

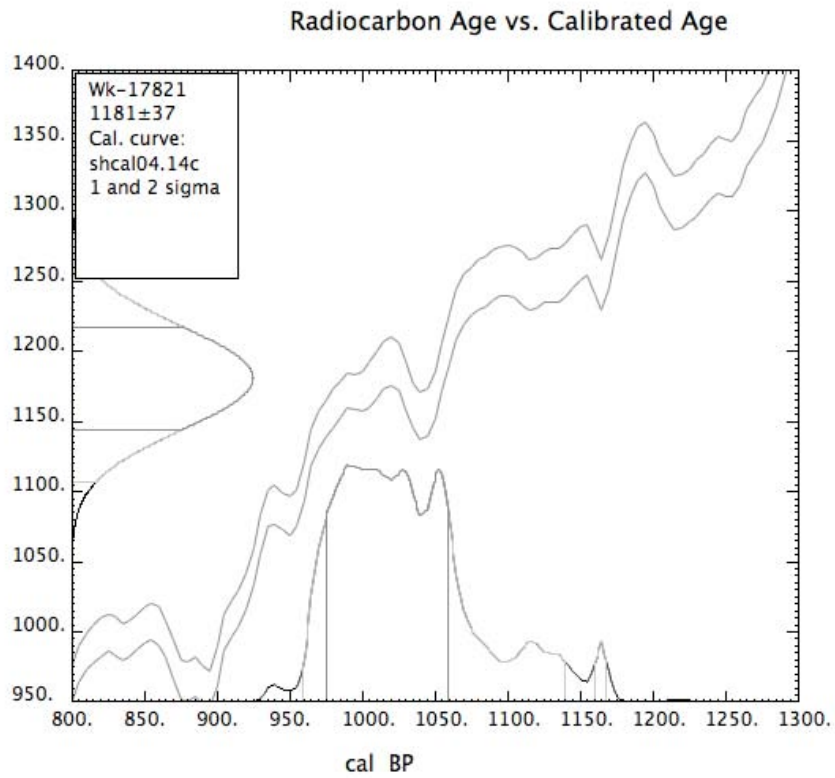
DROUGHTS AND FLOODING RAINS:
A FINE-RESOLUTION RECONSTRUCTION OF
CLIMATIC VARIABILITY IN WESTERN VICTORIA,
AUSTRALIA, OVER THE LAST 1500 YEARS.

CAMERON BARR

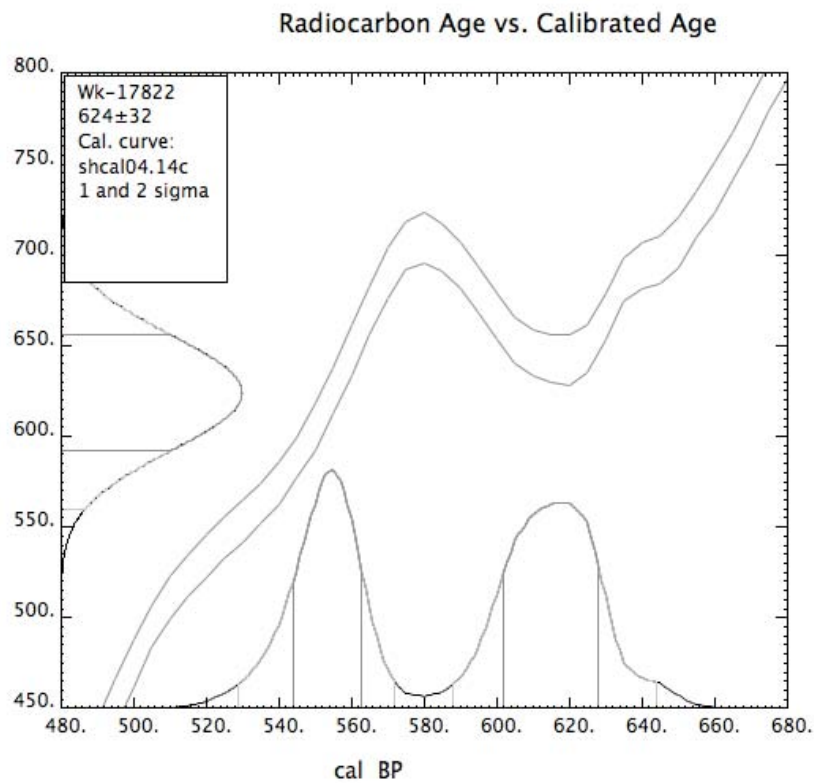
Thesis submitted for the degree of Doctor of Philosophy,
Discipline of Geographical and Environmental Studies,
University of Adelaide, Australia.

2010

APPENDIX 5: Calibration plots for ^{14}C dated samples from core LE1.

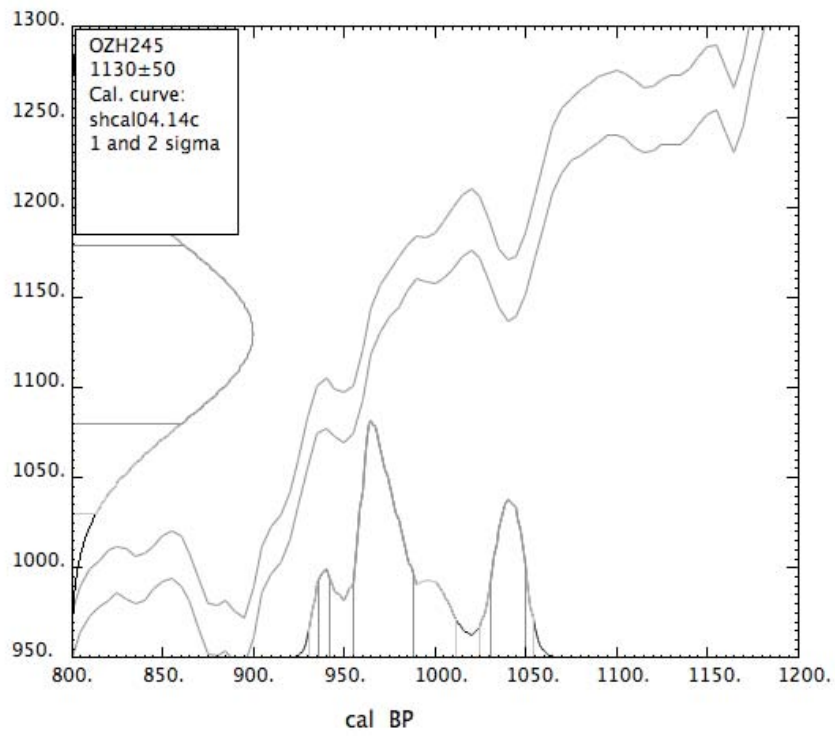


Calibration plot for sample Wk-17821. Depth: 56-58cm, Substance dated: Concentrated pollen



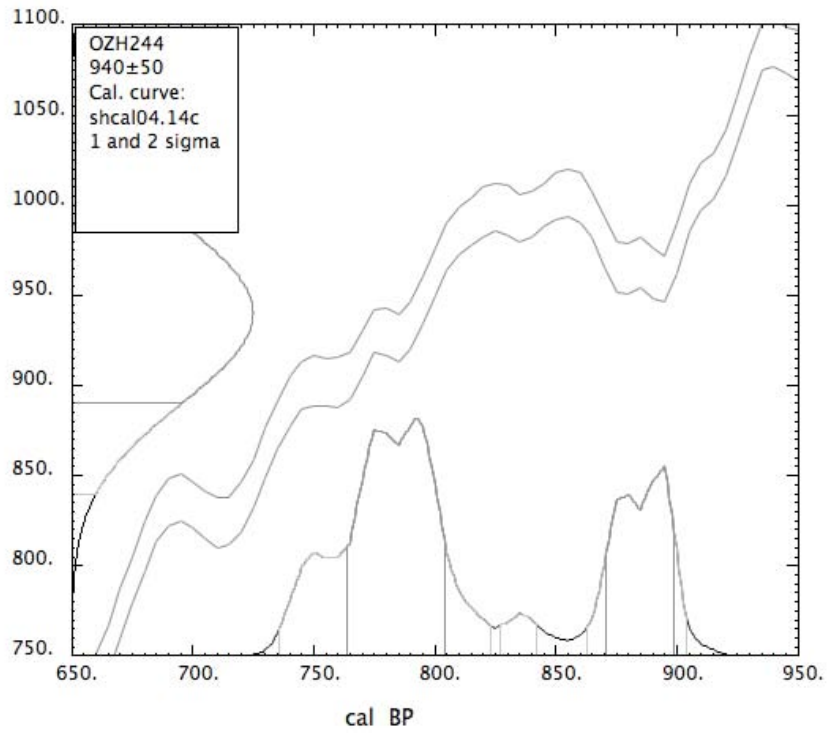
Calibration plot for sample Wk-17822. Depth: 56-58cm, Substance dated: Organic matrix remaining after pollen preparation.

