

Site	Lab No.	Conventional age BP	Calibrated 95% confidence interval AD	Comments
N34/12 Motunau Island	NZ 1537	952±58	1305-1462	Marine shell, <i>Haliotis</i> sp.; Trotter 1982: 90
M35/12 Hohoupounamu	NZ 1158	604±43	1578-1812	Marine shell, <i>Chione stutchburyi</i> ; middle layer, same context as NZ 1160, NZ 1161, and NZ 1200; Trotter 1972c: 1
M35/12 Hohoupounamu	NZ 1160	346±43	1479-1665	Freshwater shell, <i>Hyridella</i> sp.; middle layer; Trotter 1972c: 1
M35/12 Hohoupounamu	NZ1161	343±86	1435-1818 (90%) 1920-1954 (5%)	Freshwater shell epidermis, <i>Hyridella</i> sp.; middle layer; Trotter 1972c: 1
M35/12 Hohoupounamu	NZ 1200	1644±42	657-819	Marine shell, <i>Amphidesma</i> sp.; middle layer; previously NZ 1159; Trotter 1972c:1
M35/12 Hohoupounamu	NZ 1375	837±44	1408-1535	Marine shell, <i>Chione stutchburyi</i> ; lowest layer; Trotter 1972c: 1
M35/42 Kairaki 13	NZ 781	782±60	1434-1641	Marine shell; bottom layer; Trotter 1972c: 1
M35/149 Halkett site group 6	S 2802	380±65	1441-1666	Charcoal; below ovenstones in disturbed oven; Rains and Rains 1992: 22-26
M35/153 Yaldhurst zone 11	S 2804	1105±70	816-1161	Charcoal; surface scatter from disturbed oven; Rains and Rains 1992: 22-26
M36/24 Redcliffs Flat Hamilton's deposit	NZ 438	1167±91	683-1047 (94%) 1098-1116 (1%) 1148-1154 (1%)	Charcoal and wood; base of deposit, same layer as NZ 1111, NZ 1112, and NZ 1113; Trotter 1975b: 204
M36/24 Redcliffs Flat Hamilton's deposit	NZ 1111	924±42	1332-1464	Marine shell, <i>Chione stutchburyi</i> ; base of deposit; Trotter 1975b: 204
M36/24 Redcliffs Flat Hamilton's deposit	NZ 1112	bomb		Moa bone carbonate; base of deposit; Trotter 1975b: 204
M36/24 Redcliffs Flat Hamilton's deposit	NZ 1113	701±60	1296-1410	Moa bone collagen; base of deposit; Trotter 1975b: 204
M36/24 Redcliffs Flat Hine's oven	NZ 459	777±87	1055-1084 (2%) 1122-1409 (93%)	Log charcoal; base of oven; Trotter 1975b: 204
M36/24 Redcliffs Flat Hine's oven	NZ 460	480±84	1321-1342 (2%) 1393-1651 (93%)	Moa bone carbonate; top of oven; Trotter 1975b: 204

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M36/24 Redcliffs Flat Sewer trench	NZ 1162	622±44	1305-1426	Moa bone collagen; duplicate of NZ 1376; Trotter 1975b: 204
M36/24 Redcliffs Flat Sewer trench	NZ 1376	537±45	1321-1341 (3%) 1393-1482 (92%)	Moa bone collagen; duplicate of NZ 1162; Trotter 1975b: 204
M36/25 Moa-bone Point Cave	NZ 437	642±88	1259-1461	Totara post butt; west wall of shelter; Trotter 1975b: 203
M36/25 Moa-bone Point Cave	NZ 461	1602±111	251-669	Red ash; after abandonment of shelter; Trotter 1975b: 203
M36/25 Moa-bone Point Cave	NZ 511	633±38	1304-1416	Second post butt, bark and outer portion; north-west corner of shelter; Trotter 1975b: 203
M36/25 Moa-bone Point Cave	NZ 512	706±62	1260-1411	Second post butt; inner portion; Trotter 1975b: 203
M36/25 Moa-bone Point Cave	NZ 514	515±64	1313-1350 (5%) 1389-1527 (77%) 1556-1633 (13%)	Moa bone carbonate; second post hole fill; Trotter 1975b: 203
N36/72 Panau Pan/1	Wk 2566	134±56	1678-1773 (32%) 1801-1942 (63%)	Twig charcoal, long-lived species removed; north end of site; Jacomb 1995: 101
N36/72 Panau Pan/2	Wk 2567	380±55	1453-1654	Twig charcoal, long-lived species removed; oven or fire scoop; Jacomb 1995: 101
N36/72 Panau Pan/4	Wk 2569	600±45	1306-1365 (40%) 1375-1438 (55%)	Twig charcoal, long-lived species removed; base of oven containing analysed midden; Jacomb 1995: 101
N36/72 Panau Pan/5	Wk 2570	640±50	1299-1420	Twig charcoal, long-lived species removed, base of oven; Jacomb 1995: 101
N36/72 Panau Pan/6	Wk 2571	114±50	1681-1755 (26%) 1804-1938 (69%)	Twig charcoal, long-lived species removed; base of oven, south end of site; Jacomb 1995: 101
N36/93 Takamatua	NZ 1539	976±58	1292-1450	Marine shell, <i>Chione stutchburyi</i> ; Trotter 1973a: 76
H37/1 Bolton's Gully	NZ 1378	505±44	1402-1512 (92%) 1599-1618 (3%)	Charcoal; oven; Trotter 1972c: 2

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L37/4 Rakaia R. Mouth	NZ 927	215±120	1505-1954	Charred moa bone carbonate; oven, same context as NZ 929, NZ 930, NZ931, and NZ932; Trotter 1972a: 135
L37/4 Rakaia R. Mouth	NZ 929	924±112	962-1306	White burnt moa bone carbonate; oven; Trotter 1972a: 135
L37/4 Rakaia R. Mouth	NZ 930	556±71	1299-1514 (93%) 1596-1619 (2%)	Burnt moa bone collagen; oven; Trotter 1972a: 135
L37/4 Rakaia R. Mouth	NZ 931	bomb		Unburnt moa bone carbonate; oven; Trotter 1972a: 135
L37/4 Rakaia R. Mouth	NZ 932	487±88	1314-1350 (4%) 1390-1651 (91%)	Burnt moa bone collagen; oven; Trotter 1972a: 135
L37/8 Wakanui	NZ 1766	629±58	1298-1431	Moa bone collagen; oven, same context as NZ 1767, and NZ 1768; Trotter 1975a: 90
L37/8 Wakanui	NZ 1767	558±69	1299-1511 (94%) 1602-1616 (1%)	Moa bone collagen; oven; Trotter 1975a: 90
L37/8 Wakanui	NZ 1768	383±58	1449-1655	Moa bone collagen; oven; Trotter 1975a: 90
M37/56 Kaitorete Spit	NZ 7056	1054±46	899-906 (94%) 962-1163 (1%)	Charcoal, 14 species including podocarp; deflated oven; NZ 7055, and NZ 7056 quoted with the permission of B.P.J. Molloy.
M37/151 Kaitorete Spit	NZ 7055	268±43	1523-1565 (4%) 1629-1703 (33%) 1718-1819 (42%) 1918-1954 (16%)	Charcoal, 7 species, small diameter; deflated oven;
N37/12 Tumbledown Bay	NZ 7653	643±53	1510-1748	Marine shell, <i>Haliotis iris</i> ; layer 2; Tumbledown Bay dates quoted with the permission of B.J. Allingham.
N37/12 Tumbledown Bay	NZ 7654	706±50	1490-1670	Marine shell, <i>Amphidesma</i> sp.; layer 3.
N37/12 Tumbledown Bay	NZ 7655	213±47	1660-1887 (78%) 1910-1954 (17%)	Charcoal, 10 species, mainly small diameter; layer 1a.
N37/12 Tumbledown Bay	NZ 7656	418±47	1447-1635	Charcoal, 6 species, mainly twig; layer 3.
N37/12 Tumbledown Bay	NZ 7661	476±43	1414-1520 (80%) 1570-1627 (15%)	Charcoal, <i>Alectryon excelsus</i> and <i>Schefflera digitata</i> ; layer 2.
N37/12 Tumbledown Bay	NZ 7745	686±38	1519-1671	Marine shell, <i>Haliotis iris</i> ; bottom of layer 3, initial occupation of hut structure.

