

# RADIOCARBON DATES III

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## INTRODUCTION

This third date list from the Dating Laboratory of the University of Helsinki is a continuation of the first two published in 1979 and 1983. The list brings the published dates up to about number Hel-2000 and covers the period from 1981 to 1984. Dates reported are based on 95 % of the activity of the old NBS oxalic acid and the Libby half-life 5568 a. Errors quoted ( $\pm 1 \sigma$ ) include counting uncertainties for sample, standard and background. When a  $\delta^{13}\text{C}$  value is given the corresponding date has been corrected for isotopic fractionation. If the  $^{14}\text{C}$  activity of a sample indicates a date younger than 1950 AD the age is given as " > modern ". The date list is compiled according to laboratory number. Series of samples from the same site or same context are, however, grouped together. At the end of the report an index according to submitter is included. The data compiled in this list are sorted from a data-base set up to cover the samples dated in our laboratory.

## ACKNOWLEDGEMENTS

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## KOPPELONIEMI SERIES, HYRYNSALMI

64° 42' N, 28° 30' E; x=7179 06, y=3571 34; ca 160 m a.s.l.  
 Coll. by Perkkio, M. 1979 and subm. by Siiriäinen, A. 1980.  
 Comment (M. Huurre): A dwelling site with archaeological finds from the Suomusjärvi phase (cf. Hel-1425), Sär 1 phase, the Late Stone Age (cf. Hel-1401), and the Early Metal Period (cf. Hel-1402).

Hel-1401	KM 20638:382 Charcoal, depth 27 cm	3440±100
Hel-1402	KM 20634:386 Charcoal, depth 21 cm	2030±110
Hel-1425	KM 20634:387 Charcoal, depth 45 cm	8260±120

## VANUTEHTAANMÄKI SERIES, SALO

Coll. and subm. by Linturi, E. 1979, 1981 and 1982

Hel-1403	Vanutehtaanmäki, 20610:490 Charcoal, depth 10 cm	1430±140
Hel-1494	Vanutehtaanmäki, 20869/1 Charcoal, depth 10-25 cm	1540±100
Hel-1495	Vanutehtaanmäki, 20870/1 Charcoal, depth 35 cm	1640±110
Hel-1603	Vanutehtaanmäki, 21201:1 Charcoal, depth 50 cm	1870±100
Hel-1604	Vanutehtaanmäki, 21201:2 Charcoal, depth 30 cm	1950± 90
Hel-1605	Vanutehtaanmäki, 21201:3 Charcoal, depth 30 cm	1800±100
Hel-1606	Vanutehtaanmäki, 21201:4 Charcoal, depth 20 cm	1560±110
Hel-1607	Vanutehtaanmäki, 21201:5 Charcoal, depth 20 cm	1360±120
Hel-1608	Vanutehtaanmäki, 21201:6 Charcoal, depth 40 cm	1560± 90
Hel-1609	Vanutehtaanmäki, 21201:7 Charcoal, depth 25 cm	1610± 90
Hel-1610	Vanutehtaanmäki, 21201:8 Charcoal, depth 15 cm	1670± 90
Hel-1762	Vanutehtaanmäki 4, 21500:1 Charcoal	1830± 90

Hel-1763	Vanutehtaanmäki 4, 21500:2 Charcoal	1880± 90
Hel-1764	Vanutehtaanmäki 4, 21500:3 Charcoal	2900± 90
Hel-1765	Vanutehtaanmäki 4, 21500:4 Charcoal	1960± 90
Hel-1766	Vanutehtaanmäki 4, 21500:5 Charcoal	1800± 90
Hel-1767	Vanutehtaanmäki 4, 21500:6 Charcoal	1850± 90
Hel-1768	Vanutehtaanmäki 4, 21500:7 Charcoal	1830± 90
Hel-1769	Vanutehtaanmäki 4, 21500:8 Charcoal	1600± 80

#### RYYTIMAA SERIES, VIMPELI

119 m a.s.l.

Coll. and subm. by Donner, J. 1979

Comment (JD): All three samples from Vimpele are from a till-covered layer of drift peat at Ryytimaa, which was interpreted as representing the Eemian Interglacial.

Ref. Aalto et al. (1983).

Hel-1404	Ryytimaa 1 wood	> 43000
Hel-1405	Ryytimaa 2 drift peat	> 43000
Hel-1406	Ryytimaa 3 humus from sample Hel-1405	> 40300

#### OULUNJÄRVI SERIES I

Peat samples collected from three different sites submerged by the transgression of Lake Oulujärvi.

Coll. by Keränen, R. 1979 and subm. by Koutaniemi, L. and Keränen, R. 1980.

Ref. Koutaniemi, L. and Keränen, R. (1983).

Hel-1407	Nimisjoki I 64° 31' N, 26° 49' E; x=7156.10, y=490.00; 123 m a.s.l. depth 0.505-0.585 m	3640±140
Hel-1408	Mieslahti I 64° 23' N, 27° 59' E; x=7142.80, y=547.20; 123 m a.s.l. depth 6.23-6.31 m	5370±150

Hel-1409	Mieslahti II depth 5.82-5.90 m	3660±150
Hel-1426	Jormualahti II 64° 18' N, 27° 58' E; x=7133.50, y=547.50; 123 m a.s.l. depth 2.15-2.23 m	1490±130
Hel-1427	Jormualahti III depth 2.07-2.15 m	1110±130
Hel-1428	Jormualahti IV depth 1.99-2.07 m	170±130

## LUMISUO SERIES, PALTAMO

Coll. by Huurre, M. 1980 and subm. by Siiriäinen, A. 1980.

Hel-1410	Lumisuo I Peat, depth 45 cm	2230±100
Hel-1411	The Paltamo bow, KM 20253 Wood, depth 50 cm	2230±100

## POHJASSUO SERIES, NUOLIVAARA, POSIO

66° 15' N, 28° 30' E; 410 m a.s.l.

Coll by Huttunen, A. 1979 and subm. by Vasari, Y. 1980

Samples from various levels of a mire, taken to date the local vegetational history and to calculate the rate of peat growth. Samples 1-2 taken by digging, the others with a Russian peat sampler and combined of two replicate cores.

Ref. Huttunen (1987).

Hel-1412	Pohjassuo 1 peat, depth 20-25 cm Comment (AH): Beginning of weak signs of human influence in the pollen profile. Due obviously to root effect this dating gave a very young age.	170±110
Hel-1413	Pohjassuo 2 peat, depth 45-50 cm Comment (AH): Boundary between two local subzones (Picea - Pinus and Betula - Ericales) within the local Pinus - Picea p.a.z.	1170±100
Hel-1414	Pohjassuo 3 peat, depth 70-77 cm Comment (AH): Boundary between two local subzones (Pinus - Betula - Picea and Picea - Pinus) within the local Pinus - Picea p.a.z. Rise of Picea pollen to maximal values.	3030±100

- Hel-1415 Pohjassuo 4 5060±160  
 peat, depth 110-117 cm  
 Comment (AH): End of local Pinus - Betula p.a.z.  
 Immigration of Spruce.
- Hel-1416 Pohjassuo 5 6870±110  
 peat, depth 143-150 cm  
 Comment (AH): Beginning of peat accumulation.

## LACHISH SERIES, ISRAEL

Coll. and subm. by Louhivuori, M. 1979.

- Hel-1417 P 3535, 15184, Temple  
 Seeds 2810±100
- Hel-1418 S 3608, 13545, Level IV  
 Seeds 2650± 90
- Hel-1419 S 3529, 8139, Level III  
 Seeds 2110± 80
- Hel-1420 P 5009, 25085, MB  
 Charcoal 3380±100
- Hel-1421 P 3140, 9509, LB  
 Charcoal 3000±100
- Hel-1422 S 3579, 8565, Level IV  
 Charcoal 3040± 90
- Hel-1423 S 3582, 8580, Level III  
 Charcoal 2400±100
- Hel-1424 G 4129, 30871, Level II  
 Charcoal 2110± 90

Hel-1425 see KOPPELONIEMI SERIES Hel-1401

Hel-1426 - 1428 see OULUNJÄRVI SERIES I Hel-1407

## KUOPPAJÄRVI SERIES

x=6700.58, y=421.70; 9.5 m a.s.l.

Coll. and subm. by Salonen, V-P. 1980

- Hel-1429 Kuoppajärvi I 990±110  
 gyttja, depth 1.90-1.97 m  
 Comment (V-P.S): Dating the maximum frequency of  
 Cerealia pollen; permanent field cultivation.
- Hel-1430 Kuoppajärvi II 1230±120  
 gyttja, depth 2.40-2.47 m  
 Comment (V-P.S): Dating the first appearance of  
 Secale pollen; start of slash and burn cultivation.

Hel-1431 Kuoppajärvi III 1550±160  
 gyttja, depth 3.05-3.15 m  
 Comment (V-P.S): Dating the isolation of the lake  
 from the Baltic Sea - verified with diatom  
 analysis.

#### KUTTULAMPI SERIES, ESPOO

60° 14' N, 24° 45' E; 28.7 m a.s.l.

Coll. by Hyvärinen, H. and Eronen, M. 1980 and subm. by Hyvärinen, H. 1980.

General Comment (HH): A stratigraphical site used for the reconstruction of relative sea-level changes near Helsinki. Hel-1435 dates the contact between brackish and small-lake sediments in the core, hence the isolation of the basin (28.7 m a.s.l) from the Baltic. Hel-1434 is a control sample from the top of the *Campylodiscus clypeus* diatom zone just below the isolation contact. Hel-1433 is from near the base of the *C. clypeus* zone. Hel-1432 dates the top of the *Fragilaria-Mastogloia* diatom zone, and it also dates the pollen limit of *Tilia* (T°).

Ref. Hyvärinen (1982, 1984).

Hel-1432	Kuttulampi I gyttja, depth 5.40-5.50 m	7310±110
Hel-1433	Kuttulampi II gyttja, depth 5.10-5.20 m	6770±110
Hel-1434	Kuttulampi III gyttja, depth 3.50-3.60 m	6010±110
Hel-1435	Kuttulampi IV gyttja, depth 3.20-3.30 m	5700±120

#### KITKAJOKI SERIES, KUUSAMO

Coll. by Hautala, Koutaniemi and Norokytö 1980 and subm. by Koutaniemi, L. 1980

Ref. Koutaniemi (1983, 1987).

Hel-1436	Ki V B T 66° 17' N, 29° 37' E; x=7353.76, y=482.54; 138 m a.s.l. wood, depth 2.5 m Subfossil trunk in a terrace of the Kitkajoki valley.	5010±150
Hel-1488	Ki III A 66° 16' N, 29° 38' E; x=7353.52, y=483.08; 139.5 m a.s.l. peat, depth 2.62-2.65 m Bottom deposits of a palaeochannel ("too young").	4620±140
Hel-1489	Ki III A (2) 140.5 m a.s.l. peat, depth 1.55-1.65 m Palaeochannel deposits.	3820±110

- Hel-1490 Ki III A (3) 3810±120  
 140.5 m a.s.l.  
 peat, depth 1.45-1.55 m  
 Palaeochannel deposits.
- Hel-1491 Ki IV A (4) 1220±120  
 66° 16' N, 29° 38' E; x=7353.53, y= 482.90;  
 138.5 m a.s.l.  
 peat, depth 1.50-1.55 m  
 Palaeochannel deposits.
- Hel-1492 Ki IV A (3) 2580±130  
 138.5 m a.s.l.  
 peat, depth 1.55-1.60 m  
 Palaeochannel deposits.

#### OULANKAJOKI SERIES, KUUSAMO

Coll. by Hautala, Koutaniemi and Norokytö 1980 and subm. by  
 Koutaniemi, L. 1980  
 Ref. Koutaniemi (1983, 1987).

- Hel-1437 Raj II 2190±140  
 66° 17' N, 29° 38' E; x=7355.05, y=484.07;  
 138 m a.s.l.  
 wood, depth 3.5 m  
 Subfossil trunk in a terrace of the Oulankajoki  
 valley.
- Hel-1438 Jäk III 2040±140  
 66° 17' N, 29° 37' E; x=7355.46, y=483.29;  
 138 m a.s.l.  
 wood, depth 2.5 m  
 Submerged trunk in a terrace of the Oulankajoki  
 valley.
- { Hel-1439 Juh I 8530±140  
 66° 18' N, 29° 32' E; x=7358.84, y=479.40;  
 138.5 m a.s.l.  
 wood, depth 0.50 m  
 Buried kettle-hole bottom in the river bed.
- { Hel-1440 Ant I 8730±170  
 66° 19' N, 29° 30' E; x=7360.74, y=477.52;  
 140 m a.s.l.  
 wood, depth 0.20 m below w.s.  
 Wood remnants in a terrace of the Oulankajoki  
 valley.

#### VALKIAJÄRVI SERIES, RUOVESI

Coll. and subm. by Saarnisto, M. 1980

- Hel-1441 Valkiajärvi 1000 970±120  
 gyttja



Hel-1442	Valkiajärvi 2000 gyttja	1550±110
Hel-1443	Valkiajärvi 3000 gyttja	2810±120
Hel-1444	Valkiajärvi 4000 gyttja	3870±110
Hel-1445	Valkiajärvi 5000 gyttja	4950±140
Hel-1446	Valkiajärvi 6000 gyttja	6100±110
Hel-1447	Valkiajärvi 7000 gyttja	7140±110
Hel-1448	Valkiajärvi 1000 humus humic fraction	980±120
Hel-1449	Valkiajärvi 2000 humus humic fraction	2180±100
Hel-1450	Valkiajärvi 3000 humus humic fraction	2980±100
Hel-1451	Valkiajärvi 4000 humus humic fraction	3830±110
Hel-1452	Valkiajärvi 5000 humus humic fraction	5030±140
Hel-1453	Valkiajärvi 6000 humus humic fraction	6060±100
Hel-1454	Valkiajärvi 7000 humus humic fraction	7140±160

## SANTAMÄKI SERIES, SALO

60° 23' N, 23° 07' E; 57.5 m a.s.l.

Coll. by Matiskainen, H. and Tolonen, K. 1979 and subm. by

Tolonen, M. 1980.

Ref. Tolonen, M. (1975).

Hel-1455	Santamäki I peat, depth 3.37-3.45 m Comment (MT): A <sup>+</sup>	7960±130
Hel-1456	Santamäki: II peat, depth 1.67-1.71 m Comment (MT): Before Pc <sup>o</sup>	3780±120
Hel-1457	Santamäki III peat, depth 1.46-1.48 m Comment (MT): After Pc <sup>+</sup>	3290±130

Hel-1458	Santamäki IV peat, depth 0.92-0.94 m	1970±140
Hel-1459	Santamäki V peat, depth 0.90-0.92 m Comment (MT): First cultivation	1700±140
Hel-1460	Santamäki VI peat, depth 0.88-0.90 m	1590±140
Hel-1461	Santamäki VII peat, depth 0.81-0.83 m	1360±130
Hel-1462	Santamäki VIII peat, depth 0.70-0.73 m	960±130
Hel-1463	RIIHIPELTO, KÄRSÄMÄKI  KM 16642 RNo. 13:17 Coll. by Lauhama, V. 1964 and subm. by Edgren, T. 1980 wood, depth 1.10-1.20 m	1110± 90

## KETOHAKA SERIES I, SALO

Coll. by Schauman-Lönnqvist, M. and subm. by Carpelan, C. 1980 and 1981.

Hel-1464	Ketohaka 570/718, 6. charcoal, depth 0.45 m	1630±110
Hel-1465	Ketohaka 594/728, 6-7. charcoal, depth 0.50 m	2070±120
Hel-1466	Ketohaka 9650/2760 c, 4. charcoal, depth 0.40 m	1630±120
Hel-1467	Ketohaka 9650-52/2740, 5. charcoal, depth 0.40 m	1410±130
Hel-1570	Ketohaka 964675/276825 charcoal	350±100
Hel-1571	Ketohaka 9652/2774 charcoal	1880± 90

## HANHILAMPI SERIES, IISALMI

63° 37' N, 27° 04' E; 121.8 m a.s.l.

Gyttja samples from various levels of the lake bottom deposits. Coll. using a piston sampler and subm. 1980 by Vasari, Y. and Ruohomäki, A.-M. Generally the datings fit well with earlier results (see Tolonen and Ruuhijärvi, 1976). Ref. Ruohomäki (1983).