Radiocarbon Age vs. Calibrated Age



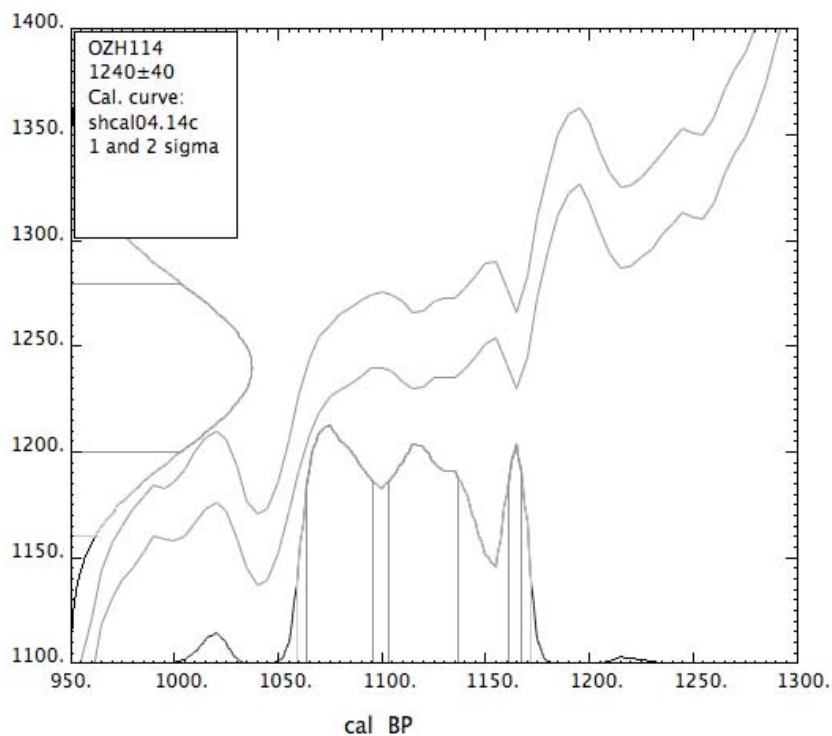
Calibration plot for sample OZH245. Depth: 76cm, Substance dated: "Pollen"

Radiocarbon Age vs. Calibrated Age



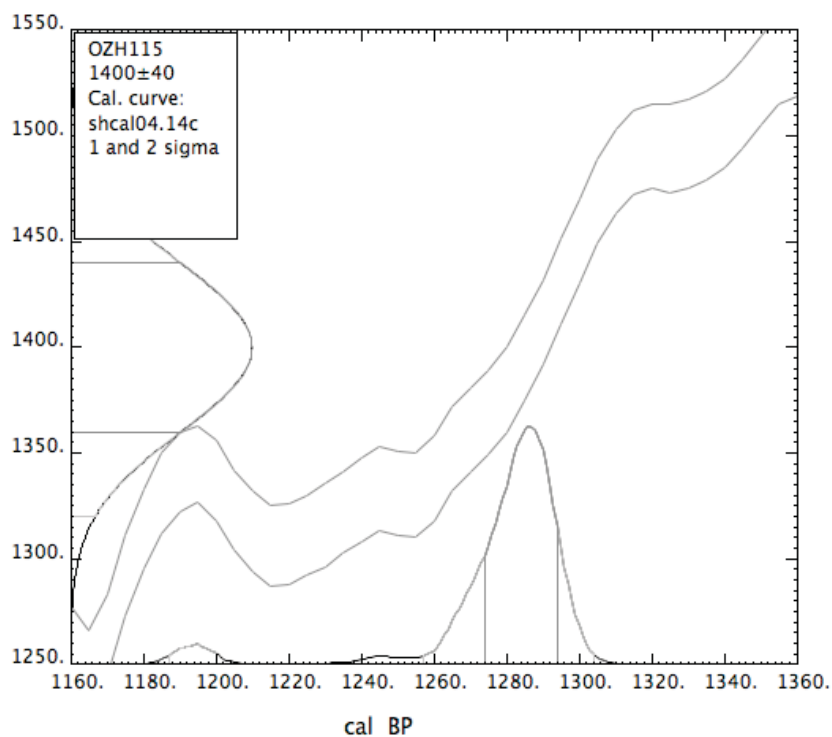
Calibration plot for sample OZH244. Depth: 82cm, Substance dated: "Pollen"

Radiocarbon Age vs. Calibrated Age



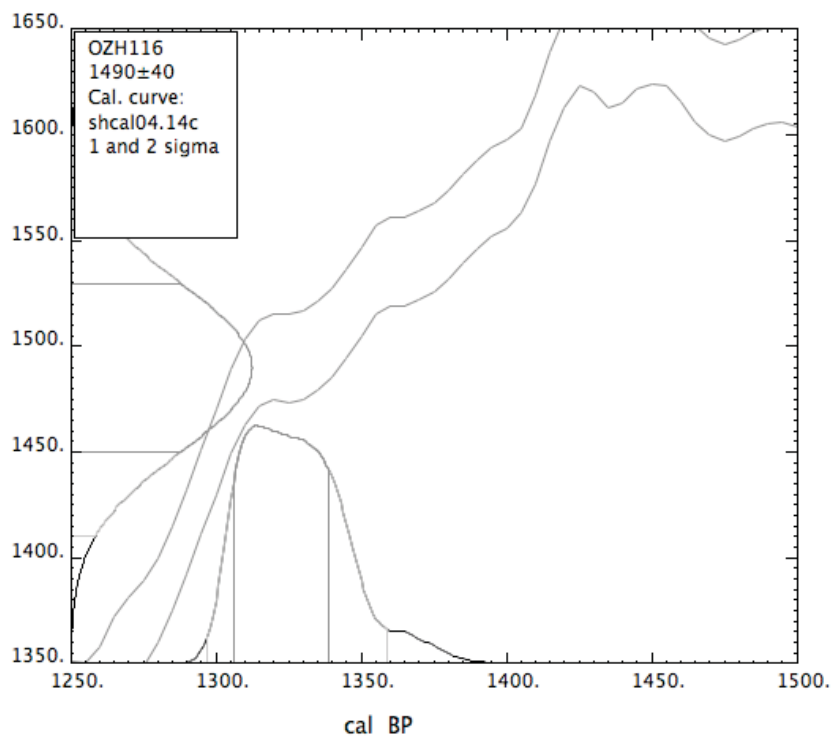
Calibration plot for sample OZH114. Depth: 90cm, Substance dated: "Pollen"

Radiocarbon Age vs. Calibrated Age



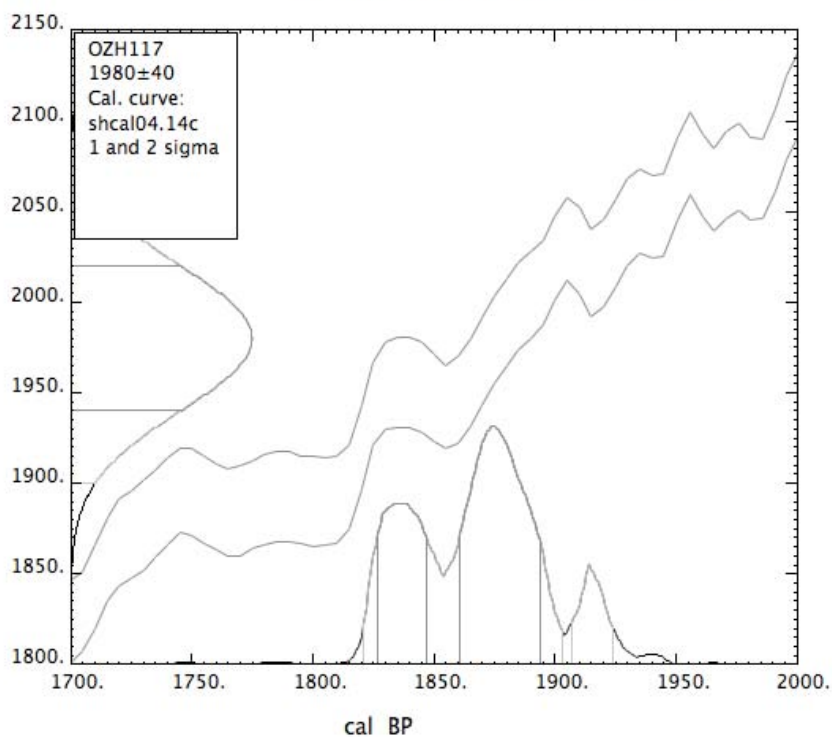
Calibration plot for sample OZH115. Depth: 116cm, Substance dated: "Pollen"