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N37/12 Tumbledown Bay	NZA 338	307±85	1454-1954	Moa bone collagen; layer 3.
I38/4 Tengawai R2D2	NZ 6297	647±41	1300-1410	Charcoal, mainly <i>Myrsine australis</i> , smallish stems; oven; Fankhauser 1992: 29
I38/5 Tengawai TTHO	NZ 6364	657±28	1304-1401	Charcoal, <i>Myrsine australis</i> , mainly small stems; oven; Fankhauser 1992: 29
I38/7 Tengawai NWO	NZ 6321	650±33	1303-1405	Charcoal, mainly <i>Podocarpus totara/hallii</i> , small stems and outergrowth; oven; Fankhauser 1992: 29
H39/12 Ahuriri rock shelter	ANU 47	625±65	1295-1437	Charcoal; layer 2, platform C; Ambrose 1970: 395
H39/15 Junction Point rock shelter	ANU 49	695±135	1043-1509 (94%) 1603-1615 (1%)	Charcoal; layer 3; Ambrose 1970: 390
H39/16 Gooseneck Bend rock shelter	ANU 48	850±150	966-1428	Charcoal; lowest layer 3; Ambrose 1970: 409
H39/19 Killermont No.2	Wk 2782	640±35	1290-1334 (42%) 1338-1403 (58%)	Short-lived charcoal; Wk 2782, Wk 2916 and Wk 2991 quoted with the permission of R. McGovern-Wilson.
H39/19 Killermont No.2	Wk 2916	620±45	1292-1410	Short-lived charcoal.
H39/19 Killermont No.2	Wk 2991	590±45	1298±1423	Short-lived charcoal.
J39/32 Landsborough Road LOK 13	NZ 6322	896±33	1055-1084 (5%) 1122-1139 (3%) 1157-1278 (86%)	Charcoal; <i>Podocarpus totara/hallii</i> ; oven; Fankhauser 1992: 29
J39/32 Landsborough Road LO-2	NZ 6331	1040±35	984-1064 (65%) 1076-1127 (20%) 1133-1160 (10%)	Charcoal; <i>Podocarpus totara/hallii</i> ; oven; Fankhauser 1992: 29
J39/32 Landsborough Road LO-1	NZ 6391	895±31	1059-1080 (3%) 1124-1137 (2%) 1158-1278 (89%)	Charcoal; mainly <i>Podocarpus totara/hallii</i> ; oven; Fankhauser 1992: 29
J39/32 Landsborough Road LO-3	NZ 6420	664±33	1301-1400	Charcoal, <i>Podocarpus spicatus</i> ; youngest shallow oven; Fankhauser 1992: 29

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J39/32 Landsborough Road LO-4	NZ 6422	752±33	1246-1311 (79%) 1352-1387 (16%)	Charcoal, mainly <i>Podocarpus spicatus</i> ; shallow oven; Fankhauser 1992: 29
J39/32 Landsborough Road LO-5	NZ 6431	852±33	1185-1284	Charcoal, <i>Podocarpus spicatus</i> ; oven, oldest dated context; Fankhauser 1992: 29
J39/35 Silverstream ASO	NZ 6173	951±46	1028-1222	Charcoal, <i>Podocarpus totara/hallii</i> ; oven, TL 625±112 BP; Fankhauser 1986a: 174; 1992: 29
J39/36 Otaio Gorge TO	NZ 6230	821±48	1174-1298	Charcoal, <i>Hoheria/Plagianthus</i> sp.; oven, TL 586±88 BP; Fankhauser 1986a: 174; 1992:29
J39/37 Black Line Rd FLO	NZ 6375	694±33	1291-1396	Charcoal, <i>Podocarpus spicatus</i> ; oven; Fankhauser 1992: 29
J39/47 Makikihi HHO	NZ 6174	840±33	1196-1287	Charcoal, <i>Podocarpus totara/hallii</i> ; oven; Fankhauser 1992: 29
J39/50 Makikihi FPO	NZ 6384	658±33	1302-1403	Charcoal, <i>Podocarpus spicatus</i> ; oven; Fankhauser 1992: 29
J39/50 Makikihi ZBO	NZ 6419	1043±33	983-1060 (70%) 1080-1126 (16%) 1135-1159 (8%)	Charcoal, <i>Podocarpus spicatus</i> ; oven; Fankhauser 1992: 29
I40/27 Woolshed Flat	NZ 759	bomb		Moa bone carbonate; same context as NZ 760; Trotter 1967: 139
I40/27 Woolshed Flat	NZ 760	544±70	1302-1518 (90%) 1584-1624 (5%)	Moa bone collagen; Trotter 1967: 139
I40/27 Woolshed Flat	NZ 783	816±61	1060-1079 (1%) 1124-1136 (1%) 1158-1311 (89%) 1352-1387 (4%)	Charcoal, twigs; Trotter 1968: 87; 1972c: 2
I40/27 Woolshed Flat	NZ 798	867±40	1067-1073 (1%) 1128-1133 (1%) 1160-1286 (94%)	Charcoal; Trotter 1968: 87; 1972c: 2
I40/43 Mt Parker MP1	NZ 6210	609±33	1308-1361 (43%) 1380-1432 (52%)	Charcoal, <i>Myrsine australis</i> , smallish stems; oven; Fankhauser 1992: 29
I40/44 Mt Parker MP2	NZ 6409	718±34	1280-1324 (45%) 1337-1395 (50%)	Charcoal, <i>Olearia</i> sp., <i>Myrsine australis</i> , small stems; oven; Fankhauser 1992: 29
I40/46 Wainui WO7/1	NZ 6171	509±41	1402-1499 (94%) 1606-1613 (1%)	Charcoal, <i>Coprosma</i> sp., small stems; oven, above NZ 6211; Fankhauser 1992: 29

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I40/46 Wainui WO7/2	NZ 6211	589±33	1313-1351 (21%) 1388-1439 (74%)	Charcoal, <i>Myrsine australis</i> , small stems; oven, from bottom layer beneath NZ 6171; Fankhauser 1992: 29
I40/48 Wainui WO4	NZ 6383	588±28	1319-1345 (13%) 1392-1437 (82%)	Charcoal, mainly <i>Coprosma</i> sp.; oven; Fankhauser 1992: 29
I40/49 Wainui WO2	NZ 6172	852±30	1189-1283	Charcoal, <i>Sophora microphylla</i> ; oven; Fankhauser 1992: 29
I40/50 Wainui WO3	NZ 6343	630±34	1305-1417	Charcoal, <i>Sophora microphylla</i> ; oven; Fankhauser 1992: 29
I40/51 Wainui WO5	NZ 6212	392±25	1479-1635	Charcoal, mainly <i>Myrsine australis</i> , small stems; oven, TL 432±67 BP; Fankhauser 1986a: 174; 1992: 29
I40/51 Wainui WO6	NZ 6393	588±34	1312-1352 (21%) 1387-1440 (74%)	Charcoal, mainly <i>Myrsine australis</i> , small stems; oven; Fankhauser 1992: 29
J40/10 Te Mako UHTO	NZ 6208	560±28	1401-1441	Charcoal, <i>Lophomyrtus obcordata</i> ; oven; Fankhauser 1992: 29
J40/12 Brunswick Downs BB423	NZ 6209	675±28	1300-1397	Charcoal, <i>Myrsine australis</i> , small stems; oven; Fankhauser 1992: 29
J40/13 Kowhatu DLO	NZ 6167	863±46	1058-1081 (3%) 1123-1137 (2%) 1158-1289 (91%)	Charcoal, <i>Podocarpus totara/hallii</i> ; oven, TL 671±71 BP; Fankhauser 1986a: 174; 1992: 29
J40/18 Limestone Hills SDO	NZ 6170	215±26	1663-1703 (17%) 1718-1820 (57%) 1852-1863 (1%) 1917-1954 (20%)	Charcoal, <i>Coprosma</i> sp., <i>Nothofagus</i> sp., small stems; oven, TL 225±31 BP; Fankhauser 1986a: 174; 1992: 29
J40/18 Limestone Hills GSDO	NZ 6300	173±32	1678-1772 (38%) 1802-1941 (57%)	Charcoal, mainly <i>Hebe</i> sp.; small oven; Fankhauser 1992: 29
J40/19 Limestone Hills LHO-2	NZ 6168	666±33	1300-1400	Charcoal, <i>Podocarpus totara/hallii</i> ; pit 2 oven, later than NZ 6169, TL 373±100 BP; Fankhauser 1986a: 174; 1992: 29
J40/19 Limestone Hills LHO-1	NZ 6169	909±46	1043-1271	Charcoal, <i>Podocarpus totara/hallii</i> ; pit 1 oven, earlier than NZ 6168; Fankhauser 1986a: 174; 1992: 29
J40/19 Limestone Hills LH/F5,6	NZ 6362	568±33	1323-1339 (5%) 1394-1445 (91%)	Charcoal, mainly <i>Podocarpus totara/hallii</i> ; shallow oven associated with pit 2, NZ 6168; Fankhauser 1992: 29

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J40/21 Holmeview HVA	NZ 6166	180±36	1675-1777 (41%) 1798-1954 (54%)	Charcoal, mainly <i>Leptospermum scoparium</i> , stems and outer wood; oven; Fankhauser 1992: 29
J40/21 Holmeview HVB	NZ 6411	140±32	1685-1741 (25%) 1809-1931 (70%)	Charcoal, <i>Leptospermum ericoides</i> , small stems; oven; Fankhauser 1992: 29
J40/32 Waihao R. Mouth	SUA 62A	modern		Moa bone collagen; same oven as SUA 62B, SUA 63, and SUA 64; Orchiston 1974: 3.71
J40/32 Waihao R. Mouth	SUA 62B	770±95	1052-1086 (3%) 1121-1417 (92%)	Moa bone collagen; Orchiston 1974: 3.71
J40/32 Waihao R. Mouth	SUA 63	730±80	1213-1423	Charcoal; Orchiston 1974: 3.71
J40/32 Waihao R. Mouth	SUA 64	4100±90	2455-1973 BC	Marine shell, cockle; Orchiston 1974: 3.71
J41/56 Waitaki R. Mouth	NZ 4543	963±86	992-1277	Charcoal; same oven as NZ 4636; Anderson 1989a: 224
J41/56 Waitaki R. Mouth	NZ 4544	1140±110	695-1164	Graphitic sand; Anderson 1989a: 172
J41/56 Waitaki R. Mouth	NZ 4636	620±33	1306-1365 (53%) 1376-1425 (42%)	Charcoal, <i>Pittosporum</i> sp.; same oven as NZ 4543; Anderson 1989a: 224
J41/56 Waitaki R. Mouth	SUA 61	600±80	1285-1482	Moa bone collagen, from base of occupation deposit; Orchiston 1984: 3.40

**Note:** Conventional ages may differ from previously published figures. They are derived from the current records of the Institute of Geological and Nuclear Sciences (previously Nuclear Sciences Group, New Zealand Department of Scientific and Industrial Research) and other relevant laboratories, whose cooperation is acknowledged. In the past, inconsistencies in nomenclature and the reporting of calibration standards have led to some confusion about the interpretation of radiocarbon dates measured at the Institute of Geological and Nuclear Sciences. To resolve such questions and ensure that all radiocarbon ages are reported in a consistent manner, measurements made prior to 1988 have been recalculated by the Institute in accordance with the recommendations of Stuiver and Polach (1977) and stored on a database. From 1988, all results since NZ 7543 have been reported by the Institute in strict accordance with the Stuiver and Polach conventions. The 95% confidence intervals are calibrated ages according to the bidecadal radiocarbon calibration (Bard *et al.* 1993; Kromer and Becker 1993; Pearson and Stuiver 1993; Stuiver and Pearson 1993), calculated by B.G. McFadgen using Inscalc provided by the Institute of Geological and Nuclear Sciences. Calibrated ages for terrestrial samples incorporate a southern hemisphere offset of 40 years (as recommended by Vogel *et al.* 1993). Calibrated ages for marine samples incorporate a  $\Delta R$  correction (Stuiver and Braziunas 1993) of  $-30 \pm 15$  (McFadgen and Manning 1990). Comments are derived from the stated references and from the correspondence files of the Institute.