- Hel-1468 Hanhilampi 4 8490±200  
 silty gyttja, depth 1.90-2.00 m  
 Comment (AMR & YV): Dating for the beginning of the  
 organic sedimentation and for the Holocene pine  
 maximum.
- Hel-1469 Hanhilampi 3 7950±140  
 gyttja, depth 1.60-1.70 m  
 Comment (AMR & YV): Spread of *Alnus*, (A<sup>+</sup>).
- Hel-1470 Hanhilampi 2 6030±160  
 gyttja, depth 1.10-1.15 m  
 Comment (AMR & YV): Appearance of *Tilia* pollen  
 (T<sup>o</sup>).
- Hel-1541 Hanhilampi 1 5240±140  
 gyttja, depth 0.65-0.80 m. Composed of two strati-  
 graphically equivalent core segments.  
 Comment (AMR & YV): Immigration of spruce (Pc<sup>o</sup>).

## YLIKYLÄ SERIES, ROVANIEMI

Coll. by Koivunen, P. 1979 and subm. 1980.

For references see Koivunen (1978), Kostet and Närhi (1980),  
 Paavola (1984), and Mäkivuoti (1987).

- Hel-1471 YK-79 No.5 600± 90  
 charcoal, depth 0.30 m
- Hel-1472 YK-79 No.6 50± 90  
 charcoal, depth 0.65 m
- Hel-1477 YK-79 No. 1 290± 90  
 charcoal, depth 0.30 m
- Hel-1478 YK-79 No. 2 90± 90  
 charcoal, depth 0.67 m
- Hel-1479 YK-79 No. 3 80± 90  
 charcoal, depth 0.25 m
- Hel-1480 YK-79 No. 4 230± 90  
 charcoal, depth 0.28 m
- Hel-1507 YK-79 No.7 290±110  
 wood, depth 0.55 m
- Hel-1508 YK-79 No.8 480± 90  
 wood, depth 0.75 m
- Hel-1473 SALTVIK, MYRSBACKA 1960±100

60° 17' N, 20° 08' E; x=6687.73, y=1453.13; 28 m a.s.l.  
 Äl. Mus. 322:97, charcoal coll. by Meinander, C.F. and  
 subm. by Siiriäinen, A. 1980.  
 Ref. Meinander (1981).  
 Comment (M. Miettinen): The date does not agree with  
 the archaeological dating.

## KOIRALAMMINSUO BOAT, RÄÄKKYLÄ

62° 16' N, 29° 42' E

Samples from a sewn boat found in the bog Koiralampi at Rääkkylä.  
Coll. by Huurre, M. 1976 and subm. by Siiriäinen, A. 1980.

Comment (E. Naskali): Earlier datings from the same boat (Hel-1005 and Hel-1093) gave different results.

Ref. Naskali (1979) and Vuorela (1988).

Hel-1474	Koiralamminsuo boat 1 wood	> modern
Hel-1475	Koiralamminsuo boat 2 wood	70± 90
Hel-1533	Koiralamminsuo boat 3 wood	130± 90
Hel-1575	Koiralamminsuo boat 4 wood	320± 80
Hel-1476	OULU 1, LINNANKATU, OULU wood, depth 1.60 m Coll. by Sandman, K. 1977 and subm. by Koivunen, P. 1980.	70± 70

Hel-1477 - 1480 see YLIKYLÄ SERIES Hel-1471

## LIIPPASUO SERIES, KUUSAMO

x=47337.32, y=471.73

Coll. by Seppälä, M. and Koutaniemi, L. 1980 and subm. by  
Seppälä, M. 1980.

Ref. Seppälä and Koutaniemi (1985).

Hel-1481	Lii-VIII peat, depth 0.60-0.62 m Comment (MS): Beginning of the development of a string. See dates Hel-1245 - Hel-1251.	1840±120
Hel-1482	Lii-IX mud, depth 6.00-6.02 m Comment (MS): Starting point of peat formation on the studied mire, Liippasuo.	9120±120
Hel-1483	Lii-X peat, depth 5.97-5.99 m Comment (MS): Age of the lowest peat layer just above the bottom mud Hel-1482.	8170±170

## PERKIÖ SERIES, HAUHO

61° 04' N, 24° 45' E; 110 m a.s.l.

Coll. by Vuorela, I and P. 1980 and subm by Vuorela, I. 1981.

Ref. Vuorela (1982).

- Hel-1484 Perkiö I 4210±130  
peat, depth 0.985-1.015 m  
Comment (IV): The rise of the Picea curve (Pc°).
- Hel-1485 Perkiö II 3480±130  
peat, depth 0.885-0.915 m  
Comment (IV): The rise of the Picea curve (Pc+).
- Hel-1486 Perkiö III 2690±120  
peat, depth 0.66-0.69 m  
Comment (IV): Rise of Picea after an anthro-  
pogenic period, probably with grazing.
- Hel-1487 Perkiö IV 1910±110  
peat, depth 0.30-0.35 m  
Comment (IV): Steep decline of Picea. Increase  
in Ericales pollen.

Hel-1488 - 1492 see KITKAJOKI SERIES Hel-1436

Hel-1493 NUIJANIEMI, POHJASLAHTI > modern

62° 06' N, 24° 08' E; x=6887.70, y=2506.68;

102.5 m a.s.l.

KM 18323:4, charcoal, depth 0.20 m.

Coll. by Huurre, M. 1970 and subm. by Siiriäinen, A. 1980.

Comment (MH): The sample was connected to a destroyed  
burial cairn, archaeologically dated to the Early Roman  
Iron Age.

Ref. Salo (1981).

Hel-1494 - 1495 see VANUTEHTAANMÄKI SERIES Hel-1403

## MEKRIJÄRVI BOAT, ILOMANTSI

Three samples from a sewn boat found at the bottom of Lake  
Mekrijärvi. The first two samples coll. by Naskali, E. and  
Alopaeus, H. 1980 and subm. by Siiriäinen, A. 1980.

Ref. Forssell (1983)

- Hel-1496 Mekrijärvi I 140± 90  
wood
- Hel-1497 Mekrijärvi II 20± 90  
wood
- Hel-1628 Mekrijärvi III 340±100  
wood, coll. by von Grönhagen, J. 1981

## KONTIOSUO SERIES, JOENSUU

62° 35' N, 29° 49' E, 81.0 m a.s.l.

Coll. by Vesajoki, H. and Huttunen, P. 1980 and subm. by Vesajoki, H. 1980.

Ref. Vesajoki et al. (1985).

- Hel-1498 Kontiosuo I 9030±180  
gyttja, depth 3.00-3.02 m  
Comment (HV): The beginning of organic sedimentation following the deglaciation and emergence of land areas in the surrounding of Joensuu.
- Hel-1499 Kontiosuo II 9090±130  
terrestrial peat, depth 2.98-3.00 m  
Comment (HV): Beginning of paludification of land areas in the surrounding of Joensuu.
- Hel-1500 Kontiosuo III 8610±120  
terrestrial peat, depth 2.68-2.70 m  
Comment (HV): The top of terrestrial peat layer buried by a silty flood deposit of the river Pielisjoki.
- Hel-1501 Kontiosuo IV 6520±120  
terrestrial peat, depth 2.10-2.12 m  
Comment (HV): The continuing of paludification of a shallow basin located near the mouth of the river Pielisjoki after the interruption by the sudden flood of the river.

## SAMMAKKOLAMPI SERIES, PUDASJÄRVI

65° 15' N, 27° 04' E; 120 m a.s.l.

Gyttja samples from various levels of the lake bottom deposits. Coll. using a piston sampler and subm. by Vasari, Y. and Haapalahti, R. 1981.

Comment (YV): The datings are generally older than originally supposed. There seems to be no reason to suspect hard water effect.

Ref. Haapalahti (1982).

- Hel-1502 Sammakkolampi 1 9490±190  
silty gyttja, depth 2.50-2.40 m  
Comment (RH & YV): Pine maximum and rise of Alnus.
- Hel-1503 Sammakkolampi 2 8370±150  
silty gyttja, depth 2.15-2.10 m  
Comment (RH & YV): End of Alnus maximum.
- Hel-1504 Sammakkolampi 3 7090±130  
lake mud, depth 1.75-1.70 m  
Comment (RH & YV): Close to the Postglacial Climatic Optimum.

- Hel-1505 Sammakkolampi 4 4850±120  
lake mud, depth 1.15-1.05 m  
Comment (RH & YV): Beginning of the continuous  
Picea curve (Pc°).
- Hel-1506 Sammakkolampi 5 1700±130  
lake mud, depth 0.30-0.25 m  
Comment (RH & YV): Beginning of permanent (?)  
agriculture. Dating based upon even sedimentation  
rate gives an age of 700 years to this horizon.

HEL-1507 - 1508 see YLIKYLÄ SERIES Hel-1471

#### RYTISUO SERIES, KUUSAMO

66° 23' N, 29° 19' E; 240 m a.s.l.

Samples from various levels of a rich fen, taken in order to date the vegetational succession and to calculate the rate of peat growth. Coll. and subm. 1980 by Vasari, Y and Heino, J. Ref. Heino (1987).

- Hel-1509 Rytisuo 1 2920±120  
peat, depth 1.00-0.90 m  
Comment (JH & YV): Strong increase in Cyperaceae  
pollen.
- Hel-1510 Rytisuo 2 4440±180  
peat, depth 2.00-1.90 m  
Comment (JH & YV): Beginning of the continuous  
curve for Picea.
- Hel-1511 Rytisuo 3 5710±120  
peat, depth 3.00-2.90 m  
Comment (JH & YV): Beginning of the sporadic  
occurrence of Picea.
- Hel-1512 Rytisuo 4 6700±120  
peat, depth 3.90-3.80 m  
Comment (JH & YV): Postglacial climatic optimum.
- Hel-1513 Rytisuo 5 8600±140  
peat, depth 5.10-5.00 m  
Comment (JH & YV): Limnotelmatic contact on the  
bottom of the profile; boundary between Betula  
and Pinus - Betula pollen assemblage zones,  
immigration of Alnus (A°).

#### KETOHAKA SERIES II, SALO

Coll. by Uino, P. and subm. by Carpelan, C. 1980 and 1981.  
Ref. Uino (1986).

- Hel-1514 Ketohaka 9650/2740 b 4. 2320±100  
post-hole 128  
charcoal, depth 0.30 m

Hel-1515	Ketohaka 9650/2754 a-b 3. post-hole 146 charcoal, depth 0.25 m	1680± 90
Hel-1516	Ketohaka 9652/2750 c 3. post-hole 159 charcoal, depth 0.25 m	1460±120
Hel-1528	Ketohaka 9650/2738 b-d 3. charcoal, depth 0.25 m	1850±120
Hel-1529	Ketohaka 508/770 3. post-hole 204 charcoal, depth 0.25 m	1630± 80
Hel-1530	Ketohaka 9648/2758 c post-hole 121 charcoal, depth 0.30 m	1990±110
Hel-1531	Ketohaka 9648/2758 b 4. post-hole 120 charcoal, depth 0.30 m	1840±120
Hel-1565	Ketohaka 9652/2758 4. hearth 169-170 charcoal	2050±130
Hel-1566	Ketohaka 9649/2771 cairn 11 charcoal	1490± 80
Hel-1572	Ketohaka 9644/2758 post-hole 184 charcoal	2080± 90
Hel-1573	Ketohaka 9644/2760 post-hole 165 charcoal	1820±120
Hel-1574	Ketohaka 9654/2744 pit 190 charcoal	1900±120
Hel-1517	PENNALA, ORIMATTILA	5310±110
	x=6757.02, y=429.28; 65 m a.s.l. gyttja, depth 0.525-0.575 m Coll. by Kielosto, S. 1979 and subm. by Vuorela, I. 1981 Comment (IV): The level at which a prehistoric sledge runner was found, also rich in pollen and fruits of Trapa Natans.	

## AINAVARPPIJÄRVI SERIES, ENONTEKIÖ

68° 42' N, 20° 27' E; x=762350, y=51825/21; 405 m a.s.l.  
Remains of pine found beyond the present pine limit  
coll. and subm. by Eronen, M. 1980.  
Ref. Eronen and Huttunen (1987).



Hel-1518	Ainavarppijärvi I wood	5460±140
Hel-1519	Ainavarppijärvi II wood	5690±120
Hel-1520	Ainavarppijärvi III wood	5700±140
Hel-1521	Ainavarppijärvi IV wood	5900±140
Hel-1522	Ainavarppijärvi V wood	5960±120

## LADNAJÄRVI SERIES, ENONTEKIÖ

68° 43' N, 21° 29' E; x=762560, y=51950/21; 488 m a.s.l.  
Remains of pine found beyond the present pine limit  
coll. and subm by Eronen, M. 1980.  
Ref. Eronen and Huttunen (1987).

Hel-1523	Keskimmäinen Ladnajärvi I wood	4890±140
Hel-1524	Keskimmäinen Ladanajärvi II wood	4590±110
Hel-1525	Keskimmäinen Ladnajärvi III wood	6000±120
Hel-1526	Keskimmäinen Ladnajärvi IV wood	4670±100
Hel-1527	Läntinen Ladnajärvi I wood	4500±130

Hel-1528 - 1531 see KETOHAKA SERIES II Hel-1514

Hel-1532 JOENNIEMI, SUOMUSSALMI 40±100

65° 02' N, 29° 05' E; x=7215.76, y=4456.20; 199 m a.s.l.  
wood, coll. by Huurre, M. 1980 and subm. by Siiriäinen,  
A. 1981.

Comment (MH): The sample was from a wooden paddle found  
in a bog close to a Stone Age - Early Metal Period  
dwelling site.

Hel-1533 see KOIRALAMINSUO BOAT, RÄÄKKYLÄ Hel-1474

## SKI SERIES

Samples of skis coll. and subm. by Naskali, E. 1980 and 1981

Hel-1534	KTE 9584, Suomussalmi wood	710± 90
	Comment (EN): The sample is from a ski with a band ornament at the top.	
Hel-1535	KTE 7468, Linnusperä, Kokkola wood	590±110
	Comment (EN): The sample is from a whole ski decorated with linear ornaments.	
Hel-1536	KTE 10755:2, Kinnula wood	1300±100
	Comment (EN): The sample is from a ski with a ring-chain ornament.	
Hel-1537	KM 3873:9, Jylänkö, Kiuruvesi wood	1100±100
Hel-1539	KTE 10755:1, Tankojoki, Sumiainen wood	1110±100
	Comment (EN): Sample from a decorated ski.	
Hel-1626	KM 12058, Lapua wood	750±110

## BOAT SERIES

Samples from boats coll. and subm. by Naskali, E. 1981 and 1982.  
Ref. Forssell (1983).

Hel-1538	Salajärvi, Heinola wood	140±100
	Comment (EN): From a logboat.	
Hel-1540	KTE 7789:1, Alasenjärvi, Valtimo wood	310±120
	Comment (EN): Sample from a sewn boat with a false keel.	
Hel-1627	KTE 8131, Siilinjärvi wood	190±100
	Comment (EN): Sample from a sewn boat.	
Hel-1749	TLM, Tornio, Laivajärvi wood	1040± 90
	Comment (EN): Sample from a sewn boat found at the bottom of Lake Laivajärvi.	
Hel-1751	A sewn boat from Sotkamo, Museum of Kajaani wood	210± 80

Hel-1539 see SKI SERIES Hel-1534

Hel-1540 see BOAT SERIES Hel-1538

Hel-1541 see HANHILAMPI SERIES Hel-1468

Hel-1542 VUOSAARI, HELSINKI 3150±100  
 shell, *Cerastoderma edule*  
 Coll. and subm. by Donner, J. 1981  
 Comment (JD): A 30 cm thick shell bed covered by  
 beach sand. 7.3 m a.s.l.

#### PURKUPUTAANSUO SERIES, KUUSAMO

66° 23' N, 29° 25' E; 245 m a.s.l.

Peat samples from various levels of a spring mire, taken with a Russian peat sampler in order to date the vegetational and hydrological changes and to calculate the rate of peat growth. Coll. by Miettinen, L. 1980 and subm. by Vasari, Y. 1981. Ref. Miettinen (1985).