Radiocarbon Age vs. Calibrated Age



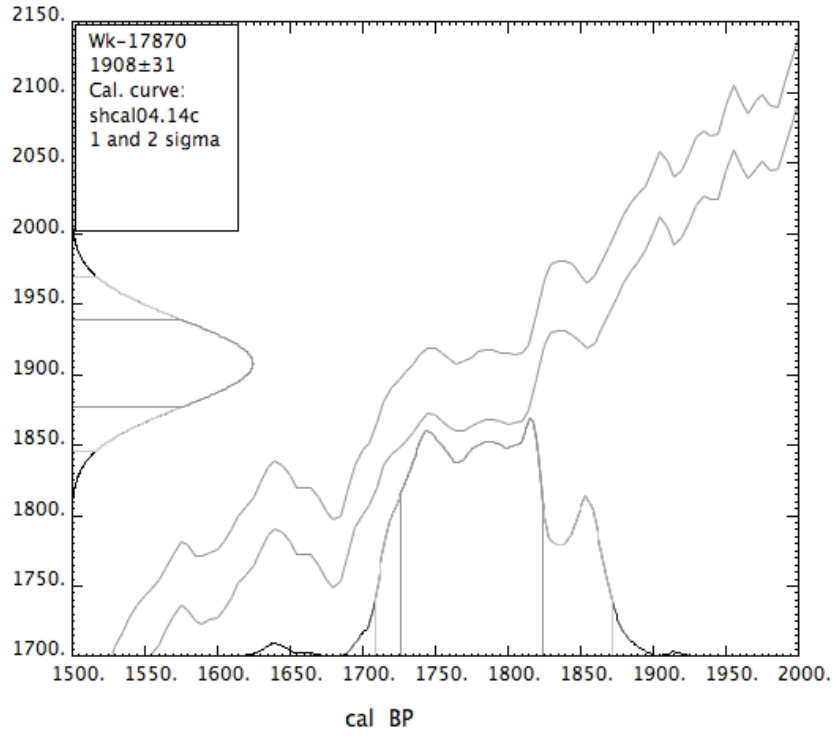
Calibration plot for sample OZH116. Depth: 136cm, Substance dated: "Pollen"

Radiocarbon Age vs. Calibrated Age



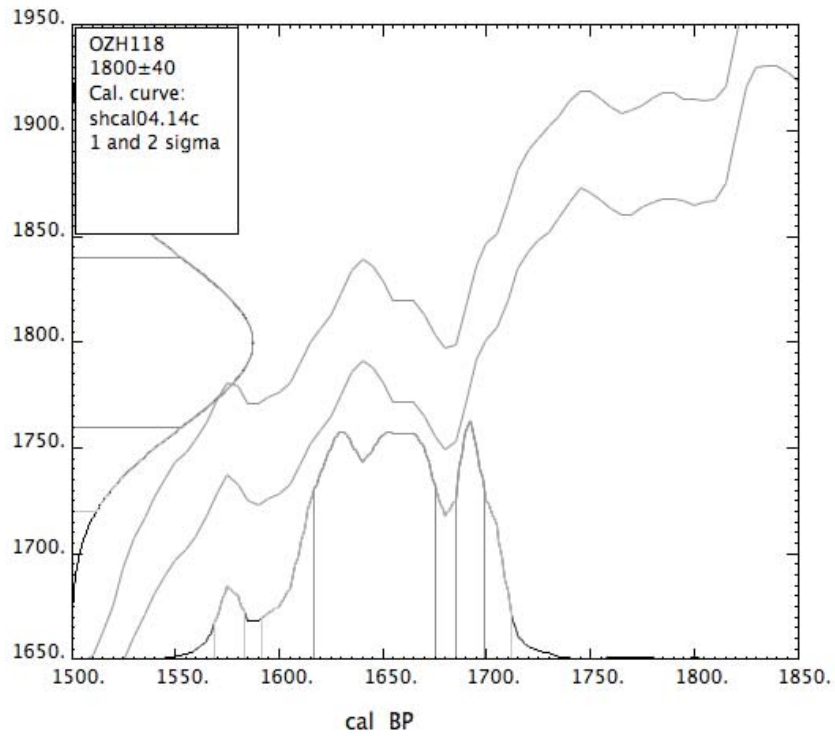
Calibration plot for sample OZH117. Depth: 146cm, Substance dated: "Pollen"

Radiocarbon Age vs. Calibrated Age



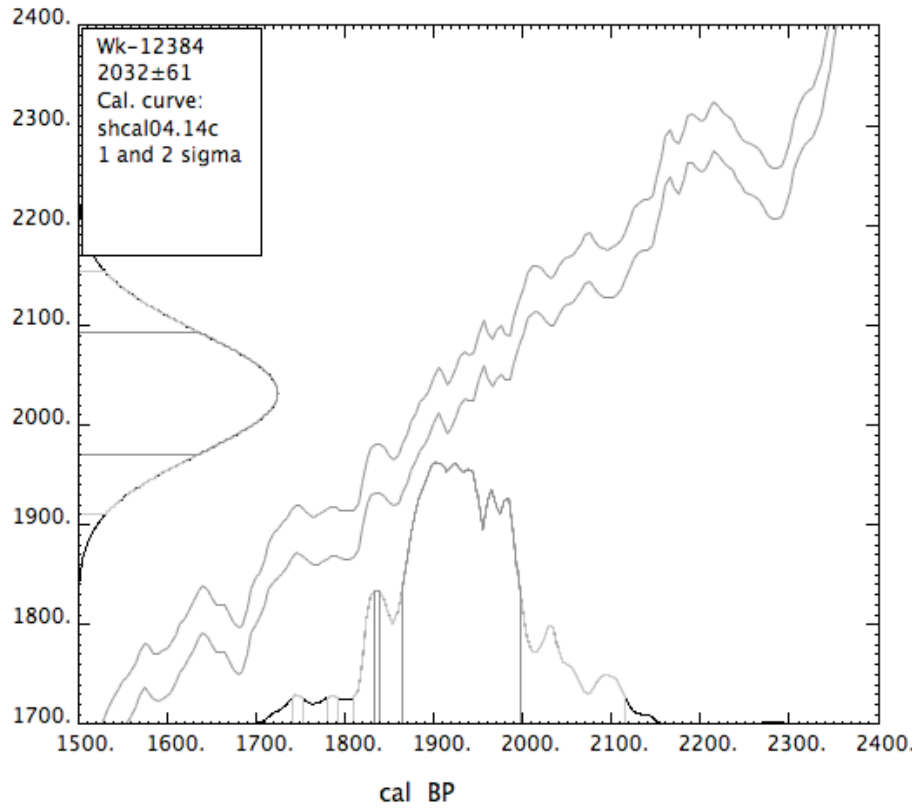
Calibration plot for sample Wk-17870. Depth: 147-149cm, Substance dated: Organic