**APPENDIX 3**  
**Moa remains from archaeological sites**

(Species identifications according to Anderson 1989a: 219-211 except where stated otherwise; distribution in Figure 3.)

Site No.	Site name	Identification	Reference
M33/7	Weka Pass rock shelter	Moa egg shell; natural?	Site record form
M33/11	Timpendean rock shelter	<i>Euryapteryx geranoides</i> in main occupation layer	Haast 1877: 52
033/4	Waiau River Mouth	<i>Emeus crassus</i> or <i>Euryapteryx geranoides</i>	Parry 1960: 13
033/11	Hurunui River Mouth	<i>Euryapteryx geranoides</i> ?	Duff 1956: 275; Scarlett 1974: 7
K34/7	Castle Hill	Moa bones	Trotter and McCulloch 1971: 62
M34/20	Ashley River Mouth	Moa remains in occupation layer	Site record form
N34/10	Waipara River Mouth	Moa middens; 9 ha site	Orchiston 1977: 116
N34/-	Motunau	Moa tibia from a "well defined hearth"	Canterbury Museum information
M35/-	Avonside, Wright's and Palmer's	Moa ovens and kitchen middens	Haast 1874a: pl. II
J36/-	Forest Creek	Moa bones and egg shell	Anderson 1989a: 141
M36/7	Purau	Midden moa bones	Trotter 1977: 357
M36/12	Bromley	<i>Euryapteryx geranoides</i>	Scarlett 1974:7; 1979: 84
M36/24	Redcliffs Flat	<i>Emeus crassus</i> , <i>Euryapteryx geranoides</i> , <i>Anomalopteryx didiformis</i> , <i>Pachyomis elephantopus</i> , <i>Dinornis giganteus</i> , egg shell	Haast 1874a: 85; Scarlett 1974: 7; Trotter 1975b: 208; Dawson and Yaldwyn 1975: 214; Anderson 1989a: 219
M36/25	Moa-bone Point Cave, lower deposits	<i>Emeus crassus</i> , <i>Euryapteryx geranoides</i> , <i>Dinornis giganteus</i> , <i>Dinornis novaezealandiae</i> , <i>Anomalopteryx didiformis</i> , egg shell	Haast 1874a: 83; Scarlett 1974: 7; Anderson 1989a: 219
M36/47	Monck's Cave	<i>Emeus crassus</i> , egg shell	Forbes 1890: 374; Anderson 1989a: 219
M36/98	Smugglers Bay Cave	Moa bone	Wright and Bennett 1964: 133
N36/58	Pigeon Bay	Midden with moa bone	Trotter 1977: 357
N36/66	Pigeon Bay	Midden with moa bone	Trotter 1977: 357
N36/72	Panau	Moa bones rare, but included in midden lists, areas A and C	Jacomb 1995: 62



Site No.	Site name	Identification	Reference
N36/87	Barrys Bay	Moa bones in midden	Site record form
N36/-	Okains Bay	Moa hunting site	Anderson 1989a: fig. 9.1
H37/1	Boltons Gully	Moa bones with oven	Trotter 1969
J37/1	Blairs Road	Moa bones with greywacke flakes	Site record form
L37/4	Rakaia River Mouth	<i>Emeus crassus</i> , <i>Euryapteryx geranoides</i> , <i>Anomalopteryx didiformis</i> , <i>Dinornis novaezealandiae</i> , <i>Pachyornis elephantopus</i> , egg shell	Trotter 1972a: 137, 148; Anderson 1989a: 219
L37/6	Rakaia Huts	Moa bones and stone flakes	Trotter 1972a: 143
L37/7	South Rakaia Huts	Moa bones and ovens	Site record form
L37/8	Wakanui	<i>Emeus crassus</i> , <i>Euryapteryx geranoides</i> , egg shell	Trotter 1977: 359; Scarlett 1974: 7
L37/10	Wakanui	Moa bones with ovens	Site record form
L37/12	Shipgo Past	Moa bone with ovens	Site record form
M37/35?	Ikirangi Bay	<i>Euryapteryx geranoides</i>	Duff 1956: 275; Scarlett 1974: 7
M37/122	Kaitorete Spit	Bone of small moa with oven	Site record form
N37/12	Tumbledown Bay layer 3	<i>Emeus crassus</i> , <i>Euryapteryx geranoides</i> , <i>Anomalopteryx didiformis</i> , <i>Dinornis novaezealandiae</i> , egg shell	Mason and Wilkes 1963b: 99; Scarlett 1974: 7; Allingham 1988; Anderson 1989a: 219
138/1	Grays Hills silcrete source	Moa bones in bank of quarry debris	Chapman 1884: 175
J38/1?	Tengawai Gorge shelter	<i>Pachyornis elephantopus?</i>	Hamilton 1897: 25
J38/4?	Tengawai Gorge shelter	Moa bones and egg shell; natural egg shell beneath	Hamilton 1897: 25
J38/105	Opihi No. 114 rock shelter	Moa egg shell on floor	Site record form
J38/107	Opihi No. 116	Foot bones of <i>Pachyornis elephantopus</i> excavated 1960	Site record form
J38/172	Cannington	Moa bones and adze	Site record form
J38/-	Tengawai Gorge	Open moa hunting site	Anderson 1989a: 141
K38/2	Hinds River Mouth	Site similar to Wakanui	Trotter 1973b: 139
K38/13	Opihi River Mouth (Connolly's Seadown)	Moa crop stones and egg shell	Orchiston 1974: 3.22
K38/-	Arowhenua	Moa bones - possible site	Anderson 1989a: 141

Site No.	Site name	Identification	Reference
G39/5	Avon Burn	Moa gizzard stones	McGovern-Wilson and Bristow 1991: 31
H39/1	Shepherds Flat	Open site, moa bones	Trotter 1970a: 448
H39/3	Hamilton's No. 1	Possible moa bone	Ambrose 1970: 417
H39/6	Shepherds Creek II rock shelter	<i>Euryapteryx geranoides</i> , <i>Megalapteryx didinus</i> , egg shell	Trotter 1970a: 449; Scarlett 1979: 85-86
H39/12	Ahuriri rock shelter	Layer 2, <i>Megalapteryx didinus</i> , egg shell	Ambrose 1970: 395
H39/14	Te Akatarewa	Moa bones	Duff 1956: 272; Trotter 1970a: 448
H39/15	Junction Point rock shelter	Moa eggshell	Ambrose 1970: 390
H39/16	Gooseneck Bend rock shelter	Layer 3, <i>Pachyornis elephantopus</i> and punctured egg shell	Ambrose 1970: 406
H39/19	Killermont No. 2	<i>Euryapteryx geranoides</i> (predominant), ? <i>Emeus crassus</i> (1 bone), ? <i>Pachyornis elephantopus</i> (1 bone)	McGovern-Wilson and Bristow 1991: 31; moa species identified by Trevor Worthy
H39/21	Waitaki II rock shelter	Egg shell	Mason 1963: 94
J39/12	Inwardleigh	Ovens and moa bone	Site record form
J39/29	Pareora River Mouth	<i>Euryapteryx geranoides</i> and <i>Emeus crassus</i>	Griffiths 1955: 233; Duff 1956: 271; Anderson 1989a: 219
K39/1	Dashing Rocks	<i>Euryapteryx geranoides</i> ?	Mason and Wilkes 1963a: 95; Duff 1956: 269
K39/3	Normanby No. 1	Moa bones, egg shell	Griffiths 1941: 218, 229; Duff 1956: 270
K39/4	Normanby No. 2	Moa bones, egg shell	Griffiths 1942: 125
140/1	Waitangi Bridge	Moa bones, egg shell	Duff 1956: 272
140/2	Stony Stream	Moa bones and egg shell	Stevenson 1947: 54
140/4	Garguston	Moa bones and egg shell	Trotter 1970a: 447
140/27	Woolshed Flat	<i>Euryapteryx geranoides</i> <i>Pachyornis elephantopus</i> <i>Megalapteryx didinus</i>	Trotter 1966: 122; 1970a: 442-443; 1977: 360
J40/32	Waihao River Mouth	<i>Dinornis novaezealandiae</i> , <i>Euryapteryx geranoides</i>	Orchiston 1974: table 3.8
J41/59	Ikawai	Ovens, moa bones	Site record form

Site No.	Site name	Identification	Reference
J41/56	Waitaki River Mouth	<i>Euryapteryx geranoides</i> , <i>Dinornis novaezealandiae</i> , <i>Anomalopteryx didiformis</i> , <i>Emeus crassus</i> , <i>Pachyornis elephantopus</i> , egg shell	Teviotdale 1939: 179-180; Anderson 1989a: 219

**APPENDIX 4**  
**Identified bird bones (other than moa) from archaeological sites**

(Arranged according to Kinsky 1970, synonymised according to Worthy 1994; site numbers and references listed at the end.)