Hel-1543	Purkuputaansuo 1	110±110
	peat, depth 0.26-0.23 m	
	Comment (LM & YV): Attempted, unsuccessful dating of a marked dry horizon in the surface peat.	
Hel-1544	Purkuputaansuo 2	3960±160
	peat, depth 0.75-0.65 m	
	Comment (LM & YV): General spreading of Spruce (Pc+).	
Hel-1545	Purkuputaansuo 3	6670±170
	peat, depth 1.01-0.89 m	
	Comment (LM & YV): Climatic optimum.	
Hel-1546	Purkuputaansuo 4	7750±170
	peat, depth 1.19-1.06 m	
	Comment (LM & YV): Beginning of peat accumulation.	

#### LAKES PROVINCE SERIES, S. SUDAN

Charcoal samples from three different sites, Bekjiu, Naam Camp and Kat in the Lakes District of South Sudan coll. and subm. by Siiriäinen, A. 1981. Ref. Robertshaw and Siiriäinen (1985).

Hel-1547	Bekjiu 1, 60-70 charcoal, depth 0.60-0.70 m	1070±100
Hel-1548	Bekjiu 1, 90-100 charcoal, depth 0.90-1.00 m	1080±100
Hel-1549	Bekjiu 1, 190-200 charcoal, depth 1.90-2.00 m	1310± 90

Hel-1555	Bekjiu 2, 40-50 charcoal, 0.40-0.50 m	1210± 90
Hel-1556	Bekjiu 2, 140-150 charcoal, depth 1.40-1.50 m	1300± 90
Hel-1557	Bekjiu 2, 200-210 charcoal, depth 2.00-2.10 m	840± 90
Hel-1550	Naam 60-70 charcoal, depth 0.60-0.70 m	20±100
Hel-1551	Naam 130-140 charcoal, depth 1.30-1.40 m	50± 90
Hel-1552	Naam 140-150 charcoal, depth 1.40-1.50 m	> modern
Hel-1553	Kat 50-70 charcoal, depth 0.50-0.70 m	> modern
Hel-1554	Kat 90-100 charcoal, depth 0.90-1.00 m	> modern

Hel-1555 - 1557 see LAKES PROVINCE SERIES Hel-1547

Hel-1558           SAN PEDRO DE ATACAMA, CHILE           > modern  
A piece of textile  
Coll. and subm. by Leppe, V. 1981

#### PURMO SERIES

63° 21' N, 23° 07' E; 60 m a.s.l.  
Coll. by Miettinen, M and P. 1980 and subm. by Vuorela, I. 1981.  
Ref. Miettinen and Vuorela (1982).

Hel-1559	Purmo 1 Sph-peat, depth 0.325-0.350 m Comment (IV): Absolute Cerealia limit (C°).	290±130
Hel-1560	Purmo 2 C-peat and Eriphorum, depth 0.875-0.900 m Comment (IV): limnotelmatic contact.	3560±120
Hel-1564	Purmo 3 C-peat, depth 0.55-0.57 m	2570±110

#### LEMUNSUO SERIES, PERNIÖ

60° 12' N, 23° 14' E; 14 m a.s.l.  
Coll. by Vuorela, I. and P. 1980 and subm. by Vuorela, I. 1981.  
Ref. Vuorela (1985).

- Hel-1561 Lemunsuo B 1 1230±110  
Sph-peat, depth 0.675-0.700 m  
Comment (IV): Absolute limit of Cerealia (C°).
- Hel-1562 Lemunsuo B 2 550±130  
peat, depth 0.225-0.250 m  
Comment (IV): Rational limit of Cerealia (C<sup>++</sup>).
- Hel-1567 Lemunsuo C 1 1340±110  
C-peat, depth 0.300-0.325 m  
Comment (IV): Absolute limit of Cerealia (C°).
- Hel-1568 Lemunsuo C 2 760±100  
C-peat, depth 0.115-0.140 m  
Comment (IV): Rational limit of Cerealia (C<sup>++</sup>).
- Hel-1640 Lemunsuo A 1 600± 90  
Sph-peat, depth 0.475-0.500 m  
Comment (IV): Rational limit of Cerealia (C<sup>++</sup>).
- Hel-1641 Lemunsuo A 2 880±100  
Sph-peat, depth 0.800-0.825 m  
Comment (IV): Empiric limit of Cerealia (C<sup>+</sup>).
- Hel-1728 Lemunsuo A 3 1260±110  
Sph-peat, depth 0.96-1.00 m  
Comment (IV): Absolute limit of Cerealia (C°).
- Hel-1673 Lemunsuo D 1 590±120  
Sph-peat, depth 0.450-0.475 m  
Comment (IV): Rational limit of Cerealia (C<sup>++</sup>).
- Hel-1674 Lemunsuo D 2 780±100  
Sph-peat, depth 0.700-0.725 m  
Comment (IV): Empiric limit of Cerealia (C<sup>+</sup>).
- Hel-1729 Lemunsuo D 3 1740±110  
Sph-peat, depth 1.365-1.390 m  
Comment (IV): Absolute limit of Cerealia (C°).
- Hel-1563 BJÖRKBACKAN LAMPI, KIRKKONUMMI 9190±190  
80 m a.s.l.  
gyttja, depth 6.45-6.35 m  
Coll. by Haila, H. 1981 and subm. by Eronen, M. 1981
- Hel-1564 see PURMO SERIES Hel-1559
- Hel-1565 - 1566 see KETOHAKA SERIES II Hel-1514
- Hel-1567 - 1568 see LEMUNSUO SERIES Hel-1561

Hel-1569 YRJÖLÄN HIEKKAKUOPPA, LAPINLAHTI 8520±100

63° 20' N, 27° 25' E; 108 m a.s.l.  
charcoal, coll. by Muhonen, A. 1981 and subm. by  
Donner, J. 1981.  
Comment (JD): A thin layer of charcoal covered by sand  
representing the beach level of the Ancyclus Lake.

Hel-1570 - 1571 see KETOHAKA SERIES I Hel-1464

Hel-1572 - 1574 see KETOHAKA SERIES II Hel-1514

Hel-1575 see KOIRALAMMINSUO BOAT Hel-1474

#### KASTELHOLM SERIES, ÅLAND

A series of mortar samples and one of charcoal from the Castle  
of Kastelholm coll. and subm. by P. Erämetsä 1981.  
Ref. Sonninen et al. (1985).

Hel-1576	Sample 3 A	700± 90 $\delta^{13}\text{C}=-17.9$
Hel-1617	Sample 5	560± 90 $\delta^{13}\text{C}=-14.7$
Hel-1625	Sample 2	510± 70 $\delta^{13}\text{C}=-14.8$
Hel-1630	Sample 4	970± 90 $\delta^{13}\text{C}=-17.9$
Hel-1631	Sample 1	610± 90 $\delta^{13}\text{C}=-9.2$
Hel-1832	Sample 6	580± 90
Hel-1833	Sample 7	> modern $\delta^{13}\text{C}=-17.1$
Hel-1834	Sample 8	> modern $\delta^{13}\text{C}=-15.4$
Hel-1835	Sample 9	> modern $\delta^{13}\text{C}=-13.2$
Hel-1836	Sample 10	1680±110 $\delta^{13}\text{C}=-21.0$
Hel-1837	Sample 11 charcoal	200± 80 $\delta^{13}\text{C}=-26.1$
Hel-1893	Sample 12	700± 90 $\delta^{13}\text{C}=-20.5$

Hel-1894	Sample 13	720± 70 $\delta^{13}\text{C}=-22.1$
Hel-1895	Sample 14	570± 90 $\delta^{13}\text{C}=-20.1$
Hel-1896	Sample 15	610± 90 $\delta^{13}\text{C}=-21.9$
Hel-1897	Sample 16	550± 90 $\delta^{13}\text{C}=-21.4$
Hel-1898	Sample 17	710± 80 $\delta^{13}\text{C}=-19.8$
Hel-1899	Sample 18	610± 80 $\delta^{13}\text{C}=-20.4$
Hel-1900	Sample 19	130± 80 $\delta^{13}\text{C}=-22.3$
Hel-1901	Sample 20	> modern $\delta^{13}\text{C}=-21.8$
Hel-1902	Sample 21	> modern $\delta^{13}\text{C}=-22.8$
Hel-1903	Sample 22	1070± 70 $\delta^{13}\text{C}=-20.0$
Hel-1983	Sample 23	640± 80 $\delta^{13}\text{C}=-22.0$

## KATAJAMÄKI SERIES, SALO

Coll. and subm. by Carpelan, C. 1981.

Hel-1577	Katajamäki 562/692 charcoal	2670±100
Hel-1578	Katajamäki 562/700/5 charcoal	1970± 90
Hel-1613	Katajamäki 550/696 charcoal	1650±140
Hel-1614	Katajamäki, K-92, 568/698 charcoal	1640±200
Hel-1618	Katajamäki, 546/696 charcoal	2360±130

## IVALO SERIES, NÄVERINNIEMI IVALO

Coll. by Koutaniemi, L. and Keränen, R. 1981 and subm. by Koutaniemi, L. 1981.  
Ref. Koutaniemi (1987).

Hel-1579	IVA 2 (b)	3620±170
	68° 37' N, 27° 30' E; x=7617.30, y=520.33;	
	115 m a.s.l. mud, depth 2.35-2.40 m	
Hel-1582	IVA 4	1370±120
	68° 38' N, 27° 34' E; x=7618.06, y= 522.68;	
	113 m a.s.l. gyttja, depth 3.62-3.65 m	

## JOKKAVAARA SERIES, ROVANIEMI

66° 27' N, 26° 04' E; 82.5 m a.s.l.

Coll. and subm. by Torvinen, M. 1981.

Comment (MT): The dates are in agreement with the finds from the dwelling site, which indicate habitation during the Suomusjärvi phase as well as the early subneolithic phase (Sär 1).

Hel-1580	KM 21307:1	6600±110
	charcoal, depth 0.70 m	
Hel-1581	KM 21307:2	6300±110
	charcoal, depth 0.40 m	
Hel-1619	KM 21307:3	5860±110
	charcoal, depth 0.30 m	
Hel-1620	KM 21307:4	6120±110
	charcoal, depth 0.30 m	

Hel-1582 see IVALO SERIES Hel-1579

## NISKALAMPI SERIES, KUUSAMO

66° 00' N, 29° 08' E; x=7323.81, y=461.45; 253 m a.s.l.

Coll. by Järviluoma and Koutaniemi 1981 and subm. by Koutaniemi, L. 1981.

Ref. Koutaniemi (1982), Koutaniemi and Sillanpää (1985).

Hel-1583	NIS 1	3030± 90
	wood, depth 4.10 m	
Hel-1584	NIS 2	1660±100
	wood, depth 3.30 m	
Hel-1585	NIS 3	320±110
	peat, depth 3.00 m	



## ORAVILAHTI SERIES, RÄÄKKYLÄ

62° 15' N, 29° 42' E; 76 m a.s.l.  
 Coll. by Siiriäinen, A. 1981 and subm. by Vuorela, I. 1981.  
 Ref. Vuorela (1988).

- Hel-1586 Oravilahti 1 830±110  
 Phragmites peat, depth 3.00-3.25 m  
 Comment (IV): Level of the remains of the Rääkkylä  
 boat (see Hel-1474). Also the absolute Cerealia  
 limit (C°).
- Hel-1587 Oravilahti 2 4460±110  
 clay-gyttja, depth 0.40-0.45 m  
 Comment (IV): Start of anthropogenic indicators.  
 The date is possibly affected by secondary  
 allocthonous material.

## PYHÄ-HÄKKI SERIES, SAARIJÄRVI

62° 50' N, 25° 30' E; 165 m a.s.l.  
 Coll. by Koskinen, E. and Vasari, Y. 1980 and subm. by  
 Vasari, Y. 1981.  
 Ref. Koskinen (1983).

- Hel-1588 Pyhä-Häkki A 1 3210±120  
 peat, depth 0.90-0.97 m  
 Comment (EK & YV): Beginning of the peat  
 formation in a spruce mire.
- Hel-1589 Pyhä-Häkki B 1 570±100  
 peat, depth 0.25-0.32 m  
 Comment (EK & YV): Beginning of cultural  
 influence in the pollen diagram.
- Hel-1590 Pyhä-Häkki B 2 2660±110  
 peat, depth 0.50-0.60 m  
 Comment (EK & YV): Boundary between two local  
 pollen assemblage zones, viz. Betula - Alnus -  
 Picea and Pinus - Picea - Betula.

## HAMUNEN SERIES, RAUTAVAARA

63° 45' N, 28° 20' E; 198.6 m a.s.l.  
 Coll. by Nykänen, Saarnisto and Vasari 1979 and subm. by  
 Vasari, Y. 1981.  
 Ref. Nykänen (1984).

- Hel-1591 Hamunen I 4830±140  
 gyttja, depth 1.75-1.85 m  
 Comment (JN & YV): Boundary between Betula -  
 Alnus - Pinus and Pinus - Picea L p.a.z.
- Hel-1592 Hamunen II 8280±110  
 gyttja, depth 2.35-2.45 m  
 Comment (JN & YV): Boundary between Pinus - Betula  
 and Betula - Alnus - Pinus L p.a.z.

Hel-1593 Hamunen III 9300±180  
 gyttja, depth 2.86-2.96 m  
 Comment (JN & YV): Beginning of organic sedi-  
 mentation in the Lake Hamunen series.

#### KIIMISUO SERIES, HAILUOTO

65° 02' N, 24° 42' E; 11.5 m a.s.l.  
 Coll. by Rönkä, A. 1978 and subm. by Vasari, Y. 1981.  
 Ref. Rönkä (1983), Hicks (1988).

Hel-1594 Kiimisu I > modern  
 peat, depth 0.60-0.65 m  
 Comment (AR & YV): Interpolation based upon the  
 dating Hel-1595 and the estimated growth rate of  
 mosses suggests an absolute age between  
 1700-1645 AD for this horizon. The modern age must  
 illustrate difficulties associated with dating of  
 raw Sphagnum peat with the radiocarbon method.

Hel-1595 Kiimisu II 950±130  
 peat, depth 1.25-1.30 m  
 Comment (AR & YV): Beginning of peat formation.

Hel-1872 Kiimisu III 180±120  
 peat, depth 0.90-0.95 m  
 Comment (AR): Local beginning of ombrotropic  
 phase in the mire development.

#### NÄSTINRISTI, KOTJALA, LAITILA

60° 48' N, 21° 50' E; 40-45 m a.s.l.  
 Two charcoal samples collected from a cairn supposed to date to  
 the Bronze Age.  
 Coll. by Ahtela, E. and subm. by Siiriäinen, A. 1981.

Hel-1596 KM 21169:240 1070±100

Hel-1597 KM 21169:241 1050±110

#### MALMINKARTANO, HELSINKI

60° 15' N, 24° 53' E; 22-25 m a.s.l.  
 Two charcoal samples coll. by Ahtela, E. 1981 and subm. by  
 Siiriäinen, A 1981.  
 Comment (EA): The finds from the dwelling site are from the Comb  
 Ceramic and Early Metal Periods.

Hel-1598 KM 21233:414 770±110  
 depth 0.5 m

Hel-1599 KM 21233:415 810±120  
 depth 0.55 m

Hel-1600                    ÄKÄLÄNNIEMI, KAJAANI                    580±120

64° 13' N, 27° 46' E; 145 m a.s.l.

KM 21213:77

charcoal, depth 0.11 m. Coll. by Perkkö, M. 1981 and  
 subm. by Siiriäinen, A. 1981.

Comment (M Huurre): The date does not agree with the  
 finds, which are from the Suomensjärvi phase and the  
 Iron Age.

Hel-1601                    SYLVÄJÄNNIEMI, KUHMO                    660±110

64° 08' N, 29° 31' E; 162.5-165 m a.s.l.

KM 20903:219

charcoal, depth 0.25 m. Coll. by Perkkö, M. 1980 and  
 subm. by Siiriäinen, A. 1981

Comment (M Huurre): A dwelling site with finds from the  
 Stone Age and the Early Metal Period as well as an  
 arrow-head from the Late Iron Age. The date might agree  
 with the age of the later.

Hel-1602                    SALMENSIVU, SUOMUSSALMI                    290±100

64° 54' N, 28° 51' E; 200-205 m a.s.l.

KM 21211:55

charcoal, depth 0.40 m. Coll. by Perkkö, M. 1981 and  
 subm. by Siiriäinen, A. 1981

Comment (M Huurre): Stone Age dwelling site finds.