Radiocarbon Age vs. Calibrated Age



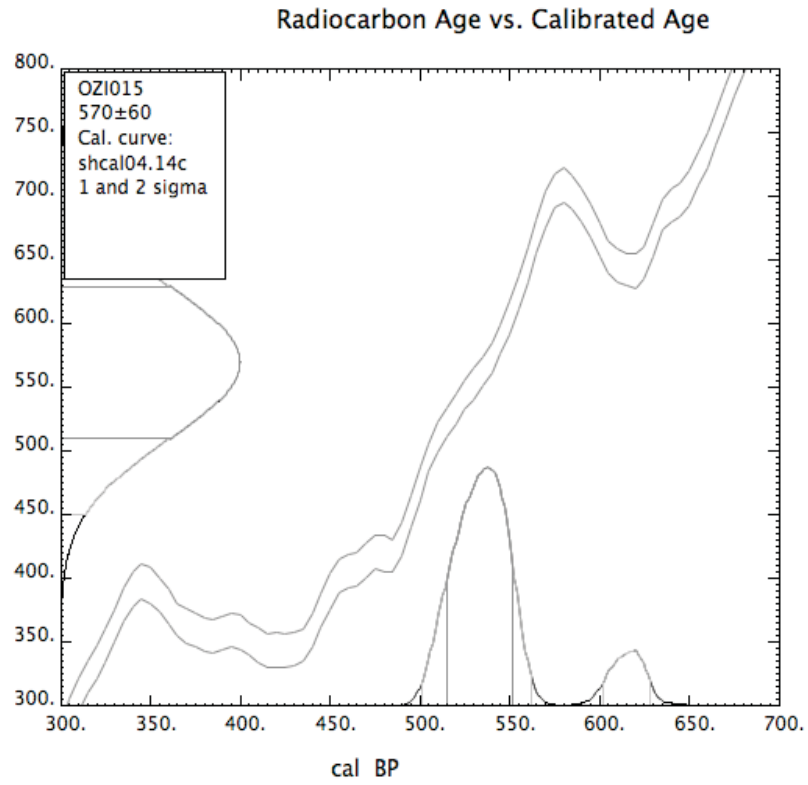
Calibration plot for sample OZH118. Depth: 170cm, Substance dated: "Pollen"

Radiocarbon Age vs. Calibrated Age

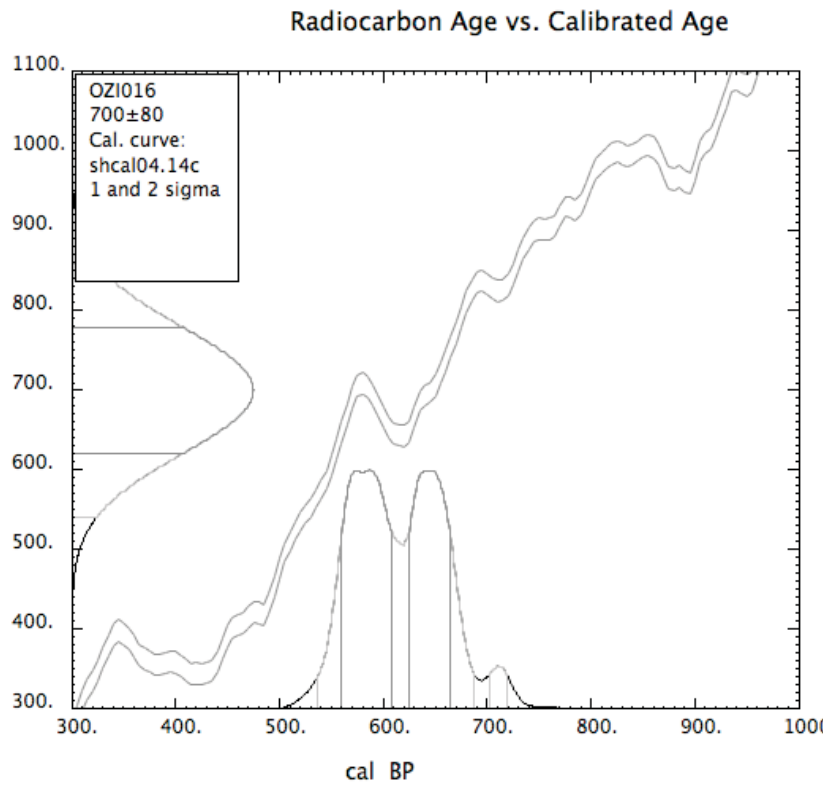


Calibration plot for sample Wk-12384. Depth: 170-178cm, Substance dated: Organic

APPENDIX 6: Calibration plots for ^{14}C dated samples from core LSFS.

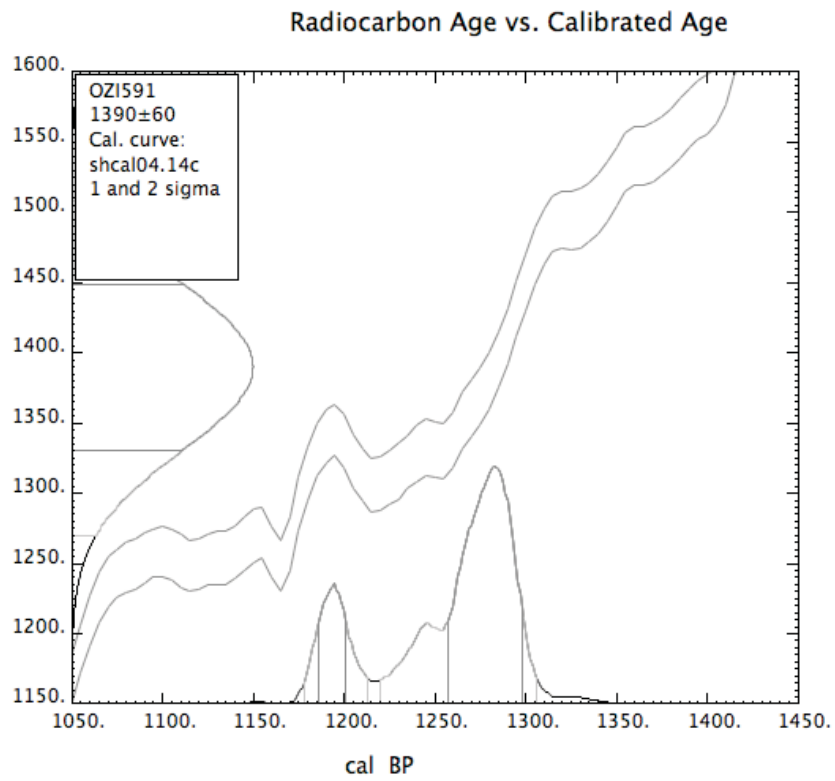


Calibration plot for sample OZI015. Depth: 80-81cm, Substance dated: Pollen

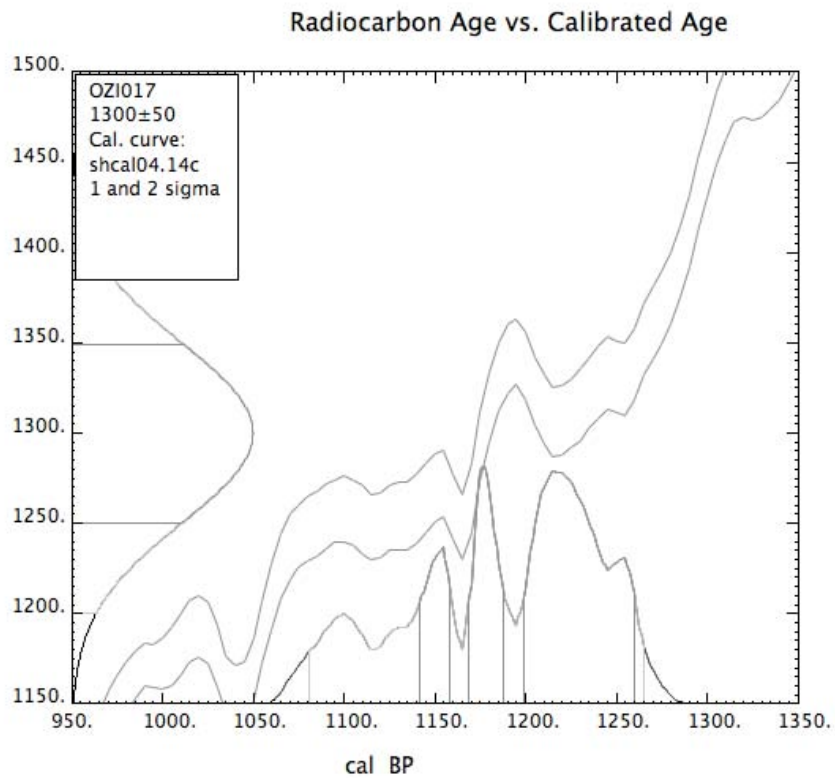


Calibration plot for sample OZI016. Depth: 104-105cm, Substance dated: Pollen

APPENDIX 7: Calibration plots for ^{14}C dated samples from core LST1.