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Brown kiwi or great spotted kiwi ( <i>Apteryx</i> sp.)	
Redcliffs Flat	3 bones
Redcliffs Flat, sewer trench	1 bone
Moa-bone Point Cave, lower deposit	3 bones
Moa-bone Point Cave, upper deposit	2 bones
Rakaia River Mouth	present
Wakanui	present
Timpendean	4 bones, MNI 2
Flock Hill	1 bone (artefact)
Blue penguin ( <i>Eudyptula minor</i> )	
Redcliffs Flat	13 bones
Moa-bone Point Cave, lower deposits	67 bones
White-flipped blue penguin ( <i>Eudyptula minor albosignata</i> )	
Redcliffs Flat, Hamilton's deposit	few?
Blue penguin ( <i>Eudyptula</i> sp.)	
Bromley	present
Redcliffs Flat, sewer trench	11 bones
Redcliffs Flat, school section	94 bones
Wakanui	present
Tumbledown Bay	present
Penguin ( <i>Eudyptula</i> or <i>Megadyptes</i> sp.)	
Waihao River Mouth	1 individual
Crested penguin ( <i>Eudyptes pachyrhynchus</i> )	
Bromley	present
Redcliffs Flat	17 bones
Redcliffs Flat, Hamilton's deposit	present
Redcliffs Flat, sewer trench	66 bones
Redcliffs Flat, school section	130 bones
Panau	present?
Tumbledown Bay	present
Albatross ( <i>Diomedea exulans</i> )	
Rakaia River Mouth	present
Dashing Rocks	present
Black-browed mollymawk ( <i>Diomedea melanophris</i> )	
Rakaia River Mouth	present
Buller's mollymawk ( <i>Diomedea bulleri</i> )	
Redcliffs Flat, sewer trench	1 bone?

White-capped mollymawk ( <i>Diomedea cauta</i> )	
Redcliffs Flat, sewer trench	4 bones
Redcliffs Flat, school section	2 bones
Rakaia River Mouth	4 out of 32 bones
Timpendean	1 bone (artefact?)
Mollymawk ( <i>Diomedea</i> sp.)	
Takamatua	present
Southern giant petrel ( <i>Macronectes giganteus</i> )	
Moa-bone Point Cave, lower deposits	6 bones and 1 feather
Moa-bone Point Cave, upper deposits	1 bone
Mottled petrel ( <i>Pterodroma inexpectata</i> )	
Shepherds Creek II	present
Prion ( <i>Pachyptila</i> sp.)	
Redcliffs Flat, school section	2 bones
Paradise Cave	present
Tumbledown Bay	present
Ahuriri, layer 2	1 individual
Buller's shearwater ( <i>Puffinus bulleri</i> )	
Tumbledown Bay	present?
Shearwater ( <i>Puffinus gavia</i> or <i>Puffinus huttoni</i> )	
Redcliffs Flat, sewer trench	1 bone
Redcliffs Flat, school section	9 bones
Panau	present?
Dashing Rocks	present?
Gowan Hill	present
Ahuriri, layer 2	1 individual?
Gooseneck Bend, layer 3	1 individual
Black shag ( <i>Phalacrocorax carbo</i> )	
Bromley	present
Moa-bone Point Cave, lower deposits	18 bones
Dashing Rocks	present
Ahuriri, layer 2	1 individual
Gooseneck Bend, layer 3	2 individuals
layer 2	3 individuals
layer 1	2 individuals
Pied shag ( <i>Phalacrocorax varius</i> )	
Moa-bone Point Cave, lower deposits	15 bones
Little shag ( <i>Phalacrocorax melanoleucos</i> )	
Moa-bone Point Cave, lower deposits	12 bones
Rakaia River Mouth	present
Stewart Island shag ( <i>Leucocarbo camunculatus chalconotus</i> )	
Redcliffs Flat, Hamilton's deposit	present?

Shag ( <i>Phalacrocorax</i> or <i>Leucocarbo</i> sp.)	
Redcliffs Flat, sewer trench	7 bones
Spotted shag ( <i>Stictocarbo punctatus</i> )	
Bromley	present
Redcliffs Flat	28 bones
Redcliffs Flat, Hamilton's deposit	abundant
Redcliffs Flat, sewer trench	155 bones
Redcliffs Flat, school section	281 bones
Moa-bone Point Cave, lower deposits	107 bones and 39 feathers
Moa-bone Point Cave, upper deposits	104 bones and 62 feathers
Paradise Cave	present
Takamatua	present
Rakaia River Mouth	16 out of 32 bones
Wakanui	present
Tumbledown Bay	abundant
Waihao River Mouth	1 individual
White heron ( <i>Egretta alba</i> )	
Moa-bone Point Cave, upper deposit	2 bones
Paradise shelduck ( <i>Tadorna variegata</i> )	
Redcliffs Flat	3 bones
Moa-bone Point Cave, upper deposits	3 bones
Timpendean	2 bones, MNI 2
Hamilton's shelter No. 3	present
Shepherds Creek II	present
Gooseneck Bend, layer 2	3 individuals, 1 immature
layer 1	1 individual
Grey duck ( <i>Anas superciliosa</i> )	
Redcliffs Flat	10 bones
Redcliffs Flat, school section	25 bones
Moa-bone Point Cave, lower deposits	17 bones
Moa-bone Point Cave, upper deposits	8 bones
Dashing Rocks	present
Gowan Hill	present
Shepherds Creek II	present
Gooseneck Bend, layer 3	2 individuals
layer 2	1 individual
Grey teal ( <i>Anas gibberifrons</i> )	
Redcliffs Flat, school section	1 bone
Gooseneck Bend, layer 3	1 individual
Brown teal ( <i>Anas aucklandica chlorotis</i> )	
Timpendean	3 bones, MNI 1
New Zealand shoveler ( <i>Anas rhynchotis</i> )	
Waihao River Mouth	1 individual
Duck/teal ( <i>Anas</i> sp.)	
Redcliffs Flat, sewer trench	7 bones

Redcliffs Flat, school section	7 bones
Rakaia River Mouth	3 out of 32 bones
Dashing Rocks	present
Waihao River Mouth	1 individual
Hamilton's Shelter No. 3	present
Shepherds Creek II	present
Ahuriri, layer 2	1 individual
Gooseneck Bend, layer 2	2 individuals
Blue duck ( <i>Hymenolaimus malacoryhynchos</i> )	
Shepherds Creek II	present
Australasian harrier ( <i>Circus approximans gouldi</i> )	
Moa-bone Point Cave, lower deposits	1 feather
Moa-bone Point Cave, upper deposits	3 bones
Timpendean	2 bones, MNI 1
Gooseneck Bend, layer 3	1 individual
New Zealand falcon ( <i>Falco novaeseelandiae</i> )	
Redcliffs Flat, school section	7 bones
Takamatua	present?
Timpendean	1 bone
Shepherds Creek II	present
New Zealand quail ( <i>Coturnix novaezelandiae</i> )	
Church Gully	present
Bromley	present
Paradise Cave	present
Dashing Rocks	present
Waihao River Mouth	1 individual
Timpendean	102 bones, MNI 15
Gowan Hill	present
Tengawai	feathers
Hamilton's shelter No. 3	present
Shepherds Creek II	present
Gooseneck Bend, layer 3	8 individuals
layer 2	2 individuals
Banded rail ( <i>Rallus philippensis</i> )	
Paradise Cave	present
Auckland Island rail ( <i>Rallus pectoralis</i> )	
Rakaia River Mouth	present?
Weka ( <i>Gallirallus australis</i> )	
Bromley	present
Redcliffs Flat, sewer trench	1 bone
Redcliffs Flat, school section	2 bones
Paradise Cave	present
Timpendean	14 bones, MNI 3
Flock Hill	38% of feathers (probably up to 74%)
Tengawai Gorge	feathers
Shepherds Creek II	present

Ahuriri, layer 2	2 individuals, 1 juvenile
Gooseneck Bend, layer 3	1 individual
Pukeko ( <i>Porphyrio porphyrio</i> )	
Rakaia River Mouth	present
Timpendean	2 bones, MNI 1
Australian coot ( <i>Fulica atra</i> )	
Bromley	present
Oystercatcher ( <i>Haematopus</i> sp.)	
Takamatua	present
Bar-tailed godwit ( <i>Limosa lapponica</i> )	
Rakaia River Mouth	present
Southern black-backed gull ( <i>Larus dominicanus</i> )	
Redcliffs Flat, sewer trench	4 bones
Rakaia River Mouth	1 out of 32 bones
Shepherds Creek II	present
Red-billed gull ( <i>Larus novaehollandiae</i> )	
Rakaia River Mouth	1 out of 32 bones
Tumbledown Bay	present
Gull ( <i>Larus</i> sp.)	
Redcliffs Flat, sewer trench	1 bone
Moa-bone Point Cave, lower deposits	present
Black-fronted tern ( <i>Sterna albostrata</i> )	
Shepherds Creek II	present
White-fronted tern ( <i>Sterna striata</i> )	
Shepherds Creek II	present
Tern ( <i>Sterna</i> sp.?)	
Moa-bone Point Cave, upper deposits	present
New Zealand pigeon ( <i>Hemiphaga novaeseelandiae</i> )	
Bromley	present
Redcliffs Flat, Hamilton's deposit	present
Redcliffs Flat, sewer trench	6 bones
Redcliffs Flat, school section	42 bones
Paradise Cave	present
Panau	present
Waihao River Mouth	1 individual
Timpendean	5 bones, MNI 1
Tengawai	feathers
Kakapo ( <i>Strigops habroptilus</i> )	
Moa-bone Point Cave, lower deposits	2 bones
Moa-bone Point Cave, upper deposits	49 feathers
Flock Hill	9% of feathers