Hel-1603 - 1610 see VANUTEHTAANMÄKI SERIES Hel-1403

KETOHAKA SERIES III, SALO

Coll. 1981 and subm. 1982 by Carpelan, C.

Hel-1611                    Ketohaka, pit 189, 9652/2756                    1630±140  
 charcoal

Hel-1612                    Ketohaka, pit 172 a, 9646/2744                    1800±100  
 charcoal

Hel-1615                    Ketohaka, pit 168, 9646/2760                    1820±130  
 charcoal

Hel-1616                    Ketohaka, surface, 9652/2762                    140±130  
 charcoal

Hel-1613 - 1614 see KATAJAMÄKI SERIES Hel-1577

Hel-1615 - 1616 see KETOHAKA SERIES III Hel-1611

Hel-1617 see KASTELHOLM SERIES Hel-1576

Hel-1618 see KATAJAMÄKI SERIES Hel-1577

Hel-1619 - 1620 see JOKKAVAARA SERIES Hel-1580

Hel-1621 AUTIOKENTTÄ II, SODANKYLÄ 7930±110

67° 42' N, 26° 48' E; 200 m a.s.l.

KM 21046:245

charcoal, depth 0.45 m.

Coll. and subm. by Torvinen, M. 1980

Comment (MT): The date is in agreement with the finds from the dwelling site, which belong to the Suomusjärvi phase.

ISOKYLÄ SERIES, SALO

Coll. by Carpelan, C. and Matiskainen, H. and subm. by Carpelan, C. 1982

Hel-1622	Isokylä 959/265 charcoal	1690±120
Hel-1623	Isokylä 986/275 charcoal	1850±100
Hel-1624	Isokylä 986/283 charcoal	1890± 90

Hel-1625 see KASTELHOLM SERIES Hel-1576

Hel-1626 see SKI SERIES Hel-1534

Hel-1627 see BOAT SERIES Hel-1538

Hel-1628 see MEKRIJÄRVI BOAT Hel-1496

Hel-1629 PYLKÖNMÄKI, LUKSAJÄRVI 890±110

KTE 8546, wood.

Coll. and subm. by Naskali, E. 1981.

Comment (EN): Sample from the bottom of a Lapp's sledge.

Hel-1630 - 1631 see KASTELHOLM SERIES Hel-1576

## LAUHANVUORI SERIES

General comment: Dating of the isolation of different basins in the Lauhanvuori area in order to establish a land-uplift chronology.

Samples coll. by Salomaa, R., Uusinoka, R. and Wallin, T. and subm. by Salomaa, R.

Ref. Salomaa and Matiskainen (1983).

- Hel-1632 Rynkäkeidas, Honkajoki 6370±110  
61° 57' N, 22° 05' E, 90 m a.s.l.  
Phragmites-Equisetum peat  
depth 3.65-3.55 m  
Comment (RS): The postisolation age, the beginning of the paludification of the basin.
- Hel-1633 Rynkäkeidas 2 7450±120  
clay-gyttja and gyttja  
depth 3.80-3.70 m  
Comment (RS): Isolation of the basin from the Mastogloia Sea.
- Hel-1634 Uuronjärvi, Kauhajoki 8520±130  
62° 16' N, 22° 02' E, 131.4 m a.s.l.  
silty gyttja  
depth 4.45-4.35 m  
Comment (RS): Isolation of the basin from the Ancylus Lake. The isolation sequence was long with no exact isolation horizon. The age seem to be a bit too old when compared to other isolation dates in the area.
- Hel-1635 Uuronjärvi 2 8740±130  
gyttja silt and silty gyttja  
depth 4.60-4.45 m  
Comment (RS): The spread of *Alnus* (A<sup>+</sup>). The age is probably some hundreds of years too old when compared to other A<sup>+</sup> dates in the area. There was no sign of redeposited pollen.
- Hel-1740 Pohjasjärvi, Siikainen 5790±110  
61° 59' N, 21° 52' E, 67.1 m a.s.l.  
gyttja, depth 5.475-5.375 m  
Comment (RS): Isolation of the basin from the Litorina lagoon.
- Hel-1741 Pohjasjärvi 2 6100±110  
black sulphide gyttja  
depth 5.575-5.475 m  
Comment (RS): Just below the isolation horizon.
- Hel-1742 Pohjasjärvi 3 5880±140  
greenish-grey marine gyttja  
depth 5.675-5.575 m  
Comment (RS): The final stage of the Litorina lagoon below the sulphide layer.

- Hel-1743 Suojärvi, Merikarvia 5160±110  
61° 59' N, 21° 46' E, 54.8 m a.s.l.  
gyttja, depth 2.525-2.425 m  
Comment (RS): Isolation of the basin from the Litorina sea.
- Hel-1744 Suojärvi 2 5160±110  
sandy gyttja, depth 2.625-2.525 m  
Comment (RS): Just below the isolation horizon. In spite of the abrupt sedimentary change there seem to be no hiatus in the sediment sequence.
- Hel-1945 Tuorilampi, Merikarvia 2830±100  
61° 53' N, 21° 37' E, 29.3 m a.s.l.  
gyttja, depth 2.00-2.10 m  
Comment (RS): The final isolation of the basin from the Litorina sea. The spread of Picea (Pc<sup>+</sup>) takes place between this date and Hel-1946.
- Hel-1946 Tuorilampi 2 3200±100  
FeS-coloured clay-gyttja and gyttja  
depth 2.35-2.45 m  
Comment (RS): Muddy sequence between the sulphide bearing Litorina sediments indicating either a short-term isolation before transgression or fresh water influence of the Tuori river.
- Hel-1947 Kalliojärvi, Merikarvia 4610±110  
61° 58' N, 21° 40' E, 47.7 m a.s.l.  
gyttja, depth 2.30-2.40 m  
Comment (RS): Isolation of the basin from the Litorina sea.
- Hel-1948 Kalliojärvi 2 4640±100  
clay-gyttja with black sulphide laminations  
depth 2.40-2.50 m  
Comment (RS): Just below the isolation horizon.

#### PISAVAARA SERIES, ROVANIEMI

66° 15' N, 25° 07' E, 100 m a.s.l.  
Coll. by Vasari, Y. and Juola-Helle, M. 1978 and subm. by Vasari, Y. 1981.  
Ref. Juola-Helle (1982).

- Hel-1636 Pisavaara 1 1400±130  
peat, depth .57-.62 m  
Comment (MJH & YV): Dates the beginning of a luxurious phase in the development of the local mire vegetation.
- Hel-1637 Pisavaara 2 3010±130  
peat, depth 1:27-1.43 m  
Comment (MJH & YV): Approximate boundary between two local pollen assemblage zones, Betula - Pinus - Alnus and Pinus - Picea.

Hel-1638	Pisavaara 3 peat, depth 2.10-2.20 m Comment (MJH & YV): Fall in the Alnus curve, first signs of Picea in the pollen profile.	4770±140
Hel-1639	Pisavaara 4 peat, depth 3.10-3.25 m Comment (MJH & YV): Beginning of peat accumulation.	5440±150

Hel-1640 - 1641 see LEMUNSUO SERIES Hel-1561

#### NUKKUMAJOKI SERIES, INARI

Bone samples from winter village sites in the Nukkumajoki area coll. and subm. by Carpelan, C. 1981.

Hel-1642	Nukkumajoki 2 No.11 116/106, 20837:64	330±100
Hel-1643	Nukkumajoki 2 No.1 040/100, 20278:90	150± 90
Hel-1644	Nukkumajoki 2 No.3 060/104, 20278:80	150± 90
Hel-1645	Nukkumajoki 2 No.7 070/116, 20583:142	210± 90
Hel-1657	Nukkumajoki 2 No. 16 140/098	230±100
Hel-1658	Nukkumajoki 2 No.17 178/140	230± 90
Hel-1659	Nukkumajoki 2 No.18 218/120	130± 90
Hel-1664	Nukkumajoki 2 No.15 126/110	290± 90
Hel-1665	Nukkumajoki 2 No.9 078/108	380± 80
Hel-1666	Nukkumajoki 2 No.4 066/100	580± 90
Hel-1680	Nukkumajoki 5 No. 22	490± 90
Hel-1681	Nukkumajoki 3 No. 19	460± 90
Hel-1682	Nukkumajoki 5 No. 21	430± 90
Hel-1684	Nukkumajoki 6 No. 23	420±100
Hel-1685	Nukkumajoki 2, No. 12 118/114	490±100
Hel-1687	Nukkumajoki 2 No. 13 120/112	380±100

Hel-1688	Nukkumajoki 2 No. 14 122/110	320± 90
Hel-1689	Nukkumajoki 2 No. 6 070/110	320±100
Hel-1690	Nukkumajoki 2 No. 8 076/088	360±100
Hel-1908	Nukkumajoki 2, 21986:235	150± 90
Hel-1909	Nukkumajoki 2, 21986:235	220±100
Hel-1910	Nukkumajoki 2, 21986:238	140±110
Hel-1911	Nukkumajoki 2, 21583:123	160± 90

#### DALAMALM SERIES, SIUNTIO

x=6672.11, 509.93

Coll. 1981 and subm. 1982 by Edgren, T.

Hel-1646	Dalamalm a charcoal, depth 0.98 m	620±100
Hel-1647	Dalamalm b charcoal, depth 0.78 m	600±100
Hel-1648	Dalamalm c charcoal, depth 0.80 m	540±100

#### KAURASTENSUO SERIES, JAHKOLA, LAMMI

61° 01' N, 24° 58' E; about 155 m a.s.l.

Coll. 1979 by K. Tolonen with a steel cylinder and a Russian corer 10 x 100 cm. Subm. 1982 by K. Tolonen.

Ref. Tolonen, K. (1987).

General comment (KT): Main features in the natural history of raised bogs in the Lammi area, southern Finland were studied by peat stratigraphical methods in two mire basins in Lammi (Laaviosuo, see Jungner and Sonninen 1983 p. 73 and Kaurastensuo) and one mire basin in Kärkölä (Luutasuo). A special attention was paid to a peculiar black peat/light peat contact distinct at about 3 m below the mire surface in the boring transects of these bogs. The radiocarbon datings revealed that the age of this "boundary horizon" did not vary much within Kaurastensuo bog, on the basis of altogether eight closely spaced radiocarbon datings from four sites. The contact is from about 3000 B.P. In the adjacent Laaviosuo the similar contact was dated to about 2700 B.P. and in Luutasuo to about 3800 B.P. For the corresponding peat stratigraphical limit still greater age variation was found in other raised bogs in the Salpausselkä region of southern Finland the extremes being between ca. 1900 B.P. and ca 6000 B.P. All the ages obtained are stratigraphically consistent and in agreement with the expectations based on pollen analytical events, which are earlier dated from the study area (Tolonen, K. 1987 and references therein).



- Hel-1649 KAUR 1#1 140±130  
peat, depth 0.70-0.75 m  
Comment (KT): The age obtained is slightly too young presumably due to downwards transportation of assimilated carbon by e.g. *Rubus Chamaemorus*, *Empetrum* and *Andromeda* fine roots.
- Hel-1650 KAUR 1#2 1540±120  
peat, depth 1.60-1.70 m
- Hel-1651 KAUR 1#3 1810±130  
peat, depth 2.00-2.10 m  
Comment (KT): A conspicuous decline in relative pollen frequencies of *Picea* is contemporaneous with the same feature in the adjacent Laaviosuo (1870±110 BP) and is obviously due to clearings for cultivation with slash-and-burn method.
- Hel-1652 KAUR 1#4 2110±130  
peat, depth 2.50-2.60 m
- Hel-1653 KAUR 1#5 3040±120  
peat, depth 3.30-3.40 m  
Comment (KT): A sample just above the "boundary horizon".
- Hel-1654 KAUR 1#6 3780±110  
peat, depth 3.60-3.70 m  
Comment (KT): A sample below the "boundary" representing the starting general spread of spruce (*Pc\**). The date seems to be some hundreds of years "too young" due to contamination of deep roots of younger mire plants above.
- Hel-1655 KAUR 1#7 3960±130  
peat, depth 3.80-3.90 m  
Comment (KT): The dating is from the empirical limit of spruce (*Pc°*) and is likely a few hundreds of years too young.
- Hel-1656 KAUR 1#8 5770±120  
peat, depth 4.30-4.40 m  
Comment (KT): Lower limit of local P.A.Z. 4 and *Tilia\** in the area.
- Hel-1660 KAUR 1#9 6480±100  
peat, depth 4.60-4.70 m
- Hel-1661 KAUR 1#10 8120±110  
gyttja, depth 4.88-5.00 m  
Comment (KT): Lower limit of local P.A.Z. 3 and general spread of alder (*A\**) in the area.
- Hel-1662 KAUR 1#11 8950±120  
gyttja, depth 5.10-5.20 m  
Comment (KT): Lower limit of local P.A.Z. 2 and the rise of pine (*P°*) in the area.

- Hel-1753 Kaur 12 2910±110  
peat, depth 3.50-3.53 m  
Comment (KT): Just above "Grenz" at site B in Tolonen (1987).
- Hel-1754 Kaur 13 3110±130  
peat, depth 3.60-3.62 m  
Comment (KT): Just below "Grenz" at site B in Tolonen (1987).
- Hel-1755 Kaur 14 3360±110  
peat, depth 2.91-2.93 m  
Comment (KT): Just above "Grenz" at site C in Tolonen (1987).
- Hel-1756 Kaur 15 3540±130  
peat, depth 2.89-3.00 m  
Comment (KT): Just below "Grenz" at site C in Tolonen (1987).
- Hel-1757 Kaur 16 2430±130  
peat, depth 1.84-1.88 m  
Comment (KT): Above "Grenz" at site D in Tolonen (1987).
- Hel-1758 Kaur 17 2980± 90  
peat, depth 1.96-2.00 m  
Comment (KT): Below "Grenz" at site D in Tolonen (1987).

Hel-1657 - 1659 see NUKKUMAJOKI SERIES Hel-1642

Hel-1660 - 1662 see KAURASTENSUO SERIES Hel-1649

MONHEGAN ISLAND SERIES, MAINE, USA

43° 46' N, 69° 18' W; 3-4 m a.s.l.  
Coll. 1981 and subm. 1982 by Tolonen, M.  
Ref. Tolonen, M. (1983a).

- Hel-1663 Monhegan meadow 1 250±110  
peat CH<sub>5-6</sub> Bryales, depth 0.25-0.33 m
- Hel-1671 Monhegan meadow 2 530± 90  
peat LCH<sub>8</sub>, depth 0.470-0.485 m
- Hel-1672 Monhegan meadow 3 860± 80  
peat LCH<sub>8</sub>, depth 0.485-0.500 m

Hel-1664 - 1666 see NUKKUMAJOKI SERIES Hel-1642

Hel-1667

SUO I, KÄRKKÄ, SALO

4240± 90

60° 20' N, 23° 10' E; ca 28 m a.s.l.

peat SH<sub>s</sub>L, depth 1.05-1.10 m

Coll. 1977 and subm. 1982 by Tolonen, M.

Ref. Tolonen, M. (1983b).

Comment (MT): A local *Alnus* phase, before Pc\*.

## METSÄLAMPI SERIES, ESPOO

60° 14' N, 24° 39' E; 26.3 m a.s.l.

Coll. and subm. 1982 by Hyvärinen, H.

Ref. Hyvärinen (1984).

General comment (HH): A stratigraphical site used for the reconstruction of relative sea-level changes near Helsinki. Hel-1669 dates the contact between brackish and small-lake sediments, hence the isolation of the basin from the Baltic. Hel-1668, 1679 and 1678 are samples from brackish Baltic sediments below the isolation contact, and Hel-1678 also dates the *Tilia* pollen limit (T°). Hel-1670, 1675, 1691, 1676, and 1677 are samples from lacustrine sediments above the isolation contact. The two uppermost samples date the beginning (Hel-1676) and the rise (Hel-1677) of the *Picea* pollen curve. The dates are consistent mutually and with the pollen stratigraphy. However, the date for the isolation of the basin appears too old in comparison with dates obtained from adjacent sites, and it is concluded (Hyvärinen 1984) that the original isolation threshold must have been somewhat higher than the present outlet threshold of the basin.