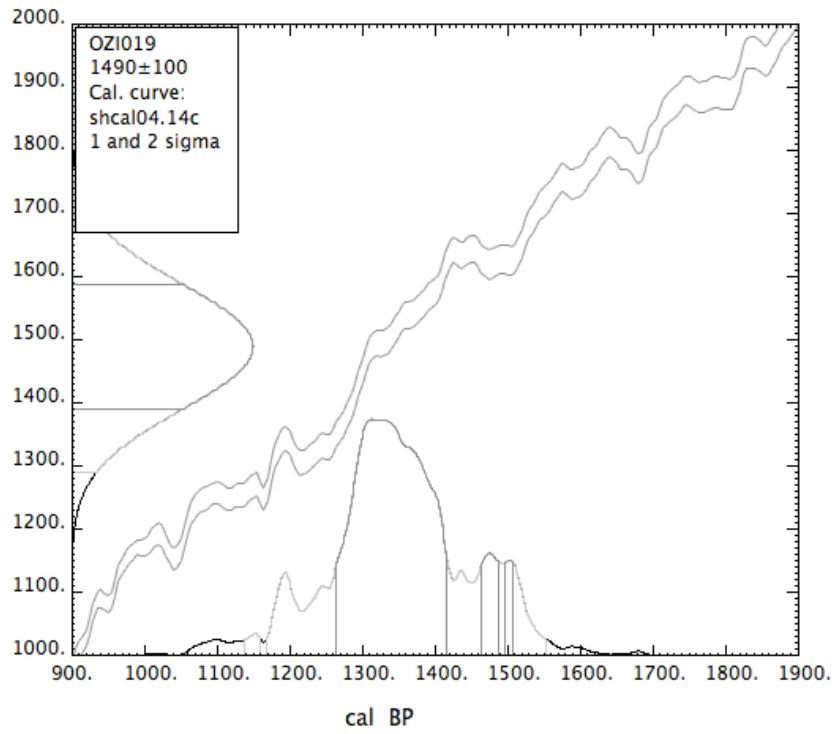


Calibration plot for sample OZI591. Depth: 80-81cm, Substance dated: Pollen



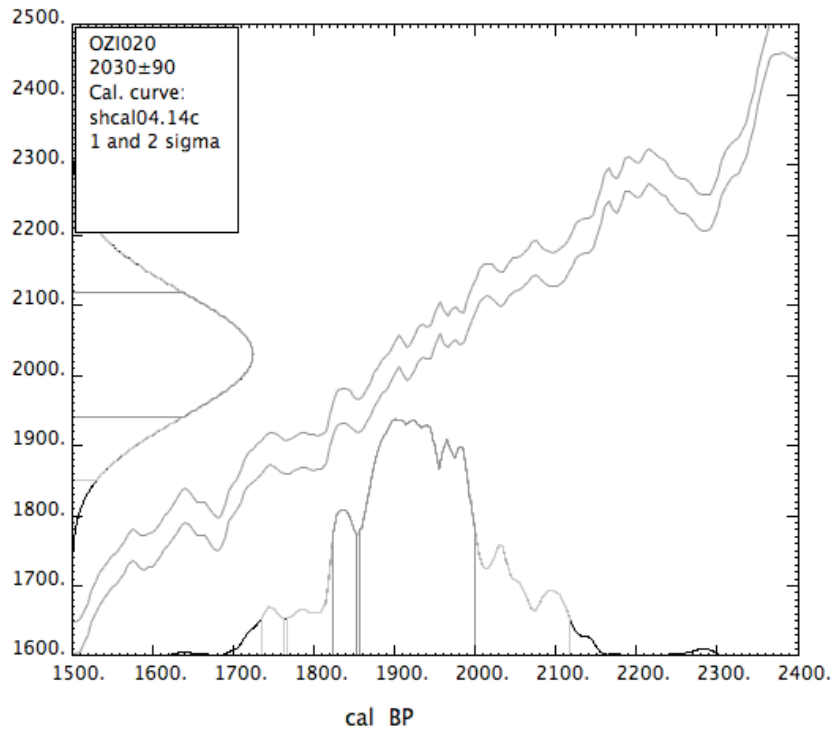
Calibration plot for sample OZI017. Depth: 104-105cm, Substance dated: Pollen

Radiocarbon Age vs. Calibrated Age



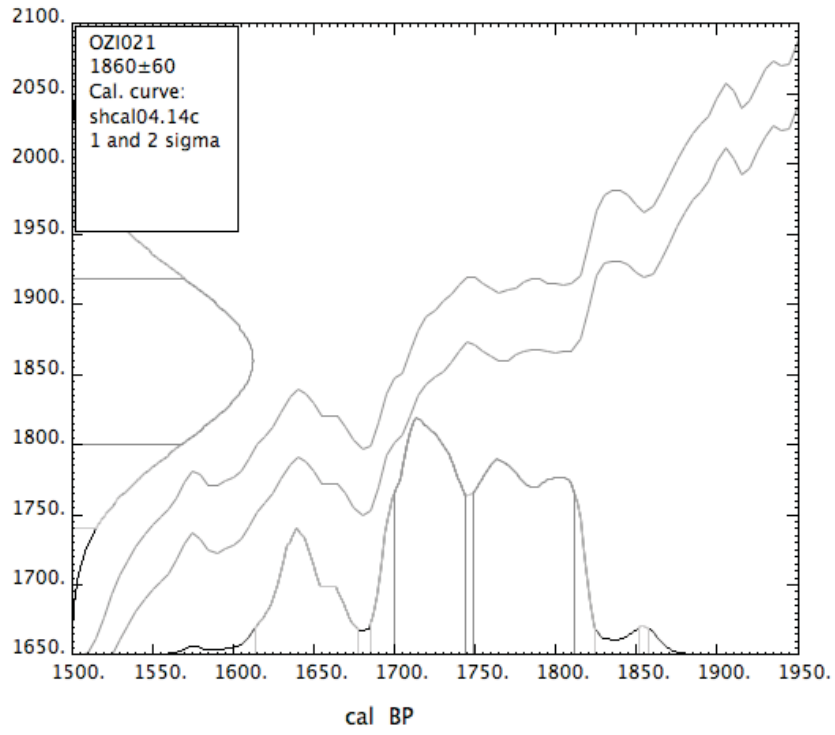
Calibration plot for sample OZI019. Depth: 141-142cm, Substance dated: Pollen

Radiocarbon Age vs. Calibrated Age



Calibration plot for sample OZI020. Depth: 167-168cm, Substance dated: Pollen

Radiocarbon Age vs. Calibrated Age



Calibration plot for sample OZI021. Depth: 214-215cm, Substance dated: Pollen

APPENDIX 8: Reconstruction diagnostics for Lake Elingamite, Core LE1

Depth (cm)	Number of species in fossil data	N2 effective number of species in fossil data	Number of species in fossil data present in training set	Sample sum of species present in training set
1	28	3.43	19	74.90
2	26	3.52	17	72.35
3	29	3.33	18	76.47
4	30	3.43	21	81.25
5	28	3.47	19	73.21
6	34	3.52	20	74.51
7	29	3.47	19	70.72
8	26	3.34	17	75.22
9	26	3.31	16	68.66
10	22	3.33	15	74.63
11	29	3.53	17	65.24
12	27	3.46	17	68.00
13	30	3.31	19	74.09
14	26	3.27	16	68.40
15	25	3.36	16	73.54
16	28	3.40	17	70.70
17	31	3.40	19	72.77
18	26	3.40	16	71.03
19	28	3.37	17	77.23
20	26	3.45	16	66.36
21	26	3.50	15	65.73
22	27	3.30	14	71.04
23	30	3.39	19	64.55
24	25	3.44	15	69.47
25	30	3.31	18	69.95
26	28	3.44	18	70.56
27	26	3.29	15	69.95
28	22	3.25	12	69.12
29	24	3.27	14	66.98
30	27	3.38	15	58.69
31	20	3.15	11	64.15
32	24	3.30	14	61.50
33	20	3.11	10	63.77
34	19	3.12	10	62.44
35	22	3.16	12	61.03
36	26	3.29	14	59.35
37	19	3.11	12	55.56
38	22	3.26	13	62.10
39	16	3.07	10	62.73
40	16	3.07	9	60.37
41	20	3.16	11	59.73
42	17	3.04	11	60.16
43	20	3.26	13	58.14
44	17	3.32	9	56.46
45	13	3.37	7	71.63
46	19	3.30	11	73.68
47	18	3.19	11	72.15
48	20	3.35	12	72.52
49	17	3.33	8	73.54
50	19	3.29	9	86.57
51	15	2.86	8	94.93