<i>Kaka (Nestor meridionalis)</i>	
Redcliffs Flat	6 bones
Redcliffs Flat, sewer trench	2 bones
Redcliffs Flat, school section	5 bones
Moa-bone Point Cave, lower deposits	5 bones and 11 feathers
Dashing Rocks	present
Timpendean	13 bones, MNI 4
Flock Hill	4% of feathers
Hamilton's shelter No. 3	present
Shepherds Creek II	present
<i>Parakeet (Cyanoramphus sp.)</i>	
Redcliffs Flat, sewer trench	2 bones
Redcliffs Flat, school section	2 bones
Paradise Cave	present
Tumbledown Bay	present
Waihao River Mouth	4 individuals
Gowan Hill	present
Tengawai	feathers
Shepherds Creek II	present
<i>Laughing owl (Sceloglaux albifacies)</i>	
Shepherds Creek 11	present
Gooseneck Bend layer 3	2 individuals
<i>Rifleman (Acanthisitta chloris)</i>	
Paradise Cave	present
<i>New Zealand pipit (Anthus novaeseelandiae)</i>	
Redcliffs Flat, sewer trench	1 bone
Shepherds Creek 11	present
Gooseneck Bend, layer 3	3 individuals
<i>Fernbird (Bowdleria punctata)</i>	
Bromley	present?
Gooseneck Bend, layer 3	1 individual
<i>Fantail (Rhipidura fuliginosa)</i>	
Paradise Cave	present
<i>South Island robin (Petroica australis australis)</i>	
Rakaia River Mouth	1 out of 32 bones
Shepherds Creek II	present
<i>Bellbird (Anthornis melanura)</i>	
Gooseneck Bend, layer 2	1 individual
<i>Tui (Prosthemadera novaeseelandiae)</i>	
Redcliffs Flat, sewer trench	1 bone
Redcliffs Flat, school section	1 bone
Moa-bone Point Cave, lower deposit	present
Paradise Cave	present

Rakaia River Mouth	present
Dashing Rocks	present
Timpendean	3 bones, MNI 3
Woolshed Flat	present
South Island saddleback ( <i>Philesturnus carunculatus carunculatus</i> )	
Shepherds Creek II	present
South Island kokako ( <i>Callaeas cinerea cinerea</i> )	
Tumbledown Bay	present
Shepherds Creek II	present
South Island thrush ( <i>Turnagra capensis capensis</i> )	
Paradise Cave	present
Panau	present
Shepherds Creek II	present

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### **Birds extinct before European settlement**

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New Zealand swan ( <i>Cygnus sumnerensis</i> )	
Redcliffs Flat, Hamilton's deposit	few bones
Redcliffs Flat, sewer trench	1 bone
Redcliffs Flat, school section	1 bone
Moa-bone Point Cave, lower deposits	1 artefact
Monck's Cave	more than 1 individual
Takamatua	present
South Island goose ( <i>Cnemiornis calcitrans</i> )	
Rakaia River Mouth	few
Tumbledown Bay	present
Finsch's duck ( <i>Euryanas finschi</i> )	
Rakaia River Mouth	present
New Zealand eagle ( <i>Harpagornis moorei</i> )	
Moa-bone Point Cave, lower deposits	1 bone (artefact)
Adzebill ( <i>Aptomis otidiformis</i> )	
Redcliffs Flat, sewer trench	6 bones
Redcliffs Flat, school section	1 bone
Moa-bone Point Cave, lower deposits	3 bones
Tumbledown Bay	present
New Zealand raven ( <i>Corvus moriorum</i> )	
Panau	present?

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**References: Sites with identified bird bones** (other than moa)

Site No.	Site name	Reference
<b>Coastal sites</b>		
M36/11	Church Gully	Site record form
M36/12	Bromley	Scarlett 1979: 84
M36/24	Redcliffs Flat	Haast 1874a: 85; Trotter 1975b: 208; Dawson and Yaldwyn 1975: 214-216
M36/25	Moa-bone Point Cave	Haast 1874a: 83-84; Falla 1942: 47; Duff 1956: 256-257
M36/32	Paradise Cave	Site record form
M36/47	Monck's Cave	Forbes 1890: 374-375
N36/72	Panau	Jacomb 1995: 96
N36/93	Takamatua	Trotter 1973a: 76-77
L37/4	Rakaia River Mouth	Haast 1871: 87-88; Trotter 1972a: 136, 148-149
L37/8	Wakanui	Scarlett 1971
N37/12	Tumbledown Bay	Mason and Wilkes 1963b: 99; Trotter 1977: 357; site record form
K39/1	Dashing Rocks	Scarlett 1979: 85
J40/32	Waihao River Mouth	Orchiston 1974: table 3.8
<b>Inland sites</b>		
M33/11	Timpendean, main deposit	Trotter 1972b: 47; Worthy 1994
L34/2	Flock Hill back pack	Trotter 1987: 15
M34/4	Gowan Hill rock shelter	Site record form
J38/4?	Tengawai Gorge rock shelter	Hamilton 1897: 25
H39/4	Hamilton's shelter No. 3	Ambrose 1970: 421
H39/6	Shepherds Creek II rock shelter	Scarlett 1979: 85
H39/12	Ahuriri shelter, layer 2	Ambrose 1970: 396; McGovern-Wilson 1986: 82-83
H39/16	Gooseneck Bend rock shelter	Ambrose 1970: 407
140/27	Woolshed Flat	Trotter 1970a: 443

**APPENDIX 5**  
**Kiore and kuri bones from archaeological sites**

**5.1 Kiore** (*Rattus exulans*; distribution in Figure 4)

Site No.	Site name	Identification	Reference
M33/4	Mt Donald shelter	present	Site record form
M33/6	Murchison's No. 2 shelter	present	Site record form
M33/7	Weka Pass shelter	present	Site record form
M33/11	Timpendean, main deposit	207 bones	Trotter 1972b: 47
M34/4	Gowan Hill shelter	present	Site record form
M35/12	Hohoupounamu	present	Burrage 1975
M36/11	Church Gully cave	present	Site record form
M36/24	Redcliffs Flat		
	Hamilton's deposit	present	Dawson and Yaldwyn 1975: 216;
	sewer trench	1 bone	Trotter 1975b: 208
	school site	present	
M36/25	Moa-bone Point Cave		
	upper deposit	3 bones	Haast 1874a: 84
M36/32	Paradise Cave	present	Site record form
M36/49	McCormacks Bay shelter	present	Site record form
M36/57	Rife Range Valley, Karanga Tau shelter	present	Site record form
N36/82	Vanstones Cave	present	Site record form
M37/122	Kaitorete Spit	present	Site record form
N37/12	Tumbledown Bay, layer 3	present	Allingham 1988
H39/6	Shepherds Creek II	present	Scarlett 1979: 85
H39/12	Ahuriri, layer 2	2 individuals	Ambrose 1970: 396
H39/15	Junction Point	few bones	Ambrose 1970: 390
H39/16	Gooseneck Bend		
	layer 2	4 individuals	Ambrose 1970: 407
	layer 3	4 individuals	
J39/2	Craigmore shelter	present	McCulloch 1984

**5.2 Kuri** (*Canis familiaris*; distribution in Figure 5)

Site No.	Site name	Identification	Reference
M33/11	Timpendean	present	Trotter 1972b: 47
M35/12	Hohoupounamu	present	Burrage 1975
M36/7	Purau	present	Site record form
M36/12	Bromley	present	Scarlett 1979: 84

Site No.	Site name	Identification	Reference
M36/24	Redcliffs Flat kitchen middens Hamilton's deposit sewer trench school section	36 bones present 20 bones present	Haast 1874a: 85; Dawson and Yaldwyn 1975: 216; Trotter 1975b: 208
M36/25	Moa-bone Point Cave lower deposits upper deposits	43 bones 51 bones	Haast 1874a: 83-84
M36/78	Waikakahi	present	Site record form
N36/72	Panau	present	Jacomb 1995: 52, 54, 62, 96
N36/76	Stony Bay	present	Site record form
N36/93	Takamatua	present	Trotter 1973a: 76
J37/1	Blairs Road	present	Site record form
L37/4	Rakaia River Mouth	present	Haast 1871: 88, 98; Trotter 1972a: 136, 148
L37/8	Wakanui	0.26 kg bones	Canterbury Museum
M37/23	Te Mata Hapuka	present	Site record form; 1938 excavation
N37/12	Tumbledown Bay, layer 3	present	Allingham 1988
N37/25	Robin Hood Bay	present	Site record form
H39/6	Shepherds Creek II	present	Scarlett 1979: 85
K39/1	Dashing Rocks	present	Scarlett 1979: 85
K39/2	Tuhawaiki Point	present	Site record form
K39/3	Normanby No. 1	present	Griffiths 1941: 218
K39/4	Normanby No. 2	present	Griffiths 1942: 125
140/4	Garguston	present	Trotter 1970a: 447
140/27	Woolshed Flat	present	Trotter 1970a: 443
J40/32	Waihao River Mouth	1 individual	Orchiston 1974: table 3.8
J41/56	Waitaki River Mouth	present	Teviotdale 1939: 175, 177