Hel-1668	Metsälampi 1 gyttja, depth 3.80-3.90 m	6720±110
Hel-1669	Metsälampi 2 gyttja, depth 3.50-3.60 m	6110±120
Hel-1670	Metsälampi 3 gyttja, depth 3.20-3.30 m	6090±110
Hel-1675	Metsälampi 4 gyttja, depth 2.45-2.55 m	5050±100
Hel-1676	Metsälampi 5 gyttja, depth 1.75-1.85 m	4740±120
Hel-1677	Metsälampi 6 gyttja, depth 1.15-1.25 m	3820± 90
Hel-1678	Metsälampi 7 gyttja-clay, depth 4.65-4.75 m	7550±160
Hel-1679	Metsälampi 8 clay-gyttja, depth 4.15-4.25 m	6540±150
Hel-1691 A	Metsälampi 9 A gyttja, depth 2.10-2.30 m	5000±130
Hel-1691 B	Metsälampi 9 B, humusfraction of Hel-1691 A.	5060±120

- Hel-1671 - 1672 see MONHEGAN ISLAND SERIES Hel-1663
- Hel-1673 - 1674 see LEMUNSUO SERIES Hel-1561
- Hel-1675 - 1679 see METSÄLAMPI SERIES Hel-1668
- Hel-1680 - 1682 see NUKKUMAJOKI SERIES Hel-1642

Hel-1683 KULENNOINEN, PUNKAHARJU 600±120  
 61° 50' N, 29° 16' E  
 charcoal, coll. by Ristiluoma, S. 1982 and subm. by  
 Donner, J. 1982

Hel-1684 - 1685 see NUKKUMAJOKI SERIES Hel-1642

Hel-1686 VÄHÄMÄKI, HAILUOTO 1590±130  
 65° 04' N, 24° 46' E; 15 m a.s.l.  
 wood, coll. 1981 and subm. 1982 by Alestalo, J.  
 Comment (JA): A shore dune ridge 10 m high, was shifted  
 in forest and buried a Scotch pine, more than 118 years  
 old. Sample for radiocarbon dating was taken from pith  
 of stem base. The pine is sprouted on the leeward of  
 dune, which has moved landwards about 60 m or half a  
 metre per year. The dune is today wooded.  
 Ref. Alestalo (1979, 1986)

Hel-1687 - 1690 see NUKKUMAJOKI SERIES Hel-1642

Hel-1691 A, B see METSÄLAMPI SERIES Hel-1668

KARJAA, LÄPP, ÖSTERGÅRD

60° 03' N, 23° 39' E; x=6660.40, y= 2480.92; 17 m a.s.l.  
 Charcoal samples coll. by Heikkurinen, T. and subm. by  
 Siiriäinen, A. 1982.  
 Ref. Heikkurinen and Suominen (1982).  
 Comment (TH): The finds from the site are mostly ceramics  
 from the Bronze Age and the earlier Iron Age. The  
 radiocarbon dates are in agreement with the youngest  
 ceramic finds.

Hel-1692 KM 21237:270 1910±110  
 charcoal, depth 0.30 m

Hel-1693 KM 21237:271 1510±130  
 charcoal, depth 0.20 m

*Östergård, see Series ???  
 - laiteiden  
 base in 507ak*

*Järven Suo I Series 2, 2, 2*  
*- laittu*  
*alasein sarakkeeseen*

## JÄRVENSUO, HUMPPILA

Coll. and subm. by Siiriäinen, A. 1982.

Hel-1694	KM 21493 a gyttja, depth 0.55-0.65 m	4430±120
Hel-1695	KM 21493 b wood, depth 0.55-0.65 m	3610±120
Hel-1696	KM 21493 c charcoal, depth 0.55-0.65 m	4880±120

## SAARIJÄRVI, TARVAALA

62° 40' N, 25° 20' E; x=6951.34, y=568.20; ca 115 m a.s.l.

Coll. by Luho, V. 1949 and subm. by Siiriäinen, A. 1982.

Comment (H. Matiskainen): The dates are in agreement with the Late-Mesolithic occupation of the site.

Hel-1697	KM 12234:199 charcoal	5920±120
Hel-1698	KM 14537:63 charcoal	5810±100
Hel-1699	KM 14537:64 charcoal	6000±100

*Tarvaala Series 2, 2, 2*  
*- laittu*  
*alasein sarakkeeseen*

## SHELL SERIES, IRELAND

Coll. and subm. 1982 by Donner, J.

General comment (JD): The shell samples were collected in order to elucidate the Holocene land/sea level changes in Ireland. The samples from Black Rock, Haggards (Hel-1700) and Laytown (Hel-1701) are from thin shell beds in beach sediments, whereas the others are from middens; the three samples from Culleenamore from three levels of the same midden.

Hel-1700	Black Rock, Haggards, Co.Louth 2 m a.h.w.m shell, Cerastoderma	700±120
Hel-1701	Laytown, Co.Meath 2 m a.h.w.m. shell, Buccinum	1990±100
Hel-1702	Lackmeeltaun, Ballyconnell, Co.Sligo 3.5 m a.h.w.m. shell, Littorina	280± 90
Hel-1703	Colleenamore, Co.Sligo 3.9 m a.h.w.m. shell, Ostrea	2650±100

Hel-1704	Colleenamore, Co.Sligo 3.4 m a.h.w.m. shell, Ostrea	3850±100
Hel-1705	Colleenamore, Co.Sligo 2.9 m a.h.w.m. shell, Ostrea	4170±100
Hel-1706	Colleenamore, Co.Sligo 1.7 m a.h.w.m. shell, Ostrea	1450± 90
Hel-1707	Strandhill, Co.Sligo 4.4 m a.h.w.m. shell, Ostrea	920± 90
Hel-1708	Strandhill, Co.Sligo 4.4 m a.h.w.m. shell, Littorina	1000±100
Hel-1709	Strandhill, Co.Sligo 4.4 m a.h.w.m. shell, Mytilus	990±100
Hel-1710	Strandhill, Co.Sligo 4.4 m a.h.w.m. shell, Patella	830± 80

## ASKOLA SERIES

Charcoal samples collected by Luho, V. 1953, 1959 and 1961, and subm. by Siiriäinen, A. 1982.  
Comment (H. MatisKainen): According to shore-line chronology a Mesolithic age was expected for each sample.

Hel-1711	Askola, Rahkaissuo I 60° 32' N, 25° 35' E; x=6716.68, y=423.09 ca 35 m a.s.l. KM 13302:11, charcoal	2710±100
Hel-1712	Askola, Rahkaissuo II KM 13302:186, charcoal	1930±130
Hel-1713	Askola, Rahkaissuo III KM 13302:203, charcoal	1830±140
Hel-1714	Askola, Vanha-Klemetti 60° 31' N, 25° 35' E; x=6713.46, y=423.07 ca 32.5 m a.s.l. KM 15325:86, charcoal	5480±120
Hel-1715	Askola, Vakkola 60° 31' N, 25° 36' E; x=6713.30, y=423.41 ca 32.5 m a.s.l. KM 14542:157, charcoal	1620±140

Hel-1716 ACADIA 1, BIG HEATH, MAINE, USA 10980±190

44° 14' N, 68° 19' W

clay-gyttja, depth 6.39-6.52 m, coll. by Tolonen, K. and M. 1981 and subm. by Tolonen, K. 1982.

Comment (KT): The dated sample represents the oldest organic material of the site, but seems to be some 1000 to 1500 years later than the time of the deglaciation. The diatom remains indicate a slightly alkaline water which agrees with the macro- and microremains of other aquatics like Ceratophyllum.

KUORTANE, HAAVISTONHARJU

62° 58' N, 23° 30' E; x=6984.80, y=475.54; ca. 95 m a.s.l.

Charcoal samples coll. by Luho, V. 1964 and subm. by Siiriäinen, A. 1982.

Comment (H. Matisainen): Mesolithic date expected.

Hel-1717 KM 16163:89 1060±130

Hel-1718 KM 16163:104 500±130

+ Hel-1725

MÄTÄJÄRVI SERIES, TURKU

60° 27' N, 22° 17' E; 7 m a.s.l.

Coll. by Salonen, V.-P., Pihlman, A. and Ikäheimo, M. and subm. by Salonen, V.-P. 1982.

Ref. Salonen et al. (1985), Pihlman and Ikäheimo (1989).

Hel-1719 Mätäjärvi 040 770± 90  
gyttja, depth 2.40 m

Comment (V-PS): Dating the medieval damp patch site; rate of sedimentation.

Hel-1720 Mätäjärvi 050 770± 80  
gyttja, depth 2.50 m

Comment (V-PS): Disturbed damp sediments.

Hel-1730 Mätäjärvi 070 640± 90  
gyttja, depth 2.70 m

Comment (V-PS): Dating the Mätäjärvi gyttja bed, deposited during the early urban settlement of the medieval town Turku, SW-Finland.

Hel-1731 Mätäjärvi 090 1470± 90  
gyttja, depth 2.90 m

Comment (V-PS): Isolation of the Lake Mätäjärvi is supported by the shore-line displacement curve (Glückert 1976).

Hel-1732 Mätäjärvi 095 2280±120  
clay-gyttja, depth 2.95 m

Comment (V-PS): Baltic sea sediment underlying the limnic Mätäjärvi sediments.

*Haavistonharju Series 1982  
- Mätäjärvi series*

- Hel-1733 Mätäjärvi, krooppi I 830± 80  
wood, depth 2.50 m  
Comment (V-PS): Material from wooden outlet  
channel, which has been constucted in attempt to  
keep the lake area dry.
- Hel-1734 Mätäjärvi, krooppi II 820± 90  
wood, depth 2.50 m  
Comment (V-PS): Material from wooden outlet  
channel of lake Mätäjärvi.
- Hel-1839 Mätäjärvi 2, 65-67 350± 80  
gyttja, depth 2.97 m  
Comment (V-PS): Dating is supported by a coin  
(1540 AD) found from the same layer.
- Hel-1840 Mätäjärvi 2, 75-77 450± 90  
gyttja, depth 2.97 m  
Comment (V-PS): Dating the sedimentation rate of  
the Mätäjärvi bed.
- Hel-1841 Mätäjärvi 2, 84-86.5 600± 90  
gyttja, depth 2.97 m  
Comment (V-PS): Dating the sedimentation rate of  
the Mätäjärvi bed.
- Hel-1842 Mätäjärvi 2, 91-93 450± 90  
gyttja, depth 2.97 m  
Comment (V-PS): Age too young - possible human  
disturbancies in sedimentation process.
- Hel-1843 Mätäjärvi 2, 95-97 700± 90  
clay-gyttja, depth 2.97 m  
Comment (V-PS): Dating oldest sediment related  
with urban settlement in Finland.
- Hel-1844 Mätäjärvi 2, 97-100 1390±110  
clay-gyttja, depth 2.97 m  
Comment (V-PS): Isolation of the Mätäjärvi-basin  
is supported by the shore lire evidence (Glückert  
1976).
- Hel-1860 Mätäjärvi 2, no 1385 650± 90  
wood, depth 3.20 m  
Comment (V-PS): Dating archaeological layers and  
artefacts from sediment deposited in a small  
lake, Mätäjärvi.
- Hel-1863 Mätäjärvi 2, no 783 380±110  
bone, depth 3.30 m  
Comment (V-PS): Dating archaeological  
layers and their artifacts.
- Hel-1864 Mätäjärvi 2, no 656 380± 80  
bone, depth 3.40 m  
Comment (V-PS): Dating archaeological  
layers and their artifacts.



Hel-1865	Mätäjärvi 2, no 862 bone, depth 3.00 m Comment (V-PS): Dating archaeological layers and their artifacts.	310± 90
Hel-1866	Mätäjärvi 2, no 883 bone, depth 3.30 m Comment (V-PS): Dating archaeological layers and their artifacts.	370±110
Hel-1867	Mätäjärvi 2,, no 723 bone, depth 2.70 m Comment (V-PS): Dating archaeological layers and their artifacts.	310± 90
Hel-1868	Mätäjärvi 2, no 202 bone, depth 3.90 m Comment (V-PS): Dating archaeological layers and their artifacts.	390±110
Hel-1869	Mätäjärvi 2, no 830 bone, depth 2.90 m Comment (V-PS): Dating archaeological layers and their artifacts.	330± 80
Hel-1870	Mätäjärvi 2, no 530 bone, depth 2.80 m Comment (V-PS): Dating archaeological layers and their artifacts.	370± 90
Hel-1871	Mätäjärvi 2, no 290 bone, depth 3.10 m Comment (V-PS): Dating archaeological layers and their artifacts.	370±110
Hel-1918	Mätäjärvi 2, 16-21 gyttja, depth 2.5 m Comment (V-PS): The proper age, based on archaeological evidence is ca 250 BP. Error is caused by human influence: mixing of older sediments.	510± 80
Hel-1919	Mätäjärvi 2, 26-30 gyttja, depth 2.5 m Comment (V-PS): As for Hel-1918.	380± 80
Hel-1721	HEIKKILÄNOJA  68° 40' N, 25° 45' E, 410 m a.s.l. peat, depth 1.50-1.60 m Coll. and subm. by Saarnisto, M. 1982	5170±110
Hel-1722	RUIHTU  67° 37' N, 25° 41' E, 350 m a.s.l. peat, depth 0.40-0.50 m Coll. and subm. by Saarnisto, M. 1982	6240±120

- Hel-1723                 ASKOLA, NALKKILA                                 1330±130  
60° 33' N, 25° 35' E, x=671632, y=42298  
c. 32.5 m a.s.l.  
KM 15744:124, charcoal coll. by Luho, V. 1962  
and subm. by Siiriäinen, A. 1982.  
Comment (H. Matiskainen): The sample is from a Mesolithic  
dwelling place. See also Hel-1712.
- Hel-1724                 ALAJÄRVI, HEIKINKANGAS,RASI                                 790±130  
62° 59' N, 23° 43' E, x=698790, y=48590  
c. 95 m a.s.l.  
KM 11771:69, charcoal coll. by Luho, V. 1947  
and subm. by Siiriäinen, A. 1982.  
Comment (H. Matiskainen): A Mesolithic date expected.
- Hel-1725                 ALAVUS, RANTATÖYSÄ   6350±120  
62° 37' N, 23° 00' E, x=694680, y=48010  
c. 90 m a.s.l.  
KM 11906:24, charcoal coll. by Luho, V. 1948  
and subm. by Siiriäinen, A. 1982  
Comment (H. Matiskainen): The age is in agreement with  
the long-term Mesolithic settlement at the site.
- Hel-1726                 HUITTINEN, PALOJOKI   7120±130  
61° 05' N, 22° 45' E, x=677624, y=43261  
c. 70 m a.s.l.  
KM 13301:59, charcoal coll. by Luho, V. 1953  
and subm. by Siiriäinen, A. 1982  
Comment (H. Matiskainen): The date is in agreement with  
the Mesolithic material from the site.
- Hel-1727                 KERAVA, PISINMÄKI   640±120  
60° 23' N, 25° 07' E, x=669951, y=56176  
c. 42.5 m a.s.l.  
KM 15432:270, charcoal coll. by Sarkamo, J. 1962 and  
subm. by Siiriäinen, A. 1982  
Comment (H. Matiskainen): The date is in disagreement  
with the expected Mesolithic age.
- Hel-1728 - 1729    see LEMUNSUO SERIES    Hel-1561
- Hel-1730 - 1734    see MÄTÄJÄRVI SERIES    Hel-1719



Hel-1735 KUORTANE, HAAVISTONHARJU *Series* *20* *1965* *1965* 2340±140

62° 58' N, 23° 30' E, x=698480, y=47554  
ca 95 m a.s.l.  
KM 16163:114, charcoal coll. by Luho, V. 1964 and  
subm. by Siiriäinen, A. 1982  
Comment (H. Matiskainen): Mesolithic age expected.

PUKKILA, YLI-HYRYLÄ SERIES

60° 38' N, 25° 36' E, x=672650, y=42325  
ca 40 m a.s.l.  
charcoal samples coll. by Luho, V. 1965 and subm. by  
Siiriäinen, A. 1982.

Hel-1736 KM 16561:42 5030±110  
Comment (H. Matiskainen): The date is in disagreement  
with the shore line dating of the site. There are no  
signs of settlement of the obtained age.

Hel-1737 KM 16561:60 470±120  
Comment (H. Matiskainen): Dating is obviously of farming  
charcoal from Late Medieval Period.