Depth (cm)	Number of species in fossil data	N2 effective number of species in fossil data	Number of species in fossil data present in training set	Sample sum of species present in training set
52	14	2.84	8	93.22
53	16	2.80	9	94.78
54	16	3.04	8	86.82
55	13	2.79	7	93.20
56	16	2.79	10	95.12
57	17	2.76	8	94.93
58	12	2.70	6	96.26
59	12	2.76	6	94.76
60	10	2.71	6	95.63
60.5	14	2.76	6	94.15
61	14	2.87	6	94.95
61.5	18	3.04	9	91.12
62	13	2.91	8	95.52
62.5	16	2.97	9	94.17
63	15	2.96	8	95.52
63.5	17	3.00	11	93.52
64	16	3.04	9	90.00
64.5	17	3.02	10	91.55
65	13	3.02	9	94.59
65.5	18	2.96	11	92.00
66	17	3.01	10	88.31
66.5	12	2.88	7	91.20
67	16	3.08	9	85.38
67.5	16	3.14	7	82.79
68	16	3.07	6	77.03
68.5	19	2.97	10	85.22
69	14	3.01	9	91.00
69.5	16	3.06	8	78.83
70	19	3.04	10	89.17
70.5	18	3.01	9	87.66
71	17	3.03	9	88.36
71.5	21	3.02	9	85.39
72	19	3.06	9	84.65
72.5	17	2.98	11	90.13
73	22	2.88	12	90.78
73.5	21	2.87	12	94.88
74	20	2.85	11	93.12
74.5	22	2.91	12	92.38
75	17	2.75	8	94.19
75.5	20	2.78	9	91.14
76	17	2.93	9	86.60
76.5	21	2.77	11	87.50
77	18	2.85	9	89.74
77.5	17	2.93	9	92.76
78	19	3.16	9	81.78
78.5	22	3.30	10	80.17
79	22	3.32	11	86.67
79.5	21	3.19	13	85.98
80	23	3.20	12	82.67
80.5	23	3.46	12	78.60
81	25	3.51	12	79.44
81.5	22	3.20	11	85.91
82	25	3.34	11	82.30
82.5	24	3.34	13	83.41

Depth (cm)	Number of species in fossil data	N2 effective number of species in fossil data	Number of species in fossil data present in training set	Sample sum of species present in training set
83	24	3.40	12	82.78
83.5	20	3.05	8	87.13
84	22	3.10	9	87.08
84.5	19	2.94	12	92.76
85	22	2.96	12	90.48
85.5	23	2.76	13	88.24
86	17	3.04	9	81.86
86.5	21	3.13	12	82.51
87	23	3.22	13	77.73
87.5	18	3.11	10	78.37
88	17	3.18	9	78.50
88.5	18	3.37	10	57.52
89	24	3.41	12	63.98
89.5	19	3.38	10	66.95
90	18	3.28	9	62.75
90.5	19	3.23	11	68.35
91	16	3.26	8	64.44
91.5	17	3.33	9	63.01
92	19	3.40	11	61.50
92.5	19	3.38	11	68.40
93	17	3.35	10	63.51
93.5	16	3.41	10	63.95
94	15	3.14	8	74.88
94.5	16	3.29	8	76.78
95	15	3.18	8	86.35
95.5	15	3.13	8	83.65
96	12	3.03	7	86.70
96.5	15	3.07	8	84.43
97	14	3.11	8	83.11
97.5	16	3.25	8	77.68
98	15	3.32	8	76.79
98.5	16	3.27	7	79.04
99	15	3.22	6	76.89
99.5	16	3.33	7	77.02
100	12	3.32	6	76.86
100.5	15	3.28	7	78.77
101	13	3.29	6	78.36
101.5	19	3.31	10	82.57
102	16	3.13	9	84.51
102.5	13	3.17	6	84.34
103	13	3.14	7	83.26
103.5	18	3.29	9	80.53
104	18	3.18	10	85.96
104.5	14	3.26	8	81.43
105	14	3.14	8	85.65
105.5	21	3.36	12	78.05
106	15	3.30	9	80.73
106.5	16	3.35	9	80.09
107	16	3.28	9	84.73
107.5	16	3.23	7	88.76
108	14	3.24	7	86.19
108.5	21	3.07	10	90.00
109	20	3.16	9	89.43
109.5	20	3.12	11	91.78

Depth (cm)	Number of species in fossil data	N2 effective number of species in fossil data	Number of species in fossil data present in training set	Sample sum of species present in training set
110	21	3.28	12	89.81
110.5	19	3.30	11	88.99
111	19	3.30	12	88.50
111.5	16	3.31	9	86.10
112	17	3.37	9	79.73
112.5	20	3.29	9	87.05
113	18	3.34	9	87.17
113.5	21	3.35	12	88.74
114	23	3.35	12	87.44
114.5	16	3.20	8	92.02
115	16	3.26	8	88.51
115.5	19	3.28	9	89.63
116	22	3.39	10	82.70
116.5	17	3.33	8	87.11
117	18	3.25	10	90.41
117.5	22	3.27	12	90.87
118	15	3.27	6	87.89
118.5	17	2.99	9	92.04
119	15	3.09	7	94.83
119.5	15	3.22	8	90.59
120	15	2.95	6	93.95
120.5	19	2.97	8	91.22
121	15	2.87	8	92.61
121.5	18	2.97	8	89.96
122	20	2.92	12	90.74
122.5	17	3.09	8	87.67
123	20	3.11	10	90.43
123.5	22	3.25	10	89.18
124	20	3.27	10	88.79
124.5	16	3.02	9	92.99
125	15	2.96	7	93.58
125.5	13	2.96	7	89.63
126	15	2.91	7	93.99
126.5	19	3.07	9	92.68
127	19	2.89	12	94.39
127.5	13	2.98	7	93.00
128	16	2.98	5	86.92
128.5	16	3.00	9	89.33
129	17	3.03	9	88.15
129.5	19	3.06	10	87.72
130	18	3.11	9	90.17
130.5	22	3.11	10	87.91
131	17	3.05	9	92.12
131.5	19	2.90	9	93.62
132	18	3.00	7	93.07
132.5	19	2.93	11	94.98
133	19	2.89	10	94.64
133.5	17	2.91	7	89.95
134	21	2.96	12	92.77
134.5	16	3.05	9	91.00
135	19	3.10	10	87.50
135.5	22	3.25	11	86.98
136	21	3.27	11	84.00
136.5	18	3.30	10	84.39

Depth (cm)	Number of species in fossil data	N2 effective number of species in fossil data	Number of species in fossil data present in training set	Sample sum of species present in training set
137	22	3.39	11	80.89
137.5	23	3.47	13	71.55
138	22	3.46	12	73.06
138.5	21	3.33	10	87.61
139	20	3.41	12	73.62
139.5	18	3.38	10	58.17
140	21	3.26	12	53.45
140.5	19	3.37	10	53.64
141	19	3.41	12	59.05
141.5	23	3.47	12	62.17
142	22	3.61	12	67.65
142.5	19	3.37	12	78.81
143	20	3.36	12	82.66
143.5	20	3.11	12	87.62
144	19	3.11	11	93.55
144.5	17	2.96	8	88.07
145	16	3.00	7	88.48
145.5	20	3.07	11	91.35
146	17	3.12	8	88.89
146.5	21	3.07	11	89.29
147	14	3.09	7	90.00
147.5	18	3.18	10	89.10
148	19	3.05	9	89.95
148.5	17	2.55	8	91.39
149	17	2.69	9	90.43
149.5	18	2.85	9	85.90
150	18	2.79	9	85.84
150.5	16	2.69	9	87.25
151	17	2.71	10	84.06
151.5	17	2.73	9	81.90
152	15	2.77	7	80.63
152.5	15	2.81	8	82.33
153	19	2.79	11	87.50
153.5	18	2.57	11	90.22
154	12	2.53	8	93.90
154.5	15	2.56	10	90.65
155	14	2.46	8	95.39
155.5	15	2.57	9	90.80
156	15	2.69	9	88.99
156.5	15	2.59	8	90.72
157	15	2.71	8	90.57
157.5	17	2.64	10	92.82
158	19	2.74	11	90.80
158.5	16	2.68	9	90.70
159	18	2.82	10	91.03
159.5	15	2.81	9	88.89
160	14	2.85	8	86.03
160.5	16	2.74	10	85.45
161	17	2.91	10	84.95
161.5	21	2.87	14	84.34
162	17	2.87	9	88.60
162.5	17	2.89	8	79.15
163	22	2.81	11	85.20
163.5	15	2.71	7	91.50