**APPENDIX 6**  
**Marine mammal bones from archaeological sites**

(Distribution in Figure 6)

Site No.	Site name	Identification	Reference
<b>New Zealand fur seal</b> ( <i>Arctocephalus forsteri</i> )			
M33/11	Timpendean	phalanges	Haast 1877: 52-53
M36/12	Bromley	present	Scarlett 1979: 84
M36/24	Redcliffs Flat		
	kitchen middens	92 bones	Haast 1874a: 85;
	Hamilton's deposit	present	Dawson and Yaldwyn 1975:
	sewer trench	many	216;
	school section	abundant	Trotter 1975b: 201, 208
M36/25	Moa-bone Point Cave		
	lower deposits	359 bones	Haast 1874a: 83, 84
	upper deposits	56 bones	
N36/72	Panau	present	Jacomb 1995: 96
L37/4	Rakaia River Mouth	skull and lower jaw	Haast 1871: 98
L37/8	Wakanui	bones, 1.32039 kg	Canterbury Museum
M37/122	Kaitorete Spit	Hooker's sea lion, or NZ fur seal present	Site record form
N37/12	Tumbledown Bay	adult and juvenile bones	Site record form; Allingham 1988
K39/1	Dashing Rocks	large quantity	Mason and Wilkes 1963a: 95
J41/56	Waitaki River Mouth	present	Teviotdale 1939: 77; Anderson 1982: table 3
<b>Elephant seal</b> ( <i>Mirounga leonina</i> )			
M36/24	Redcliffs Flat		
	Hamilton's deposit	at least 3 individuals	Dawson and Yaldwyn 1975:
	sewer trench	many	216;
	school section	abundant	Trotter 1975b: 201, 208
L37/8	Wakanui	bones, 0.6625 kg	Canterbury Museum
J41/56	Waitaki River Mouth	present	Anderson 1983: 7-8
<b>Leopard seal</b> ( <i>Hydrurga leptonyx</i> )			
M36/25	Moa-bone Point Cave		
	lower deposits	39 bones	Haast 1874a: 83-84
	upper deposits	11 bones	
<b>Hooker's sea lion</b> ( <i>Phocarctos hookeri</i> )			
M36/24	Redcliffs Flat, Hamilton's deposit	present	Dawson and Yaldwyn 1975: 216
M37/122	Kaitorete Spit	Hooker's sea lion or NZ fur seal, present	Site record form

Site No.	Site name	Identification	Reference
<b>Seal</b> (species not identified)			
033/5	Jed River Mouth	present	McCulloch 1983
033/8	Buxton Creek	present	Site record form; Trotter 1978
033/11	Hurunui River Mouth	present	Duff 1956: 275
033/15	Gore Bay	present	Site record form
M35/93	Kairaki	present	Site record form
M36/22	Moa-bone Pt, Summer	present	Haast 1874b: 87
M36/47	Monck's Cave	present	Smith 1989: table 3
N36/29	Port Levy	present	Site record form
N36/101	Marine Hotel, Sumner	present	Site record form
L37/13	Riverside	present	Site record form
L37/14	Hakarere	present	Site record form
L37/16	Shipgo Past	many	Site record form
K38/7	Jaine Gully	present	Site record form
K39/3	Normanby No. 1	present	Smith 1989: table 2
K39/4	Normanby No. 2	present	Griffiths 1942: 125
K39/12	Tuhawaiki Point	present	Site record form
J40/32	Waihao River Mouth	1 individual	Orchiston 1974: table 3.8
<b>Hector's dolphin</b> ( <i>Cephalorhynchus hectori</i> )			
N36/93	Takamatua	present	Trotter 1973a: 76-77
L37/12	Shipgo Past	present	Site record form
<b>Common dolphin</b> ( <i>Delphinus delphis</i> )			
L37/13	Riverside	present	Site record form
<b>Dolphin</b> (species not identified)			
L37/8	Wakanui	bones, 13.35 g	Canterbury Museum
<b>Porpoise</b> (species not named; likely to have been dolphin)			
M36/25	Moa-bone Point Cave		
	lower deposits	24 bones	Haast 1874a: 83-84
	upper deposits	9 bones	
<b>Whale</b> (cetacean species not identified; not including European whaling sites)			
M36/12	Bromley	present	Scarlett 1979: 84
M36/24	Redcliffs Flat		
	kitchen middens	7 bones	Haast 1874a: 76, 85;
	Hamilton's deposit	present	Dawson and Yaldwyn 1975: 216

Site No.	Site name	Identification	Reference
M36/25	Moa-bone Point Cave lower deposits upper deposits	8 bones 12 bones	Haast 1874a: 83-84
L37/4	Rakaia River Mouth	tympanic bones	Haast 1871: 98; Trotter 1972a: 136, 149
L37/8	Wakanui	bones, 209.2 g	Canterbury Museum
L37/12	Shipgo Past	present	Site record form
M37/3	Taumutu	present	Site record form
M37/12	Ellesmere Spit	vertebra with ovenstones	Site record form
N37/12	Tumbledown Bay	present	Site record form
K39/3	Normanby No. 1	present	Griffiths 1941: 218
K39/4	Normanby No. 2	present	Griffiths 1942: 125
<b>Marine mammal</b> (species not identified)			
M35/12	Hohouponamu	material awaiting identification	Canterbury Museum
M36/22	McCormicks Bay	present	Site record form
N36/45	Taylors Mistake	present	Site record form
N36/77	Nor-west Bay	present	Site record form
M37/24	Oruaka	present	Site record form
N37/7	Goat Cave, Otanerito	present	Site record form
N37/14	Ruahikihiki, Whakamoia Bay	present	Site record form



## APPENDIX 7

### Identified fish bones and crustacea from archaeological sites

(Arranged according to Ayling and Cox 1982; site numbers and references listed at the end)

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Sharks/skates/rays ( <i>Elasmobranchii</i> )		
Tumbledown Bay, layer 3	MNI 3, 7.14%	
Elephant fish ( <i>Collorhynchus millii</i> )		
Panau	MNI 2, 4.44%	
Red cod ( <i>Pseudophycis bachus</i> )		
Panau	MNI 21, 46.67%	
Tumbledown Bay, layer 3	MNI 4, 9.52%	
Ling ( <i>Genypterus blacodes</i> )		
Panau	MNI 7, 15.56%	
Takamatua	present	
Wakanui	present	
Tumbledown Bay, layer 3	MNI 2, 4.76%	
Hapuku ( <i>Polyprion oxygeneios</i> )		
Moa-bone Point, Sumner	present	
Moa-bone Point Cave, lower deposits	39 bones	
Moa-bone Point Cave, upper deposits	164 bones	
Wakanui	present	
Stony Bay South	present	
Tumbledown Bay, layer 3	MNI 2, 4.76%	
Kahawai ( <i>Arripis trutta</i> )		
Panau	MNI 2, 4.44%	
Snapper ( <i>Chrysophrys auratus/Pagrus auratus</i> )		
Panau	MNI 2, 44.4%	
Spotty ( <i>Pseudolabrus celidotus</i> )		
Panau	MNI 5, 11.11%	
Blue cod ( <i>Parapercis colias</i> )		
Robin Hood Bay	present	
Barracouta ( <i>Thyrsites atun</i> )		
Timpendean	present	
Panau	MNI 5, 11.11%	
Stony Bay South	present	
Tumbledown Bay, layer 3	MNI 31, 73.81%	
Robin Hood Bay	present	
Long Bay	present	

Unknown (Teleostomi species A)		
Panau		MNI 1, 2.22%
Crayfish ( <i>Jasus edwardsi</i> ; Dell 1981: 59)		
Nayland Street, Sumner		present
Tumbledown Bay, layer 3		present
Eel ( <i>Anguilla</i> sp.)		
Vanstones Cave		present
Gooseneck Bend, layer 3		2 individuals
?Trout (? <i>Galaxias</i> sp.)		
Gooseneck Bend, layer 3		2 individuals

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References: Sites with identified fish bones or crustacea

Site No.	Site name	Reference
M33/11	Timpendean	Trotter 1972b: 47
M36/22	Moa-bone Point, Sumner	Haast 1874b: 87
M36/25	Moa-bone Point Cave	Haast 1874a: 83-84
N36/49	Nayland Street, Sumner	Site record form
N36/72	Panau	Leach <i>et al.</i> 1994; Jacomb 1995: 97-98
N36/82	Vanstones Cave	Site record form
N36193	Takamatua	Trotter 1973a: 76-77
L37/8	Wakanui	Canterbury Museum information
N37/8	Stony Bay South	Site record form
N37/12	Tumbledown Bay	Allingham 1988; Leach and Boocock 1993: Appendix 4; site record form
N37/25	Robin Hood Bay	Site record form
N37/26	Long Bay	Site record form
H39/16	Gooseneck Bend	Ambrose 1970: 407

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**APPENDIX 8**  
**Kakahi or freshwater mussel shell (*Hyridella menziesi*) from archaeological sites**  
(Distribution in Figure 10)