Hel-1738 KM 16561:91 1250±130  
Comment (H. Matiskainen): The result is not of expected  
Mesolithic age.

Hel-1739 KURIKKA, TOPEE 3710±120

62° 35' N, 22° 26' E, x=694242, y=57454  
ca 82.5 m a.s.l.  
KM 17486:124, charcoal coll. by Luho, V. 1968 and  
subm. by Siiriäinen, A. 1982.  
Comment (H. Matiskainen): The date is probably from the  
Corded Ware layer of the site.

Hel-1740 - 1744 see LAUHANVUORI SERIES Hel-1632

Hel-1745 VOHTENKELLARINSUO, PAIMIO 710±100

60° 25' N, 22° 42' E, 51 m a.s.l.  
peat, depth 0.23-0.27 m  
coll. by Salonen, V.-P. 1980 and subm. by  
Vuorela, I. 1982.  
Ref. Vuorela (1983).  
Comment (IV): Reforestation after pre-historic land use  
(cultivation and grazing).

## HYRYNSALMI SERIES, HYTTINIEMI

64° 36' N, 29° 01' E, about 190 m a.s.l.

x=7166 88, y=4452 94

Charcoal samples from an iron melting site  
coll. and subm. by Naskali, E. 1982.

Hel-1746	KM 10797a depth 0.50 m	1030± 90
Hel-1747	KM 10797b depth 0.95-1.05 m	390± 90
Hel-1748	KM 10797c depth 0.65-0.75 m	580± 80

Hel-1749 see BOAT SERIES Hel-1538

Hel-1750 SOTKAMO, KIIKARUSNIEMI 6150±110

64° 09' N, 28° 35' E, x=7116 71, y=3567 12

137.5-140 m a.s.l.

KM 21482:116, charcoal, depth 0.15 m

Coll. by Nieminen, E.-L. and subm. by Siiriäinen, A.1982.  
Comment (M. Huurre): The date fits the Sär 1 phase of the  
dwelling site.

Hel-1751 see BOAT SERIES Hel-1538

Hel-1752 LINNAMÄKI C, PORVOO 1120± 90

A soil sample, depth 1.0-1.5 m  
coll. by Edgren, T. 1971 and subm. 1982.

Hel-1753 - 1758 see KAURASTENSUO SERIES Hel-1649

## VANUTEHDAS 3 SERIES, SALO

Charcoal samples coll. and subm. by Schauman-Lönnqvist, M. 1982.

Hel-1759	21499/1	2270± 90
Hel-1760	21499/2	1390± 70
Hel-1761	21499/3	1820± 90

Hel-1762 - 1769 see VANUTEHTAANMÄKI SERIES Hel-1403

## HUISKAISSUO SERIES, ASKOLA

60° 33' N, 25° 38' E, 59 m a.s.l.

Coll. 1982 and 1983, and subm. 1983 and 1984 by Haila, H.

General comment (HH): The samples were taken in order to study the variation in ages obtained for the beginning and end of the Ancylyus transgression in different parts of the basin. Four parallel cores were lifted at each drilling site and material for dating was collected from equivalent stratigraphical levels in laboratory conditions. At six sites (I-VI) usually two horizons were dated: A, representing a small lake phase after the first isolation and before the start of the Ancylyus transgression in the basin and C, deposited immediately after the final isolation. In the dating list below these horizons are commented as: the beginning of transgression (A) and the end of transgression (C), even though they do not exactly correspond to the actual events. In two cases also the sediment formed during the Ancylyus transgression (B), before culmination, was dated and once the upper and lower part of horizon A were dated separately.

The resulting ages vary in this individual basin fairly concordantly with the ages obtained for the same events in several other basins elsewhere in Southern Finland. The variations of ages in different groups (A, B, C) increases with the diminishing content of organic matter.

The first two dates; Hel-1770 and Hel-1771 relate to the preliminary studies of the Huiskassuo basin. They were used to test the suitability of the basin for closer studies and to date the history of vegetation in the area. (See also Donner and Eronen, 1981).  
Ref. Haila (1987).

Hel-1770	Huiskaissuo A gyttja, depth 3.545-3.645 m Comment (HH): Beginning of transgression.	9320±120
Hel-1771	Huiskaissuo C gyttja and peat, depth 3.28-3.38 m Comment (HH): End of transgression.	9020±170
Hel-1846	Huiskaissuo III A gyttja Comment (HH): Beginning of transgression.	9480±150
Hel-1875	Huiskaissuo III B clay-gyttja Comment (HH): Transgression in the basin, before culmination.	9640±130
Hel-1876	Huiskaissuo III C gyttja and peat Comment (HH): End of transgression.	9060±120
Hel-1961	Huiskaissuo I A 2 gyttja, depth 3.445-3.485 m Comment (HH): Upper part of the sediment deposited during the small lake phase after the isolation. Close to the beginning of transgression in the basin.	9450±110

- Hel-1962 Huiskaissuo I A 1 9350±130  
gyttja, depth 3.485-3.585 m  
Comment (HH): Lower part of the previous sediment.  
Close to the first isolation during Yoldia  
regression.
- Hel-1963 Huiskaissuo I C 9040±120  
gyttja, depth 3.22-3.32 m  
Comment (HH): End of transgression.
- Hel-1971 Huiskaissuo VI A 9500±140  
gyttja, depth 4.56-4.66 m  
Comment (HH): Beginning of transgression.
- Hel-1972 Huiskaissuo VI C 9040±110  
gyttja, depth 4.30-4.40 m  
Comment (HH): End of transgression.
- Hel-1976 Huiskaissuo II A 9460±140  
gyttja, depth 4.945-5.005 m  
Comment (HH): Beginning of transgression.
- Hel-1977 Huiskaissuo II B 9160±190  
gyttja-clay, depth 4.815-4.925 m  
Comment (HH): Transgression in the basin,  
before culmination.
- Hel-1978 Huiskaissuo II C 9090±130  
gyttja, depth 4.61-4.71 m  
Comment (HH): End of transgression.
- Hel-2008 Huiskaissuo V A 9330±130  
gyttja, depth 4.875-4.945 m  
Comment (HH): Beginning of transgression.
- Hel-2009 Huiskaissuo V C 8950±130  
gyttja, depth 4.63-4.73 m  
Comment (HH): End of transgression.
- Hel-2010 Huiskaissuo IV A 9760±190  
gyttja, depth 4.835-4.89 m  
Comment (HH): Beginning of transgression.
- Hel-2011 Huiskaissuo IV C 9160±120  
gyttja, depth 4.535-4.635 m  
Comment (HH): End of transgression.

Hel-1772            REGENT STREET BOG, NEW BRUNSWICK            320±100

45° 00' N, 66° 40' W, 12 m a.s.l.  
 peat ErShs-ε (S. acutifolia + dwarf shrubs),  
 depth 0.75-0.80 m.  
 coll. by Tolonen, K. and Hendersen, R. 1982 and subm.  
 by Tolonen, K. 1983  
 Ref. Tolonen and Oldfield (1986).  
 Comment (KT): The sample was collected for dating of a  
 Sphagnum hummock core in which magnetic and heavy metal  
 deposition was estimated by means of moss increment  
 dating and bulk density determinations. The extrapolated  
 moss increment dating for 75 cm level was 379 years  
 (before 1982).

Hel-1773            TENGO 104/102, KIRKKONUMMI            810±130

charcoal, coll. and subm. by Edgren, T. 1982

HONKANIEMENKANGAS, VEHKALAHTI

15 m a.s.l.

Samples coll. by Liikkanen, L. and subm. by Donner, J. 1982.  
 General comment (JD): A layer of charcoal and shells on top of  
 outwash sand and covered by beach sand.

Hel-1774          charcoal, depth 0.80 m            4300±160

Hel-1782          Cardium shells            4180±150

#### OULUNJÄRVI SERIES II

Samples coll. and subm. by Keränen, R. 1982.

Hel-1775 Kongasjärvi I            6740±120  
 169 m a.s.l.  
 peat, depth 0.40-0.42 m

Hel-1820 Ansaniemi 1            1050± 90  
 123 m a.s.l.  
 wood, depth 1.75 m

Hel-1821 Ansaniemi 2            290± 90  
 peat, depth 1.75 m

Hel-1822 Ansaniemi 3            1050± 90  
 peat, depth 2.20 m

Hel-1823 Ansaniemi 4            > modern  
 peat, depth 0.25 m

Hel-1824 Ansaniemi 5            > modern  
 peat, depth 0.35 m

- Hel-1776a            HORONKYLÄ A                            > 43000  
 45 m a.s.l.  
 Coll. and subm. by Jauhiainen, E. 1982.  
 podzol, depth 6 m.
- Hel-1776b            HORONKYLÄ A, humusfraction                 > 43000
- Hel-1777            JURVA A                                    > 43000  
 62° 40' N, 21° 59' E, 95 m a.s.l.  
 Coll. and subm. by Jauhiainen, E. 1982.  
 podzol, depth 1.5 m

#### AHVENJÄRVENUOMA SERIES, KITTILÄ

67° 37' N, 25° 16' E, ca. 200 m a.s.l.  
 Coll. by Tolonen, K. and Huttunen, P. 1977 and subm. by Tolonen, K. 1983.  
 General comment (KT): The coring was performed from the same site as that for the pollen diagram in Ruuhijärvi (1963). Samples from the core profile have been used for many kinds of peat physical and chemical analyses. The upper layers have been dated by means of moss increment counting and <sup>210</sup>Pb. All the radiocarbon dates are stratigraphically consistent and provide good chronology for certain forest historical stages in Kittilä.  
 Ref. Pakarinen et al. (1983), Tolonen, K. (1984), and Lehtonen et al. (1988).

- Hel-1778            AvR 1    1020±120  
 peat SH<sub>s</sub> (S. fuscum), depth 0.50-0.55 m
- Hel-1779            AvR 2    1810±130  
 peat SH<sub>s</sub> (S. fuscum), depth 0.70-0.75 m  
 Comment (KT): The sample is from zone IV (Ruuhijärvi 1963).
- Hel-1780            AvR 3    2650±130  
 peat ErSH<sub>4-5</sub>, depth 1.00-1.05 m  
 Comment (KT): The sample is from the beginning of zone IV (Ruuhijärvi) a bit after the Picea° level. The mire vegetation turned ombrotrophic at this level.
- Hel-1781 AvR 4    3790±130  
 peat, depth 1.25-1.30 m  
 Comment (KT): The sample is a bit before the empirical limit of Picea, from pine period.
- Hel-1825            AvR 5    4360±110  
 peat, depth 1.45-1.50 m  
 Comment (KT): The sample is from Picea period (i.e. from Ruuhijärvi's zone III).



Hel-1826 AvR 6 6070±120  
 peat, depth 2.35-2.40 m  
 Comment (KT): The sample is from the pine period  
 (Ruuhijärvi's zone III).

Hel-1827 AvR 7 8660±120  
 peat, depth 3.20-3.25 m  
 Comment (KT): The sample is close to or a bit  
 below the zone limit II/III (Ruuhijärvi), i.e.  
 from the end of Betula-period.

Hel-1782 see HONKANIEMENKANGAS Hel-1774

Hel-1783 ELIJÄRVI, KEMI 4140±110  
 Shell, *Macoma Baltica*  
 Coll. by Mäkinen, K. 1982 and subm. by Donner, J. 1983.  
 Comment (JD): Shells in beach sand.

#### NAARAJÄRVI SERIES, PIEKSÄMÄKI

62° 16' N, 27° 02' E, x=6907 14, y=502 41, 114 m a.s.l.  
 Charcoal samples coll. by Matiskainen, H. 1982 and subm. by  
 Siiriäinen, A. 1983.  
 Ref. Matiskainen and Jussila (1984).

Hel-1784 KM 21519:634 2630±140  
 Comment (HM): The date probably concerns the  
 Early Metal Age layer at the site.

Hel-1785 KM 21519:634 5060±110

Hel-1786 KM 21519:634 4980±110

Hel-1787 KM 21519:634 4930±110  
 Comment for Hel-1785 - 1787 (HM): The dates  
 are in agreement with Comb Ware Style II.

#### POINT ESCUMINAC SERIES, NEW BRUNSWICK

47° 04' N, 64° 48' W, 5 m a.s.l.  
 Samples coll. by Tolonen, K. and Henderson, R. 1982 and subm. by  
 Tolonen, K. 1982.  
 Ref. Tolonen et al. (1985), Warner et al. (in press).  
 General comment (KT): Detailed peat stratigraphical analysis  
 were performed on peat cliffs exposed by the Atlantic Ocean at  
 Point Escuminac Bog, a large domed ombrotrophic mire. A peculiar  
 streaked structure in Sphagnum peat with thin, dark, strongly  
 decomposed bands interspersing slightly decomposed layers was  
 interpreted as originating from former lichenous communities and  
 while the light-coloured layers in between probably were from  
 hummock or lawn (not hollow) stages. From the fifteen successive  
 datings, all but one were in good stratigraphical order and they  
 enabled an approximative dating for the short-term cyclic peat

growth to be calculated. The system of the peat growth was not directly controlled by climate, nor was any regular recurrence surface system found (Tolonen et al. 1985). From the same five meter long peat monolith cut from the cliff close-spaced pollen and macrofossil analysis were carried out (Warner et al. in print).

Hel-1788	Esc 10:3 peat ErNSH <sub>6-7</sub> , depth 1.19-1.20 m	1630± 90
Hel-1789	Esc 10:6 peat NSH <sub>7-8</sub> , depth 2.69-2.70 m	4300±110
Hel-1790	Esc 10:10 peat ErCSH <sub>4-5</sub> (rich in Scheuchzeria) depth 4.48-4.49 m	8970±160
Hel-1791	Esc 10:12 muddy peat with some woody twigs and roots plus grass and herb remains. depth 4.80-4.82 m	9460±180
Hel-1796	Esc 10:1 peat SH <sub>2-3</sub> (S acutifolia) depth 0.29-0.30 m	470±110
Hel-1797	Esc 10:8 peat NS and LSH <sub>9-7</sub> (S. acutifolia) depth 3.31-3.32 m Comment (KT): The sample is just below a sharp boundary between upper (generally) slightly decomposed peat and lower strongly decomposed peat.	5140±110
Hel-1798	Esc 10:13 peaty silt, green clayish mud or muddy clay depth 4.86-4.875 m	10080±140
Hel-1799	Esc 10:14 peaty silt, peaty and muddy silt depth 4.875-4.885 m	10210±180
Hel-1816	Esc 10:2 peat SH <sub>2-3</sub> (S. acutifolia) depth 0.69-0.70 m	1150±120
Hel-1817	Esc 10:5 peat SH <sub>6-8</sub> depth 2.19-2.20 m	3340±120
Hel-1818	Esc 10:7 peat SH <sub>3-4</sub> (S. acutifolia, S. magell.) depth 3.21-3.22 m	4670±140
Hel-1819	Esc 10:4 peat SH <sub>3-4</sub> (S. acutifolia) depth 1.69-1.70 m	2230±130
Hel-1912	Esc 10:15 peat LS or NSH <sub>7-8</sub> depth 3.76-3.78 m	6460±110

- Hel-1913 Esc 10:16 7250±130  
 peat NS or LSH<sub>7-8</sub> (rich in Eriophorum)  
 depth 3.95-3.97 m
- Hel-1914 Esc 10:17 9110±110  
 peat ErCSH<sub>4</sub> (rich in Scheuchzeria, S. acutif.)  
 depth 4.30-4.34 m  
 Comment (KT): This dating is stratigraphically in  
 conflict with the other datings and is omitted from  
 the peat growth calculation.

## CARRYING PLACE COVE PEAT CLIFF, MAINE

44° 45' N, 66° 52' W, 3 m a.s.l.

Samples coll. and subm. by Tolonen, K. 1982

Ref. Tolonen, Huttunen and Jungner (1985).

General comment (KT): For determining an overall peat growth rate two peat samples were dated from the same peat monolith from which three lower samples were dated in Smithsonian Institute (Tolonen and Tolonen, 1984). All these datings together indicate a large increase in the net vertical growth within the past 3700 or more years when compared with the preceding 5000 years. Based on these datings an approximative dating ca 2800 BP was obtained for the expansion of Sphagnum imbricatum at this site.