Depth (cm)	Number of species in fossil data	N2 effective number of species in fossil data	Number of species in fossil data present in training set	Sample sum of species present in training set
164	17	2.79	11	87.56
164.5	14	2.66	8	90.61
165	18	2.73	12	87.97
165.5	19	3.15	10	76.42
166	20	3.14	14	76.96
166.5	25	3.20	15	78.34
167	20	3.33	12	72.73
167.5	21	3.28	10	73.02
168	21	3.13	12	76.96
168.5	22	3.07	11	76.70
169	15	2.63	6	90.00
169.5	15	2.58	7	93.07
170	14	2.75	9	91.95
170.5	16	2.77	9	91.78
171	20	2.92	11	87.08
171.5	18	2.98	10	86.05
172	18	3.13	8	79.74
172.5	20	2.92	11	89.05
173	16	2.81	9	92.02
173.5	17	2.78	8	91.36
174	15	2.96	9	94.03
174.5	17	2.88	9	90.54
175	24	3.14	14	87.68
175.5	21	2.96	13	91.70
176	15	2.86	8	91.71
176.5	16	2.96	11	91.05
177	20	2.90	11	89.17
177.5	22	3.10	12	83.25
178	19	2.87	11	87.17

APPENDIX 9: Reconstruction diagnostics for Lake Surprise, Core LSFS

Depth (cm)	Number of species in fossil data	N2 effective number of species in fossil data	Number of species in fossil data present in training set	Sample sum of species present in training set
1	14	3.61	8	72.67
2	14	2.61	7	79.75
3	16	4.51	9	71.12
4	19	4.88	9	68.12
5	15	3.19	8	77.92
6	11	3.34	5	82.16
7	16	3.38	10	74.67
8	19	3.95	11	70.62
9	19	3.86	10	73.21
10	13	4.05	7	71.71
11	18	4.25	10	70.87
12	18	5.20	11	69.60
13	21	5.19	11	68.87
14	22	5.31	11	72.50
15	18	5.51	7	65.45
16	20	6.24	10	66.51
17	16	5.49	10	69.96
18	17	5.59	9	75.32
19	17	6.34	10	77.06
20	22	7.66	13	69.19
21	22	7.41	11	69.14
22	18	7.39	10	68.57
23	25	10.62	16	69.38
24	24	10.34	14	68.87
25	27	9.48	14	56.25
26	27	10.60	12	66.82
27	26	9.68	15	62.56
28	21	9.80	13	62.21
29	27	5.67	18	66.53
30	21	6.04	12	54.11
31	21	5.13	12	53.55
32	20	5.69	12	55.80
33	29	6.81	17	55.17
34	26	7.57	15	48.23
35	27	7.45	17	45.50
36	30	9.12	19	50.23
37	25	11.10	17	54.42
38	25	12.32	13	53.52
39	26	13.36	17	58.19
40	26	10.50	15	62.15
41	29	14.84	15	55.16
42	31	9.46	18	67.86
43	28	9.82	15	58.50
44	23	8.61	13	61.75
45	25	6.26	14	71.78
46	26	7.50	15	65.27
47	26	9.21	16	61.28
48	26	6.95	19	73.52
49	27	7.52	14	60.08
50	26	9.54	16	63.88
51	28	11.44	18	62.95

Depth (cm)	Number of species in fossil data	N2 effective number of species in fossil data	Number of species in fossil data present in training set	Sample sum of species present in training set
52	27	11.97	15	53.36
53	27	8.44	18	54.81
54	24	9.15	16	47.95
55	22	6.30	15	43.52
56	23	7.45	13	44.39
57	20	4.38	13	36.32
58	20	6.06	11	35.94
59	25	5.49	15	42.20
60	19	5.52	11	35.32
61	23	5.67	13	39.51
62	21	6.16	12	43.28
63	25	7.10	17	48.02
64	22	4.28	13	39.90
65	25	6.03	16	46.33
66	23	6.79	13	45.79
67	25	4.78	15	34.62
68	24	5.38	14	37.67
69	24	5.93	16	40.37
70	23	4.30	17	37.07
71	28	8.00	16	40.98
72	27	6.39	18	41.20
73	25	5.42	16	38.57
74	24	6.35	18	42.29
75	28	10.30	20	54.31
76	29	14.94	19	52.78
77	27	11.01	17	49.52
78	28	11.11	18	59.26
79	30	8.65	19	61.45
80	23	7.89	15	60.98
81	24	9.50	15	66.83
82	24	7.10	13	71.56
83	27	10.41	18	72.35
84	28	9.68	17	64.76
85	29	11.05	21	68.91
86	31	11.40	20	67.77
87	29	14.31	19	70.89
88	29	13.93	19	70.75
89	27	11.52	17	63.94
90	25	12.75	18	62.38
91	28	12.76	19	64.62
92	28	14.44	18	68.10
93	27	14.11	15	64.62
94	23	13.29	15	62.98
95	30	12.95	21	70.04
96	28	16.20	18	66.50
97	24	12.55	17	69.16
98	23	12.15	16	65.69
99	20	11.38	12	64.59
100	26	13.60	14	62.62
101	33	15.20	23	68.60
102	29	17.07	19	69.23
103	33	12.18	22	64.88
104	28	15.15	17	64.36

Depth (cm)	Number of species in fossil data	N2 effective number of species in fossil data	Number of species in fossil data present in training set	Sample sum of species present in training set
105	28	15.06	18	62.15
106	28	11.71	19	60.62
107	27	13.25	17	51.34
108	28	14.14	20	68.93
109	30	15.32	19	59.31
110	22	13.32	15	65.80

APPENDIX 10: Reconstruction diagnostics for Lake Surprise, Core LST1

Depth (cm)	Number of species in fossil data	N2 effective number of species in fossil data	Number of species in fossil data present in training set	Sample sum of species present in training set
1	24	9.47	13	58.22
2	21	7.29	9	68.14
3	27	10.99	14	58.02
4	25	10.82	16	55.83
5	26	8.21	15	72.30
6	25	10.35	13	60.56
7	19	6.13	9	46.43
8	27	11.62	15	46.51
9	27	8.95	15	42.65
10	28	10.69	15	40.38
11	28	12.68	17	44.39
12	32	14.78	19	52.53
13	26	11.64	12	51.61
14	25	13.58	13	50.72
15	15	2.49	8	22.54
16	19	2.46	11	21.20
17	28	10.58	15	59.71
18	23	11.28	11	58.96
19	26	12.43	14	63.55
20	23	13.99	13	69.65
21	25	12.62	16	50.71
22	32	13.49	20	49.28
23	23	10.87	14	47.80
24	24	9.72	15	45.70
25	26	5.93	15	71.56
26	14	2.36	6	90.74
27	15	3.60	8	75.96
28	21	6.37	12	72.44
29	19	7.20	10	60.77
30	24	8.34	12	58.65
31	23	10.99	11	56.50
32	21	11.39	9	56.25
33	21	12.16	10	58.29
34	25	13.77	13	51.24
35	22	11.53	11	45.45
36	24	13.80	12	46.50
37	24	9.53	13	45.59
38	23	8.29	13	43.06
39	26	5.88	14	32.39
40	16	2.46	8	19.40
41	16	1.97	10	16.75
42	16	3.08	8	25.12
43	21	5.75	13	52.22
44	24	13.49	13	44.98
45	24	11.43	12	29.05
46	23	14.46	12	39.91
47	25	9.92	14	51.22
48	24	6.35	11	50.50
49	24	9.65	11	40.00
50	23	10.05	12	43.32