Site No.	Site name	Identification	Reference
M33/6	Murchison's No. 2	present	Site record form
M33/11	Timpendean	weight of shell 116 g	Trotter 1972b: 45
L34/2	Flock Hill	present	Trotter 1987: 11
M34/5	Gowan Hill	present	Site record form
M35/7	Kaiapoi	present	Jacomb 1992: 96
M35/12	Hohoupounamu, layer 3	present	Burrage 1973
M35/117	Harewood	present	Site record form
M35/132	Lower Styx	present	Site record form
M35/133	Lower Styx	present	Site record form
M36/15	Early Valley	present	Site record form
M36/24	Redcliffs Flat, kitchen middens	present	Haast 1874a: 76
M36/25	Moa-bone Point Cave		
	lower deposits	present	Haast 1874a: 83-84;
	upper deposits	present	Yaldwyn 1975: 218
M36/76	Birdlings Pa	present	Site record form
M36/78	Waikakahi	present	Site record form
N36/72	Panau	present?	Jacomb 1995: 96
N36182	Vanstones Cave	present	Site record form
L37/4	Rakaia River Mouth	present	Haast 1871: 89; Trotter 1972a: 136, 148
L37/8	Wakanui	weight of shell 257.5 g	Canterbury Museum
M37/3	Taumutu	present	Site record form
M37/11	Kaitorete Spit	present	Site record form
M37/13	Kaitorete Spit	present	Site record form
M37/18	Jollies Burn	present	Trotter 1972a: 143
M37/49	Taumutu	present	Site record form
M37/83	Kaitorete Spit	present	Site record form
M37/149	Tent Bum (probably natural)	present	Trotter 1986b: 189
M37/152	Lake Forsyth	present	Site record form
K37/14	Flemington	present	Site record form
H38/8	Ohau	present?	Trotter 1969
J38/1?	Tengawai Gorge	present	Hamilton 1897: 25
J38/28	Hazelbum 69	present	Site record form
J38/75	Opihi 56	present	Hamilton 1897: 26
J38/-	Totara Creek (destroyed)	present	Hamilton 1897: 26

Site No.	Site name	Identification	Reference
H39/4	Hamilton's No. 3	present	Ambrose 1970: 422
H39/12	Ahuriri, layer 2	12 valves	Ambrose 1970: 396
H39/15	Junction Point, layer 3	present	Ambrose 1970: 390
H39/16	Gooseneck Bend layer 3 layer 2	55 valves 48 valves	Ambrose 1970: 407
H39/21	Waitaki II	abundant	Mason 1963: 94
139/2	Waitaki I	present	Mason 1963: 94
140/27	Woolshed Flat	present	Trotter 1970a: 442

## APPENDIX 9

### Horticultural sites recorded

Site	Comment	Reference
<b>9.1 Stone and earth lines</b>		
033/5 Gore Bay	Possible stone lines and mounds.	McCulloch 1983
N36/76 Stony Bay	Stone lines.	Harrowfield 1969: 98
N36/74 Panau	Stone and earth lines, 5 to 10 m apart, up to 100 m long, mainly up and also across slopes; this paper about 5 ha.	Brailsford 1981: 162; Figure 11,
N36/81 Goughs Bay	Five or six garden lines on 20° slopes; one 80 m long.	Harrowfield 1969: 98; Brailsford 1981: 164
N36/99 Menzies Bay	Stone lines up slopes of 20°, delineating 10 or 12 plots; about 1.2 ha.	Brailsford 1981: 175
N36/110 Pa Bay	Up to a dozen parallel ridges, 9 to 12 m apart, up slopes.	Thacker 1960: 9; Brailsford 1981: 165
N36/- Lavericks Bay	Small scale use of ditching.	Brailsford 1981: 77, map 81
N36/- Ducksfoot Bay	A series of banks of heaped stones and earth.	Harrowfield 1969: 99
M37/-	Possible lines south east of Oruaka.	Canterbury Museum information
N37/24 Horseshoe Bay	At least 10 lines up slopes.	Site record form
N37/- Paua Bay	A series of parallel drain impressions down the slope.	Harrowfield 1969: 99
<b>9.2 Plaggen soils and/or borrow pits</b>		
033/5 Gore Bay	Terrace soil containing an admixture of fine gravel.	McCulloch 1983
M35/14 Tuahiwi	At least three borrow pits.	Site record form
M35/311 Ravenswood	Borrow pits in 5 areas, about 16 pits. Two pits at M35/311 (area B); largest pits at M35/312 (area A).	Walton 1985
M35/312 Ravenswood	Two borrow pits and one pile of sorted stones, and a spread of gravel in adjacent soil; size of pits 40 x 15 m.	Walton 1985; site record form
M37/2 Taumutu	Nine pits dug into sand; size of pits average 7 x 5 m.	Site record form
M37/111 Taumutu	Over 40 borrow pits extending over 1000 m. Gravel added to adjacent soil.	Site record form
K38/- Temuka	Borrow pits suggested (unconfirmed).	Lockerbie 1950: 81-82; Walton 1982: 25
J39/29 Pareora River	Sand carried up from the river flats for horticulture.	Griffiths 1955: 233

**APPENDIX 10**  
**Fortifications recorded**  
(Distribution in Figure 20)

Site	Comment	Reference
<b>10.1 Terraced</b>		
N36/29 Port Levy	Terraced headland, about 340 sq.m; possible defensive site.	Site record form
N36/32 Kaitara	Low knoll, about 4,500 sq.m; interior terraces and pits; possible defended site.	Brailsford 1981: 174-175
N36/111 Pa Island	Terraced island, about 800 sq.m; Te Puke Ki Waitaha.	Brailsford 1981: 172; Andersen 1927: 172
<b>10.2 Transverse ditch/bank</b>		
M36/76 Birdlings Pa	Promontory site, about 2,500 sq.m; transverse bank and outer ditch.	Site record form
M36/77 Te Puia	Possible promontory site, about 6,000 sq.m; transverse bank with a ditch on each side (ditch and bank fence ?) and a possible palisade (old fence line ?); interior terraces.	Brailsford 1981: 152
N36/9 Menzies Bay	Possible promontory site; destroyed.	Site record form
N36/110 Pa Bay	Promontory site, about 6,000 sq.m; bank and outer ditch; interior terraces.	Thacker 1960: 9; Brailsford 1981: 165
M37/4 Orariki, Taumutu	Flat promontory site, about 14,500 sq.m; transverse bank and outer ditch.	Brailsford 1981: 154; Beattie 1994: 231; Jones 1994: 224-225
M37/5 Te Pa a Moki, Taumutu	Rectangular flat promontory site, about 1,500 sq.m; transverse bank and outer ditch, and scarps on the other three sides.	Brailsford 1981: 154; Beattie 1994: 231
<b>10.3 Transverse and lateral ditch/bank</b>		
N34/1 Waipara River Mouth	Rectangular terrace comer site, about 3,750 sq.m; bank and outer ditch on two sides; midden and oven traces and pits; possible defended site.	Trotter 1975c: 226; Brailsford 1981: 187; Figure 21, this paper
M35/7 Kaiapo	Flat promontory site, about 20,000 sq.m; massive earthworks, bastions, protected entrances and saps.	Brailsford 1981: 177 181; Trotter 1990; Jacomb 1992; Evison 1993: 59
N36/3 Ripapa	Island site, about 6,000 sq.m; massive earthworks and interior division (transverse earthwork); built over by European fortifications.	Brailsford 1981: 162 163
N36/73 Panau	Rectangular cliff edge site, about 5,500 sq.m; earthworks on three sides; interior terraces and pit/oven features; possible defended site.	Brailsford 1981: 162-163; Figure 11, this paper

Site	Comment	Reference
N36/79 Okaruru, Goughs Bay	Rectangular beach terrace site, about 7,500 sq.m; earthworks on four sides and interior division (transverse ditch); possible defended site.	Brailsford 1981: 164
N36/86 Onawe	Promontory site, about 30,000 sq.m; multiple defensive units with protected entrances and interior divisions.	Brailsford 1981: 186; McCulloch 1982; Trotter 1986a; Jones 1994: 223
M37/22 Te Mata Hapuka	Rectangular terrace edge flat site, about 5,400 sq.m; earthworks on three sides; interior pits.	Site record form
M37/24 Oruaka	Cliff edge site, about 5,000 sq.m; bank and outer ditch curvilinear; interior terraces and pits; outer earthworks rectilinear (stock enclosures ?).	Brailsford 1981: 160- 161; Jones 1994: 226
M37/26 Ngutu Piri	Possible defences on a cliff edge site, about 3,500 sq.m; no terraces or pits.	Site record form
N37/1 Nga Toko Ono, Clay Point	Rectangular cliff edge site, about 1,800 sq.m; earthworks on three sides; interior terraces.	Brailsford 1981: 156
N37/22 Pae Karoro, Flea Bay	Cliff edge site, about 1,000 sq.m; reduced by erosion; earthworks on two sides; interior terraces.	Brailsford 1981: 176
K38/12 Waiateruati	Terrace edge site, about 6,000 sq.m; earthworks on all perimeters; interior division (transverse bank) and interior pits.	Brailsford 1981: 232; Figure 22, this paper

