC-38 (12,360±140 yr. B.P.) are from the same stratum.

[x] *Mya truncata*.

[y] GSC-927 (520±140 yr. B.P.) and GSC-944 (840±140 yr. B.P.) are dates on the same sample. GSC-944 was subjected to Haynes' (1966) pretreatment.

[z] GX-1628 (1145±80 yr. B.P.) and GSC-1290 (1940±140 yr. B.P.) are from the same stratum.

[aa] *Chamaecyparis nootkatensis*.

[bb] Other evidence indicates this episode of solifluction is younger than about 2400 yr. B.P. (Duford, 1976, p. 75-76).

[cc] Listed are dates from postglacial sedimentary sequences for which plant microfossil diagrams are available. Dates also provide information on sedimentation rates.

[dd] *Betula* sp.?

[ee] The following determinations were made: organic fraction, 8600±330 yr. B.P.; inorganic fraction, 8670±900 yr. B.P.

[ff] Elk do not inhabit region today, nor is there historic record of occurrence since settlement by man.

[gg] Sample recently has been re-dated at 25,800±320 yr. B.P. (GSC-2859; W.H. Mathews, personal communication, 1979). A date of 7670±170 yr. B.P. (I-2244), reported earlier for the same tusk (Buckley *et al.*, 1968, p. 263) is based on analysis of its carbonate fraction and is believed to have been contaminated by young carbonates from circulating groundwater (Mathews, 1978, p. 17). I-2244A has been incorrectly cited as 11,600±1000 yr. B.P. (e.g., Bryan, 1969, p. 340; Rutter, 1976, p. 431-433, 1977, p. 19-21).

[hh] These dates were obtained from varved marine sediments in order to compare the radiocarbon activity of sedimentary organic carbon with a varve chronology. The dates also provide information on postglacial sedimentation rates in Saanich Inlet. All dates are based on a ^{14}C half-life of 5730 years.

[ii] Includes dates not listed elsewhere in Tables 1 through 7.

[jj] GSC-2543 ("modern") does not date outwash. No explanation has been offered for age of sample.

[kk] GX-2034 (14,000±750 yr. B.P.) probably does not date outwash. Sample is a peat clast reworked from older sediments and is likely contaminated.

[ll] GSC-946 (15,000±330 yr. B.P.) is a basal bog date, but probably is not a minimum for deglaciation. Sample possibly included Tertiary lignite or other contaminants.

[mm] Other wood and shell samples from this unit at Cowichan Head have yielded infinite age dates (e.g., L-514C, >42,000 yr. B.P.; GSC-94-2, >51,000 yr. B.P.; Table 1). Thus I-4452 (33,750±2000 yr. B.P.), I-4453 (34,900±2300 yr. B.P.), and L-514D (35,000±1600 yr. B.P.) should be considered minimum dates, and the diamicton from which these samples were obtained is probably older than 51,000 yr. B.P.

[nn] *Nuculana* sp., *Macoma* sp.

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