Depth (cm)	Number of species in fossil data	N2 effective number of species in fossil data	Number of species in fossil data present in training set	Sample sum of species present in training set
51	21	10.59	11	31.53
52	26	5.53	12	20.95
53	23	3.35	11	20.18
54	26	5.66	16	28.64
55	28	10.01	16	37.20
56	26	12.53	14	54.21
57	26	12.99	15	56.67
58	24	11.33	12	59.13
59	18	9.97	10	58.37
60	23	7.83	13	53.69
61	24	10.77	16	50.00
62	26	9.10	16	45.00
63	24	6.72	12	40.29
64	23	8.10	11	41.29
65	26	9.40	14	42.23
66	25	11.00	12	36.27
67	22	5.07	11	17.51
68	24	11.96	12	37.80
69	22	7.75	12	37.62
70	20	7.67	11	30.85
71	19	5.81	11	29.19
72	23	4.51	11	18.84
73	17	4.03	10	30.92
74	17	4.38	9	30.99
75	13	4.41	7	33.96
76	22	5.39	12	41.29
77	20	8.90	10	50.73
78	20	6.94	10	61.35
79	15	2.36	7	79.80
80	13	3.45	7	70.59
81	20	9.31	11	58.50
82	20	8.18	12	68.75
83	23	8.82	13	50.49
84	25	10.91	15	55.98
85	27	10.83	15	49.00
86	18	4.78	10	60.58
87	19	1.76	11	87.50
88	13	1.68	7	87.13
89	14	2.21	9	82.46
90	26	12.93	14	39.50
91	25	9.97	13	42.11
92	22	6.94	12	31.71
93	28	9.80	16	46.12
94	19	8.35	10	47.62
95	19	9.45	11	50.98
96	20	9.24	11	51.85
97	22	5.34	14	29.27
98	17	3.11	9	18.45
99	16	2.92	9	9.95
100	21	4.46	12	23.53
101	17	3.20	9	21.84
102	16	2.97	8	18.45
103	14	2.10	8	16.91
104	15	1.92	9	18.23

Depth (cm)	Number of species in fossil data	N2 effective number of species in fossil data	Number of species in fossil data present in training set	Sample sum of species present in training set
105	16	5.19	9	77.36
106	15	5.23	11	67.94
107	19	8.50	13	64.68
108	15	2.52	9	92.57
109	22	9.84	14	61.99
110	15	9.05	11	52.45
111	17	4.45	11	86.47
112	15	3.39	10	95.06
113	22	2.27	12	78.64
114	19	2.61	11	80.88
115	21	5.36	11	70.53
116	23	10.18	12	55.67
117	24	9.84	15	41.51
118	21	5.74	13	49.25
119	21	9.47	14	71.31
120	19	8.00	13	70.05
121	13	2.64	9	90.95
122	18	2.46	11	79.80
123	13	2.10	7	76.21
124	18	4.92	10	67.63
125	22	9.24	12	67.92
126	19	6.32	11	68.27
127	12	2.23	8	92.96
128	10	2.12	7	97.40
129	12	2.21	8	92.75
130	13	4.73	8	73.89
131	19	4.87	11	81.00
132	17	4.53	11	80.62
133	15	3.88	11	84.16
134	11	2.67	7	70.67
135	17	6.86	9	47.37
136	12	2.36	6	27.78
137	24	6.05	14	66.34
138	13	4.30	7	73.02
139	17	3.76	9	75.70
140	19	5.36	13	61.44
141	19	5.78	10	60.10
142	10	4.91	6	62.50
143	10	1.46	6	94.93
144	9	1.88	7	92.54
145	15	4.67	11	75.36
146	17	3.19	10	77.50
147	16	8.02	9	60.68
148	19	9.83	11	42.08
149	22	11.52	14	50.93
150	24	10.93	13	58.22
151	24	11.74	16	66.02
152	13	3.92	8	80.53
153	11	3.67	7	86.32
154	14	3.46	8	73.58
155	19	5.23	12	69.30
156	17	4.16	9	73.24
157	19	4.70	10	66.38
158	15	3.25	8	82.30

Depth (cm)	Number of species in fossil data	N2 effective number of species in fossil data	Number of species in fossil data present in training set	Sample sum of species present in training set
159	16	4.08	10	84.44
160	15	4.99	10	76.21
161	20	8.87	13	59.22
162	20	7.05	13	49.06
163	16	6.25	11	67.32
164	20	6.61	12	66.83
165	23	10.23	14	62.38
166	22	10.34	13	57.50
167	24	8.64	14	64.88
168	25	6.04	14	68.90
169	20	7.17	12	67.96
170	14	2.40	8	82.06
171	15	3.15	7	51.53
172	10	1.97	3	6.33
173	14	2.62	8	20.75
174	23	11.25	13	53.10
175	19	6.38	12	45.81
176	15	3.58	9	23.33
177	13	2.41	6	13.06
178	7	2.04	3	8.00
179	13	2.59	5	14.49
180	20	9.27	13	53.00
181	19	6.42	9	42.00
182	18	4.69	11	34.31
183	23	5.36	13	37.38
184	19	4.22	11	64.50
185	20	5.52	9	60.73
186	19	4.72	8	46.08
187	11	1.80	5	11.06
188	17	4.00	8	29.35
189	13	2.72	6	26.44
190	14	3.28	7	34.31
191	16	5.34	8	44.65
192	21	7.75	10	52.49
193	15	5.91	6	32.68
194	16	5.97	8	59.63
195	12	4.11	8	65.57
196	13	4.89	6	60.78
197	20	6.37	11	36.89
198	17	6.04	10	39.05
199	25	11.59	12	49.05
200	24	11.76	14	51.23
201	18	10.37	9	44.00
202	19	9.18	10	44.50
203	22	8.74	11	51.20
204	25	9.95	14	39.61
205	19	4.02	9	16.67
206	14	2.32	5	11.79
207	22	7.67	10	60.89
208	21	12.07	9	63.77
209	19	5.53	12	74.51
210	22	8.82	12	71.50
211	20	6.78	10	64.22
212	16	2.99	9	88.06

Depth (cm)	Number of species in fossil data	N2 effective number of species in fossil data	Number of species in fossil data present in training set	Sample sum of species present in training set
213	17	5.89	7	70.81
214	16	4.73	9	72.65
215	10	1.60	6	83.75
216	11	2.44	4	63.76
217	13	3.29	6	32.58
218	11	3.07	6	23.36
219	15	4.30	7	37.50
220	18	5.37	9	23.50
221	15	3.26	6	16.50
222	17	3.65	7	18.54
223	17	3.85	8	10.27
224	20	4.22	9	22.97
225	15	3.15	7	23.90
226	11	2.77	5	13.64
227	13	3.28	5	31.50
228	13	3.68	6	35.98
229	17	3.74	8	17.12
230	16	4.01	9	23.39
231	16	5.19	9	46.88

APPENDIX 11: Names and positions of persons cited as personal communication sources

Jim Bowler	Honorary Professorial Fellow (Earth Sciences) University of Melbourne, Victoria.
Ken Farquarson	Lake Elingamite land owner
Peter Gell	Director, Centre for Environmental Management. University of Ballarat, Victoria.
Jacqui Hellings	PhD student. Faculty of Science, Monash University, Victoria.
Quan Hua	Senior research scientist. Australian Nuclear Science and Technology Organisation.
Paul Leahy	Freshwater Ecologist. Program Leader, Environmental Data, Environmental Monitoring Unit. Environment Protection Authority, Victoria.
Fiona Petchey	Deputy Director, Radiocarbon Dating Laboratory, University of Waikato, Hamilton, New Zealand.
Aline Philibert	<i>Professeure associée, CINBIOSE, Université du Québec à Montréal</i>
Sabine Schreiber	Senior scientist, Arthur Rylah Institute for Environmental Research, Department of Sustainability and Environment, Victoria.
Russell Smith	Past President, Cobden Angling Club
Atun Zawadzki	Radiochemist, Australian Nuclear Science and Technology Organisation.