**APPENDIX 11**  
**Terraces recorded**  
(Distribution in Figure 20)

Site No.	Site name	Comment	Reference
<b>11.1 Terraces in fortifications</b>			
M36/77	Te Puia	Possible defensive site; about 10 terraces.	Brailsford 1981: 152
N36/29	Port Levy	Possible defensive site; about 4 terraces.	Site record form
N36/32	Kaitara	Possible defensive site; about 11 terraces.	Brailsford 1981: 174
N36/73	Panau	Possible defensive site; about 8 terraces.	Brailsford 1981: 162
N36/110	Pa Bay	About 25 terraces.	Brailsford 1981: 165
N36/111	Pa Island	About 14 terraces.	Brailsford 1981: 172
M37/24	Oruaka	About 30 terraces.	Brailsford 1981: 160
N37/1	Nga Toko Ono	About 8 terraces.	Brailsford 1981: 156
N37/22	Pae Karoro	About 14 terraces.	Brailsford 1981: 176
<b>11.2 Terraces not in fortifications</b>			
N33/16	Napenape	Small terraces with shallow bowl-shaped pits.	Site record form
033/3	Waiau R. Mouth	Benched terraces.	Site record form
K36/3	Mt Alford	Small terraces with greywacke boulders and spalls.	Site record form
M36/13	Stoddart Point	Terrace 9.2 x 4.6 m, midden below.	Site record form
M36/14	Stoddart Point	Terrace 4.6 x 3.0 m, shallow pit c.3x2.7 m, 150 mm deep.	Site record form
N36/61	Menzies Bay	Series of 7 terraces 6 to 10 m long, 3 to 4 m wide, shallow circular pit on the lowest.	Site record form
N36/72	Panau	Irregular long terraces between the cliff and the beach, some with house sites.	Jacomb 1995: 59
N36/77	Nor-west Bay	Two possible terraces 2.7 x 1.5 m.	Site record form
N36/112	Pa Island village	About 14 terraces.	Brailsford 1981: 173
N36/113	Menzies Bay	Terraces.	Site record form
N36/115	Pa Bay village	About 60 terraces, some excavated (rectangular houses).	Brailsford 1981: 165
M37/153	Magnet Bay	Terrace 5 x 5 m.	Site record form
N37/11	Red House Bay	Terraces and midden.	Site record form



Site No.	Site name	Comment	Reference
N37/14	Whakamoia Bay	Artificial terracing and two possible but sites.	Site record form
N37/17	Te Kaio Bay	Twelve terraces 1.8 x 1.2 m.	Site record form
N37/24	Horseshoe Bay	Three terraces.	Site record form
N37/26	Long Bay	Terraced areas.	Site record form
N37/29	Otanerito Bay	Vague terraces.	Site record form

**APPENDIX 12**  
**House sites recorded**

Site	Comment	Reference
<b>12.1 Rectangular</b>		
M36/25 Moa-bone Point Cave	Timber shelter 12.2 x 3.7 m (canoe shelter ?).	Trotter 1975b: 193
N36/115 Pa Bay village	House 9: 5.5 x 3.4 m; burnt clay hearth; doorway and porch at each end. House 10: 6.7 x 3.3 m. House 13: 5.7 x 3.3 m; stone-lined fireplaces. House 24: 11 x 4 m; porch at east end; interior hearth. House 25: 6.2 x 3.5 m; porch at south end.	Brailsford 1981: 166-172
L37/4 Rakaia R. Mouth	Hut 4.6 x 2.1 m marked by raised floor; opening towards the north.	Haast 1871: 96
J41/59 Ikawai	Four posts 150 mm in diameter, set 450 mm into the ground, describing a rectangle 2.7 x 2.1 m.	Vincent 1980b: 35
<b>12.2 Round</b>		
M36/78 Waikakahi	Round pit with a raised rim, perimeter stakes and posts, raupo matting floor.	Brailsford 1981: 154
N37/12 Tumbledown Bay	Semi-circular but site 3 to 4 m across; shallow scoop with peripheral post holes; central stone-lined hearth.	Allingham 1988; Anderson 1989a: 128
138/1 Grays Hills	Circular hollow about 2.8 m across, 400 mm deep; central fireplace.	Irvine 1943: 90
K39/3 Normanby No. I	Large circles of fire ash 4 to 6 m across.	Griffiths 1941: 215
J41/56 Waitaki R. Mouth	Three circular hollows about 6 m in diameter, interpreted as round huts.	Teviotdale 1939: 173-175

**APPENDIX 13**  
**Notes on illustrated artefacts**

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**13.1 Fish hooks, Jacomb type C3c; Canterbury Museum**

Figure 8 left Panau; E191.82; 63.2 x 21.2 x 7.0 mm; moa bone; sub-variety Jacomb C3ci (the main axis of the basal portion is at an angle to the lashing surface).

Figure 8 right Moa-bone Point Cave; E162.130; 50.3 x 11.1 x 6.2 mm; probably human bone; sub-variety Jacomb C3cii (the main axis of the basal portion is in the same plane as the lashing surface).

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**13.2 Rough-out adzes, Rakaia River Mouth; Canterbury Museum**

Figure 13 upper E138.316, No. 68, E70.57.15; 183 x 58 x 50 mm; silicified tuff (palla).

Figure 13 lower E70.57; 188 x 75 x 52 mm; silicified tuff (palla).

These two items were part of a cache discovered by Mr Thomas Cannon of Southbridge (Haast 1871: 85).

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**13.3 Adzes from the Tai Tapu locality (casual finds); Canterbury Museum**

Figure 14A E178.682; basalt, shallow cross-section, bifacially bevelled, paired scarf-ground side lashing grips, well ground on all surfaces except the top end; Canterbury wedge type, Orchiston type J3.

Figure 14B E166.507; basalt, shallow cross-section, convex faces, bifacially bevelled, well ground on all surfaces; Canterbury wedge type, Orchiston type J3.

Figure 14C E166.508; basalt, shallow cross-section, bifacially bevelled, flaked and ground, ground side grips, blade chipped and striated; Canterbury wedge type, Orchiston type J3.

Figure 14D E173.262; basalt (?), shallow cross-section, bifacially bevelled, flaked and ground, ground side grips, blade chipped; Canterbury wedge type, Orchiston type J3.

Figure 15A E166.505; greywacke, upper parts water-rolled cortex, roughly flaked, hammer-dressed side grips, bifacially bevelled ground blade; Orchiston type K3.

Figure 15B E173.259; greywacke (?), upper parts water-rolled cortex, hammer-dressed and ground, two hafting grip grooves across the front of the butt and another across the top of the butt, bifacially ground blade; Orchiston type K3.

Figure 15C E173.260; greywacke, upper parts water-rolled cortex, hammer-dressed side grips, bifacially ground blade; Orchiston type K3.

Figure 15D E173.261; greywacke, upper parts water-rolled cortex, flaked and ground, bifacially bevelled; Orchiston type K3.

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**13.4 Artefacts from the Hohouponamu excavations; Canterbury Museum**

Figure 23A No. 4558, square V38, depth 31", middle layer; metasomatised argillite adze, flaked, hammer-dressed and ground.

Figure 23B No. 5703, square P55, depth 29", disturbed ground; (?) argillite adze, flaked and ground, abraded.

- Figure 23C No. 5871, square W39, depth 20", middle layer; nephrite flake adze, ground.
- Figure 23D No. 1761, E168.37, square V35, depth 6½", upper layer; nephrite chisel, ground.
- Figure 23E No. 201, E166.179, square R55, depth 16", upper layer; nephrite flake chisel, ground.
- Figure 23F No. 2888, E169.565, square V55, depth 16", (?) upper layer; nephrite flake chisel, ground.
- Figure 23G No. 5873, square W39, depth 13", middle layer; nephrite adze, flaked and ground.
- Figure 23H No. 3503, E169.709, square N67, depth 8", upper layer; nephrite chisel, one scarf-sawn edge, ground.
- Figure 23J No. 1169, E167.363, square N48; nephrite gouge.
- Figure 23K No. 4314, E171.475, square V42, depth 10", upper layer; schistose greywacke spall from water-rolled stone, about half of the circumference utilised as a cutter/grinder.
- Figure 23L No. 4310, E171.474, square V42, depth 16", upper layer; greywacke spall from water-rolled stone, part of the circumference utilised as a cutter/grinder.
- Figure 23M No. 783, E167.330, square N46, depth 22"; drill point in veined grey chert (limestone flint).
- Figure 24A No. 4415, E193.57, square T49, depth 28", upper layer; whale bone spear point, paired bilateral barbs.
- Figure 24B No. 4121, E169.649, square T42, depth 20", upper layer; bone harpoon point, drilled perforation.
- Figure 24C No. 4108, E169.648, square T42, depth 17", upper layer; bone spear point, two barbs apparent on one side.
- Figure 24D No. 5813, found in spoil; bone spear point, paired bilateral barbs.
- Figure 24E Nos. 4847 and 4852, square T44, probably lower layer; bone spear point, barbs on one side, lashing grooves.
- Figure 24F No. 3422, E169.707, square X23, depth 17"; bone fish hook point, internal barb, lashing grooves, finely notched.
- Figure 24G No. 3940, E171.350, square ZA23, depth 29", upper layer; dog jaw bone, barracouta lure point.
- Figure 24H No. 1184, E167.381, square T55, depth 28", middle layer; moa bone, minnow lure shank.
- Figure 24J No. 5427, E193.58, square Q62, depth 6"; moa bone, minnow lure shank.
- Figure 24K No. 3748, E171.315, square W29, depth 6", upper layer; bone tattooing chisel.
- Figure 24L No. 2574, E170.2, square V30; whale bone patu blade.
- Figure 24M No. 2719, E169.577, square S47, depth 28", lower layer; bird bone bead or toggle.

Figure 24N	No. 3591, E169.634, square Z22, depth 10", upper layer; bird bone bead or toggle.
Figure 24P	No. 5180, square M63, depth 30", middle layer; dog tooth pendant, drilled perforation.
Figure 24Q	No. 1001, E167.148, square N48, depth 17"; unfinished nephrite pendant, one sarf-sawn side, unfinished drilled perforation.
Figure 24R	No. 4828, E193.1, square T42, depth 29", middle layer; bone pendant.
Figure 24S	No. 3539, E169.595, square N65, depth 21-27", middle layer; curved bone pendant.
Figure 24T	No. 3583, E169.602, square Z22, depth 4", upper layer; bone pendant, kinked.
Figure 24U	No. 4620, E193.2, square V42, upper layer; bone pendant, kinked.
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## APPENDIX 14

### List of illustrations and tables

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## 14.2 Tables

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