- Hel-1792 Cove 82:3 1800±110  
 peat SH<sub>3</sub> (S. imbricatum), depth 1.01-1.02 m
- Hel-1795 Cove 82:10 3680± 90  
 peat L and NSH<sub>7</sub> (S. acutifolia, rich in Eriophorum)  
 depth 2.45-2.46 m

## HÄLTINGTRÄSK SERIES, SIPOO

30 m a.s.l.

Coll. and subm. by Sarmaja, K. 1983.

General comment (KS): Five datings from a small lake near the coast of Sipoo, South Finland. The datings were made to check the timescale of the pollen diagram and to date certain pollen spectra with features pointing to human activities. The lake is surrounded by forest and has one stream flowing in to it. The deposition most probably has been quite peaceful. Only the youngest date is not in agreement with the others and with the pollen stratigraphy; it seems to be too old.

- Hel-1793 Hältingträsk 1 2010±120  
 gyttja, depth 3.45-3.55 m
- Hel-1794 Hältingträsk 2-3 2290± 90  
 gyttja, depth 3.60-3.70 m  
 Comment (KS): Features indicating human activities.
- Hel-1829 Hältingträsk 4 2800±120  
 gyttja, depth 3.725-3.775 m  
 Comment (KS): Features indicating human activities.

- Hel-1830 Hältingträsk 5 3440±130  
gyttja, depth 3.925-4.00 m  
Comment (KS): Picea+ horizon.
- Hel-1831 Hältingträsk 6 6010±110  
gyttja, depth 4.75-4.85 m  
Comment (KS): Isolation horizon, Tilia+
- Hel-1795 see CARRYING PLACE COVE PEAT CLIFF Hel-1792
- Hel-1796 - 1799 see POINT ESCUMINAC SERIES Hel-1788
- Hel-1800 KAERLAN MYLLY, TURKU 1540± 90  
60° 28' N, 22° 18' E; 17-27 m a.s.l.  
KM 21465:1074  
charcoal, coll. by Ahtela, E. 1982 and subm. by  
Siiriäinen, A. 1983  
Comment (EA): The site is an Iron Age burial ground  
with finds from the Merovingian and Viking Periods.

#### TYTTÖPUISTO SERIES, EURA, KAUTTUA

- 61° 07' N, 22° 10' E, x=6779 18, y=1562 68, 47 m a.s.l.  
Charcoal samples coll. by Vikkula, A. 1982 and subm. by  
Siiriäinen, A. 1983.  
General comment (AV): The samples are from fireplaces and the  
results agree well with the archaeological dating of the site,  
although the find-material is sparse (comb ceramics, styles  
II:2 and Jäkärälä). The datings also confirm that the site was  
occupied for only a short period.
- Hel-1801 Tyttöpuisto 1 4950±100
- Hel-1802 Tyttöpuisto 2 5030±100
- Hel-1803 Tyttöpuisto 3 5070±100
- Hel-1804 Tyttöpuisto 4 4940±100
- Hel-1805 Tyttöpuisto 5 5080±100

#### SIEVOLA SERIES, PAIMIO

- 60° 27' N, 22° 40' E, 22.5 m a.s.l.  
Charcoal samples coll by Ikäheimo, M. 1980 and subm. by  
Luoto, J. 1983.  
Comment (JL): The archaeological dating supports the results  
from radiocarbon dating.

- Hel-1806 TYA 179:981 840±100
- Hel-1807 TYA 179:996 910± 90
- Hel-1808 TYA 179:1035 860±110

## JÖNSAS SERIES, VANTAA

60° 15' N, 24° 51' E, x=6683 74, y=2547 46, 32 m a.s.l.  
Charcoal samples coll. by Rankama, T. 1982 and subm. by  
Siiriäinen, A. 1983.

Comment (K. Katiskoski): The finds from the site are from the  
Suomusjärvi, Corded Ware and Early Metal periods. The dates for  
Hel-1809 - 1811 are in agreement with the former.

Hel-1809	KM 21604:643	7640±160
Hel-1810	KM 21604:644	7590±150
Hel-1811	KM 21604:645	7870±120
Hel-1812	KM 21604:646	3580±140
Hel-1813	KM 21604:648	2390±100

Comment (KK): The date is in agreement  
with the Pre-Roman Iron Age finds from the site.

## DOMARGÅRD SERIES, KARJAA

60° 02' N, 23° 38' E, x=6658 68, y=2479 57, 25 m a.s.l.  
Charcoal samples coll. by Heikkurinen, T. 1982 and subm. by  
Siiriäinen, A. 1983.

Comment (TH): The find material indicates use of the site over a  
period of thousand years, however not after the Viking Period.  
Nor are there any other finds from Karjaa dating to the end of  
prehistoric times. Thus artefactual dating is in conflict with  
radiocarbon dates from the site, the later indicating the Viking  
and Crusade periods.

Ref. Heikkurinen-Montell and Suominen (1985).

Hel-1814	Domargård 94/98	1000± 90
Hel-1815	Domargård 96/98	870± 90

Hel-1816 - 1819 see POINT ESCUMINAC SERIES Hel-1788

Hel-1820 - 1824 see OULUNJÄRVI SERIES Hel-1775

Hel-1825 - 1827 see AHVENJÄRVENUOMA SERIES Hel-1778

## NABBERGEN SERIES, STORBY, ECKERÖ

60° 15' N, 19° 33' E, x=6682 30-70, y=1419 60-70, 17.5-20 m a.s.l.  
Bone samples coll. by Dreijer, M. 1949 and subm. by  
Edgren, T. 1983.

Comment (M. Miettinen): The dates agree with the supposed  
archaeological date (there were no artefact finds), viz early  
Iron Age.

Hel-1828	Nabbergen 176:13	1930± 80
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Hel-1845 Nabbergen 176:10 1940± 80

Hel-1829 - 1831 see HÄLTINGTRÄSK SERIES Hel-1793

Hel-1832 - 1837 see KASTELHOLM SERIES Hel-1576

Hel-1838 NISKALAMMEN LUUSUA, KUUSAMO 280±100

66° 00' N, 29° 08' E; x=7323.50, y=461.60;

259 m a.s.l.

peat, depth 0.70 m

coll. by Koutaniemi, L. and Sillanpää, A. 1983 and

subm. by Koutaniemi, L. 1983.

Ref. Koutaniemi and Sillanpää (1985).

Hel-1839 - 1844 see MÄTÄJÄRVI SERIES Hel-1719

Hel-1845 see NABBERGEN SERIES Hel-1828

Hel-1846 see HUISKAISSUO SERIES Hel-1770

LAKE BIG POND, KARKONOSZE MOUNT., POLAND

Two wood samples coll. and subm. by Wieckowski, K. 1983.

Hel-1847 Sample 1 5400± 90  
depth, 6.65-6.75 m

Hel-1848 Sample 2 7880±150  
depth 9.80-9.85 m

KAARTUSENNEVA SERIES, ALAJÄRVI

63° 03' N, 23° 45' E, 128 m a.s.l.

Samples coll. by Rönkä, A. and subm. by Alestalo, J. 1983.

Comment (JA): Kaarusenneva is a small peat bog between the hills Pyhävuori (148 m a.s.l.) and Jukosenkallio (145 m a.s.l.). The bog is formed in an area dammed by series of beach ridges from the Ancylus lake.

Hel-1849 Kaartusenneva 1 6060±120  
peat, depth 1.24-1.29 m

Hel-1850 Kaartusenneva 3 6710±100  
peat, depth 1,75-1.80 m

Hel-1854 Kaartusenneva 1A 3070±100  
wood, depth 0.50 m

Hel-1855 Kaartusenneva 1B 3090±100  
wood, depth 0.55 m

Hel-1856	Kaartusenneva 1C wood, depth 0.60 m	2960±120
Hel-1857	Kaartusenneva wood, depth 0.80 m	3220±120
Hel-1858	Kaartusenneva 1E wood, depth 1.10 m	4790±130
Hel-1859	Kaartusenneva 1F wood, depth 1.30 m	3630±130

## JUNKI SERIES, LOHTAJA

64° 00' N, 23° 26' E, 8.5 m a.s.l.

Samples coll. by Rönkä, A. and Alestalo, J. and subm. by Alestalo, J. 1983.

Comment (JA): Junki is part of a drained lagoon formed in a deflation basin and dammed by coastal dune ridge Junginkangas. Its filling by *Phragmites australis* deposits started before its isolation from Bothnian Bay (Hel-1851) and its shores have been deformed by ice expansion which pushed lake ramparts during the Little Ice Age (Hel-1861).

Hel-1851	Junki 2, Lohtaja, Karhi peat, depth 0.65-0.70 m	910±100
Hel-1861	Junki 34, Lohtaja, Vattaja wood, depth 0.85-0.95 m	240±100

Hel-1852	ESKELI, LAPUA, ALAJOKI	2490±130
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63° 01' N, 22° 58' E, 27.5 m a.s.l.

peat and gyttja, depth 2.25-2.30 m

coll. by Rönkä, A. and subm. by Alestalo, J. 1983.

Comment (JA): Sample from bottom deposit of peat bog containing peat of *Phragmites australis* and *Carex*-species, roots of *Equisetum fluviatile*, leaves of *Drepanocladus* sp., seeds of *Scirpus maritimus*, *Carex palacea*, *Sparganium* sp., *Hippuris* sp., and *Betula* sp. These macro-subfossils indicate that this area of the river plain of Lapuanjoki was a bay of the Gulf of Bothnia about 500 BC.

Ref. Alestalo (1987).

Hel-1853	JOUTENNIEMI, SUOMUSSALMI	170±100
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64° 53' N, 29° 00' E, x=7199 30, y=4452 40,  
ca. 199 m a.s.l.

Coll. by Huurre, M. and subm. by Edgren, T. 1983  
wood

Comment (MH): The sample was from an archaeologically undatable sledge runner found on the surface during low water.

Hel-1854 - 1859 see KAARTUSENNEVA SERIES Hel-1849

Hel-1860 see MÄTÄJÄRVI SERIES Hel-1719

Hel-1861 see JUNKI SERIES Hel-1851

Hel-1862 MARISTONPAKKA 1, KALAJOKI 420±130

64° 16' N, 23° 52' E, 12 m a.s.l.

wood sample from a Scotch pine, depth 1.40 m

Coll. and subm. by Alestalo, J. 1983

Comment (JA): This Scotch pine, 5 m long, growing on a dune ridge has fallen and been covered by drift sand to a depth of 1.4 m. The age obtained indicates, that the dune has been forested during the Little Ice Age. Increased human activity, especially grazing of sheeps, starting in the 17th century has reduced the plant cover and thus facilitated the advance of the dunes. Ref. Alestalo (1971).

Hel-1863 - 1871 see MÄTÄJÄRVI SERIES Hel-1719

Hel-1872 see KIIMISUO SERIES Hel-1594

#### LUUTASUO SERIES, KÄRKÖLÄ

60° 50' N, 25° 13' E, 93 m a.s.l.

Samples coll. and subm. by Tolonen, K. 1983.

General comment (KT): A distinct peat stratigraphical contact between weakly and strongly decomposed layers was dated from a representative site at about four meters below the bog surface. For further information, see Kaurastensuo series (Hel-1649). Ref. Tolonen, K. (1987).

Hel-1873 Luutasuo I:1 3650±130  
peat, depth 3.95-3.985 m  
Comment (KT): Immediately above the "Grenz".

Hel-1874 Luutasuo I:2 3930±140  
peat, depth 4.05-4.09 m  
Comment (KT): Below the "Grenz".

Hel-1875 - 1876 see HUISKAISSUO SERIES Hel-1770

#### EKO SERIES, VAMMALA

61° 21' N, 23° 01' E, x=6804 86, y=2446 96, 63-65 m a.s.l.

Charcoal samples coll. by Pärssinen, M. 1981 and subm. by Salo, U. 1983.

General comment (MP and T. Tuovinen): The samples are from an Iron Age burial cairn archaeologically dated to 1450-1250 BP. Together with excavation evidence the datings suggest that the cultural layer has been mixed. Ref. Pärssinen (1987).



Hel-1877	TYA 193:272	1810±120
Hel-1878	TYA 193:326	240±100
Hel-1879	TYA 193:338	290±100
Hel-1880	TYA 193:367	1490± 90
	Comment (MP & TT): This is the only radiocarbon age that corresponds to the archaeological age.	
Hel-1881	TYA 193:417	110±110

KIRKKOVAINIONMÄKI, HEINOO, VAMMALA *227*

*Series*  
61° 23' N, 23° 00' E, x=6808 42, y=2446 76, 62 m a.s.l.  
Charcoal samples coll. by Sipilä, J. and subm. by Salo, U. 1983.  
Comment (JS and T. Tuovinen): Radiocarbon dates of an Iron Age grave mound, which contained no datable archaeological artifacts.  
Ref. Sipilä (1987).

Hel-1882	Kirkkovainionmäki no 7 <i>1400±110</i>	840±110
Hel-1883	Kirkkovainionmäki no 11 <i>1400±90</i>	1400± 90

VERMUNTILA, KALLIO, RAUMA *288*

*Series*  
61° 02' 30" N, 21° 35' E, x=6770 45, y=1531 08, 32 m a.s.l.  
Charcoal samples coll. by Korkeakoski-Väisänen, K. 1979 and subm. by Salo, U. 1983.  
Comment (KK-V): The samples were taken from a heap of fire-cracked stones in order to give support and accuracy to the archaeologically estimated age and on the other hand to exclude any possible recent mixing of the layer. The radiocarbon dates entirely correspond to the typological dating of the pottery found in the heap.  
Ref. Salo (1983).

Hel-1884	TYA 156:88	2270±110
Hel-1885	TYA 156:89	2190±110

LEHMIHAKA SERIES, LEMU, PERNIÖ

60° 13' N, 23° 13' E, x=6677 91, y=2456 77  
Charcoal samples coll. by Lähdesmäki, U. 1980 and subm. by Salo, U. 1983.  
Ref. Lähdesmäki (1983, 1987).

Hel-1886	Lehmihaka 1980/14	530± 90
	Comment (UL): Sample taken from a soot layer in Lehmihaka cairn 16 archaeologically dated to the late Bronze Age 3200-2700 BP. Items concerning the sample: Connection between the sootlayer and the burial, and the dating of the cairn.	

- Hel-1887 Lehmihaka 1981/4 1130± 80  
 Comment (UL): Sample taken from a stone setting interpreted as a fireplace situated between the Lehmihaka cairns (area A1). Items concerning the sample: Interpretation of the stone setting and its connection to the surrounding cairns archaeologically dated to the late Bronze Age - early Iron Age.
- Hel-1888 Lehmihaka 1981/5 970±100  
 Comment (UL): Sample taken from culture layer area (A2) between the Lehmihaka cairns. Items concerning the sample: Interpretation of the culture layer with artifacts from late Bronze Age (archaeologically dated) and the connection of the culture layers with the surrounding cairns.
- Hel-1889 Lehmihaka 1981/6 590±100  
 Comment (UL): Sample taken from a soot pit with a piece of a clay casting mould at the bottom of the Lehmihaka cairn 15. Items concerning the sample: Interpretation of the pit with the artefact and their connection to the cairn archaeologically dated to the late Bronze Age.
- Hel-1890 Lehmihaka 1982/4 420±120  
 Comment (UL): Sample taken from the culture layer area A3 with soot, burnt clay and slag between the Lehmihaka cairns. Items concerning the sample: Interpretation of the culture layers and artefacts and their connection to the cairns archaeologically dated to the late Bronze Age - early Iron Age.
- Hel-1891 Lehmihaka 1982/5 210±130  
 Comment (UL): Sample taken from a soot pit in the culture layer area A3 between the Lehmihaka cairns. Items concerning the sample: Interpretation of the pit and its connection to the surrounding cairns archaeologically dated to the late Bronze Age.
- Hel-1892 Lehmihaka 1982/6 280±100  
 Comment (UL): Sample taken from a soot pit situated immediately by the Lehmihaka cairn 13. Items concerning the sample: Interpretation of the soot pit and its connection to the cairn archaeologically dated to the late Bronze Age - early Iron Age.

Hel-1893 - 1903 see KASTELHOLM SERIES Hel-1576

773  
**VAKKARI, PAPPILA, KOKEMÄKI**

*Services*  
 61° 17' N, 22° 24' E, x=6797 15, y=1575 45, ca 44 m a.s.l.  
 Charcoal samples coll. by Nissinaho, A. 1981 and subm. by Salo, U. 1983.

Comment (AN): The samples are taken from a stone cairn, which bears a resemblance to burial cairn of metal period, but which did not contain any burial finds. The dates indicate that the cairn is not prehistoric.

Ref. Nissinaho (1985a).

Hel-1904	Vakkari no 1	130±120
Hel-1905	Vakkari no 2	310± 90

*low level  
d base of soft soil*

Hel-1906            **LINNALUOTO, HAROLA, KOKEMÄKI**            1130±110

61° 17' N, 22° 23' E, x=6797 30, y=1574 45, 42 m a.s.l.  
 TYA 215:380, charcoal  
 coll. by Nissinaho, A. 1982 and subm. by Salo, U. 1983.  
 Comment (AN): Sample is taken from a fire-place of a late Iron Age settlement site. The radiocarbon date and the typological datings coincide with each other.  
 Ref. Nissinaho (1985b).

Hel-1907            **RASSIJOKI, UTSJOKI**            9280±140

peat, subm. by Donner, J. 1984  
 Comment (JD): Thin layer of peat covered by till-like bed of solifluction deposit in lower part of a slope.

Hel-1908 - 1911 see **NUKKUMAJOKI SERIES** Hel-1642

Hel-1912 - 1914 see **POINT ESCUMINAC SERIES** Hel-1788

**SHIQMIM, ISRAEL**

Coll. by Levy, T. and subm. by Louhivuori, M. 1983.

Hel-1915	Locus 415, no 34 charcoal	5320±180
Hel-1916	Locus 415 no 34 humus from Hel-1915	5110±150

**VALKIAJÄRVI, RUOVESI**

Water samples collected from a depth of about 15 m of the lake.  
 Coll. and subm. by Saarnisto, M. and Jungner, H. 1984.

Hel-1917	Valkiajärvi dissolved inorganic carbon.	560± 80
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Hel-1973 Valkiajärvi B 2070±140  
organic remnants sieved from the water.

Hel-1918 - 1919 see MÄTÄJÄRVI SERIES Hel-1719

PREITILÄNSUO SERIES, PAIMIO

60° 26' N, 22° 58' E, 58 m a.s.l.

Coll. by Tolonen, K. and subm. by Tolonen, M. 1983.

Ref. Tolonen, M. (1987).

Hel-1920	Preitilänsuo B1 peat LSH <sub>2-3</sub> , depth 0.80-0.82 m	40±120
Hel-1921	Preitilänsuo B2 peat ErSH <sub>6-7</sub> , depth 0.93-0.95 m	570±100
Hel-1922	Preitilänsuo B3 peat, charred layer, depth 1.10-1.11 m	1910±100
Hel-1923	Preitilänsuo B4 peat LSH <sub>5-6</sub> , depth 1.40-1.41 m	2500±100
Hel-1924	Preitilänsuo B5 peat LSH <sub>5-6</sub> , depth 1.75-1.76 m	2850± 90
Hel-1941	Preitilänsuo A1 peat SH <sub>2-3</sub> , wood, depth 0.75-0.765 m	2480±100
Hel-1954	Preitilänsuo A2 peat SH <sub>2-3</sub> , depth 0.95-0.965 m Comment (MT): Pc-, a fire layer.	2400±100
Hel-1955	Preitilänsuo A3 peat, depth 1.25-1.28 m Comment (MT): Pc-.	2980±100
Hel-1956	Preitilänsuo A4 peat, depth 1.50-1.53 m Comment (MT): Beginning of clearance.	2710±100
Hel-1957	Preitilänsuo A5 peat, depth 1.97-2.00 m Comment (MT): Pc+.	3540±100
Hel-1958	Preitilänsuo A6 peat ErSH <sub>7-8</sub> , depth 2.45-2.48 m Comment (MT): Pc°	4000±110
Hel-1959	Preitilänsuo A7 peat SH <sub>8-9</sub> Er, depth 2.95-2.98 m	5630±120
Hel-1960	Preitilänsuo A8 peat ErSH <sub>8</sub> , depth 3.35-3.38 m Comment (MT): QM-	6250±110

## NAARAJÄRVI SERIES, PIEKSÄMÄKI

Charcoal samples coll. by Jussila, T. and subm. by Edgren, T. 1983.

Hel-1925	Naarajärvi, lower hearth, C2	2130±100
Hel-1926	Naarajärvi, P6	4210±190
Hel-1927	Naarajärvi, longhearth	1650±110
Hel-1928	Naarajärvi, upper hearth	1520± 90

## TAKAPERÄ SERIES, LAMMI

61° 10' N, 25° 23' E, ca. 126 m a.s.l.

Wood samples coll. by Liukkonen, M. and Zetterberg, P. and subm. by Tolonen, K. 1983.

General comment (KT): Large submerged pine stumps and trunks were exposed by the artificial lowering of the water level with some 1-1.5 m in a small lake, Haukilampi. Within the statistical errors the dated three stumps (A, B and C) can be considered contemporaneous. Since the lake had no previous outlet(s) it seems likely that the ancient rise of the water level was of climatic origin after some 1650 BP. In the raised bogs of the area, a clear shift to a wetter stage has been dated to about 1300-1400 BP which has much correspondence in the similar changes (from about 600-650 AD) in the raised bogs of Sweden, British Isles and North Germany.

Zetterberg (1986) has been able to connect the dated stumps with a dendrochronological time series, which in this part is a floating chronology so far.

Ref. Tolonen, K. (1987), Zetterberg (1986).

Hel-1929	Stump A	1730± 90
Hel-1930	Stump B	1670±110
Hel-1931	Stump C	1560±100

## KANKAREENJÄRVI SERIES, HALIKKO

60° 26' N, 22° 58' E, 78 m a.s.l.

Coll. and subm. by Tolonen, M. 1983.

Ref. Tolonen, M. (1987).

Hel-1932	Kankareenjärvi 1 gyttja, depth (from sediment surface) 0.25-0.30 m Comment (MT): Beginning of arable cultivation.	2870±130
Hel-1933	Kankareenjärvi 2 gyttja, depth 0.35-0.40 m Comment (MT): Intensification of cultivation.	3530±140
Hel-1934	Kankareenjärvi 3 gyttja, depth 0.45-0.50 m	3990±140

Hel-1935	Kankareenjärvi 4 gyttja, depth 0.60-0.65 m Comment (MT): Pc <sup>+</sup>	4400±140
Hel-1936	Kankareenjärvi 5 gyttja, depth 1.05-1.10 m Comment (MT): "Late Atlantic"	5550±160
Hel-1937	Kankareenjärvi 6 gyttja, depth 1.50-1.60 m Comment (MT): "Middle Atlantic"	6760±120
Hel-1938	Kankareenjärvi 7 gyttja, depth 2.03-2.10 m Comment (MT): T°	8270±180
Hel-1939	Kankareenjärvi 8 gyttja, depth 2.38-2.45 m Comment (MT): A°	8680±140
Hel-1940	Kankareenjärvi 9 gyttja, depth 2.53-2.60 m Comment (MT): Isolation from Ancylus Lake.	8860±180

Hel-1941 see PREITILÄNSUO SERIES Hel-1920

#### JÄRVENSUO SERIES, HUMPPILA

95 m a.s.l.

Samples coll. by Salomaa, R. and subm. by Siiriäinen, A. 1983.

Hel-1942	Järvensuo I peat, depth 1.13-1.20 m	3690±130
Hel-1943	Järvensuo II gyttja, depth 1.20-1.30 m	4000±100
Hel-1944	Järvensuo III gyttja-clay, depth 2.35-2.45 m	6470±110

Hel-1945 - 1948 see LAUHANVUORI SERIES Hel-1632

#### KOLMILOUKKONEN SERIES, POSIO

66° 14' N, 28° 29' E, 345 m a.s.l.

Coll. by Huttunen, A., Saarnisto, M. and Vasari, Y. 1980 and subm. by Huttunen, A. 1983.

Hel-1949	Kolmiloukkonen 1 gyttja, depth 0.90-1.00 m Comment (AH): Increase in Picea pollen.	3620±140
Hel-1950	Kolmiloukkonen 2 gyttja, depth 1.65-1.80 m Comment (AH): Picea°	5330±180

- Hel-1951 Kolmikoukkonen 3 7220±160  
gyttja, depth 2.50-2.65 m  
Comment (AH): Decrease of Pinus pollen.  
Boundary of Pinus-Alnus/Betula-Alnus PAZ.
- Hel-1952 Kolmiloukkonen 4 8400±140  
gyttja, depth 3.25-3.35 m  
Comment (AH): Alnus+
- Hel-1953 Kolmiloukkonen 5 9310±180  
gyttja, depth 3.65-3.85 m  
Comment (AH): Oldest organic deposit.

Hel-1954 - 1960 see PREITILÄNSUO SERIES Hel-1920

Hel-1961 - 1963 see HUISKAISSUO SERIES Hel-1770

LEVÄLUHTA SERIES, ISOKYRÖ

62° 57' N, 22° 25' E, x=6983 59, y=1572 07, 25 m a.s.l.  
Wood samples coll. by Heikkurinen-Montell, T. 1983 and subm. by  
Erä-Esko, A. 1984.  
Ref. Hackman (1913).

- Hel-1964 KM 21926:1 210±110
- Hel-1965 KM 21926:2 > modern
- Hel-1966 KM 21926:3 230±140
- Hel-1967 KM 21926:4 1400±110  
Comment (TH-M): The only date in this series in  
agreement with the artefacts from the site.

<sup>I</sup>  
SPURILA, PAIMIO

*Series*  
60° 25' N, 22° 33' E, 35 m a.s.l.  
Charcoal samples coll. by Pärssinen, M. and subm. by  
Luoto, J. 1983.  
Ref. Luoto (1985).

*- last of the  
dBase in  
series*

- Hel-1968 Spurila 2a, level 6 2110±140  
Comment (JL): The sample originates probably  
from an early non-artifactual cremation.
- Hel-1969 Spurila 1a+2a, level 3 1220± 90  
Comment (JL): The youngest archaeological  
datings are AD 500.

- Hel-1970 HUTTALA, PIIKKIÖ 1990±130  
 60° 25' N, 22° 33' E, 59 m a.s.l.  
 charcoal coll. by Asplund, H. and subm. by  
 Luoto, J. 1983  
 Ref. Luoto (1989).  
 Comment (JL): The dating is unexpected but in accordance  
 with a minor ceramic group of the site.
- Hel-1971 - 1972 see HUISKAISSUO SERIES Hel-1770
- Hel-1973 see VALKIAJÄRVI Hel-1917
- Hel-1974 RUOKOJÄRVI, VARKAUS 240±100  
 wood sample from a boat coll. by Forssell, H.  
 and subm. by Edgren, T. 1984
- Hel-1975 MAREN, PORVOO 380±100  
 Hair used for caulking. Sample from a boat  
 coll. by Karlsson, K. 1976 and subm. by Edgren, T. 1984
- Hel-1976 - 1978 see HUISKAISSUO SERIES Hel-1770
- Hel-1979 BRÖGGERHALVÖYA, SVALBARD 10350±160  
 78° 57' N, 11° 50' E, 20 m a.s.l. depth 1 m  
 shells of *Mya Hiatella*  
 coll. by Seppälä, M. 1980 and subm. 1984.  
 Comment (MS): Material on a raised beach obviously  
 deposited in underwater conditions.
- INMOSSEN SERIES, MAALAHTI
- 62° 52' N, 21° 33' E, 18 m a.s.l.  
 Coll. by Miettinen, M. 1983 and subm. by Vuorela, I. 1984.  
 Ref. Miettinen and Vuorela (1988).
- Hel-1980 Inmossen 1 > modern  
 Sph-peat, depth 0.19-0.22 m  
 Comment (IV): The final rise of *Cerealia* and  
 anthropogenic indicators (rational *Cerealia* limit).
- Hel-1981 Inmossen 2 1240±140  
 Carex peat, depth 0.32-0.35 m  
 Comment (IV): Post-flood deposits.
- Hel-1982 Inmossen 3 1360±130  
 Carex peat, depth 0.51-0.54 m  
 Comment (IV): Pre-flood deposits.



Hel-1983 see KASTELHOLM SERIES Hel-1576

VITSJÖN SERIES, SPJUTSBÖLE, TENHOLA

59° 58' N, 23° 19' E, 16 m a.s.l.

Coll. by Tolonen, K. 1983 and subm. by Tolonen, M. 1984.

Ref. Tolonen, K. and Tolonen, M. (1988):

Hel-1984	Vitsjön B1 gyttja, depth 0.38-0.44 m	720±140
Hel-1985	Vitsjön B2 gyttja, depth 0.56-0.62 m Comment (MT): A cultural layer.	1060±140
Hel-1986	Vitsjön B3 gyttja, depth 0.66-0.72 m Comment (MT): A cultural layer.	1170±150
Hel-1987	Vitsjön Bog 1 peat, depth 0.40-0.42 m	550± 90
Hel-1988	Vitsjön Bog 2 peat, depth 0.54-0.58 m	2180± 90
Hel-1989	Vitsjön Bog 3 gyttja, depth 0.84-0.88 m Comment (MT): After the isolation of the basin, before Pc°.	4170±110

SPURILA SERIES, PAIMIO

60° 27' N, 22° 42' E, 56 m a.s.l.

Coll. by Tolonen, M. and K. 1982 and subm. by Tolonen, M. 1984.

Ref. Tolonen, M. (1987b).

Hel-1990	Spurila 1 peat SH <sub>2-3</sub> , sand and charcoal, depth 0.24-0.26 m	> modern
Hel-1991	Spurila 2 peat, depth 0.34-0.36 m	370±100
Hel-1992	Spurila 3 peat, depth 0.37-0.39 m	1060±100
Hel-1993	Spurila 4 peat, depth 0.77-0.79 m	4030±110

## KVARNTRÄSK SERIES, ESPOO

60° 12' N, 24° 35' E, 25.6 m a.s.l.  
 Coll. 1983 and subm. 1984 by Hyvärinen, H.  
 General comment (HH): A stratigraphical site used for the reconstruction of relative sea-level changes near Helsinki. Hel-1995 dates the contact between brackish and small-lake sediments in the core (isolation of the basin from the Baltic). Hel-1996 and -1994 are control dates from just above and below the isolation contact. Hel-1997 and -1998 are samples from the lacustrine phase of the sediment core, the former dating the rise of the Picea pollen curve.  
 Ref. Hyvärinen (1984).

Hel-1994	Kvarnträsk 2 gyttja, depth 3.10-3.20 m	5620±150
Hel-1995	Kvarnträsk 3 gyttja, depth 2.80-2.90 m	5420±160
Hel-1996	Kvarnträsk 4 gyttja, depth 2.50-2.60 m	5130±150
Hel-1997	Kvarnträsk 5 gyttja, depth 1.60-1.70 m	3690±120
Hel-1998	Kvarnträsk 6 gyttja, depth 1.10-1.20 m	3090±130

## MOLNTRÄSK SERIES, KIRKKONUMMI

60° 05' N, 24° 26' E, 12.5 m a.s.l.  
 Coll. and subm. by Hyvärinen, H. 1984.  
 General comment (HH): A stratigraphical site used for the reconstruction of relative sea-level changes near Helsinki. Hel-2000 dates the contact between brackish and small-lake sediments in the core (isolation of the basin from the Baltic), and the two other dates are control dates from just above and below the isolation contact.

Hel-1999	Molnträsk 1 gyttja, depth 2.50-2.60 m	3830±110
Hel-2000	Molnträsk 2 gyttja, depth 2.25-2.35 m	3730±100
Hel-2001	Molnträsk 3 gyttja, depth 2.00-2.10 m	3230±100

## SOMMARVÄGSTRÄSKET SERIES, KIRKKONUMMI

60° 02' N, 24° 30' E, 7.5 m a.s.l.

Coll. and subm. by Hyvärinen, H. 1984.

General comment (HH): A stratigraphical site used for the reconstruction of relative sea-level changes near Helsinki. Hel-2003 dates the contact between brackish and small-lake sediments in the core (isolation of the basin from the Baltic), and the two other dates are control dates from just above and below the isolation contact.

Hel-2002	Sommarvägsträsket 1 gyttja, depth 3.20-3.30 m	2510±130
Hel-2003	Sommarvägsträsket 2 gyttja, depth 3.00-3.10 m	2120±100
Hel-2004	Sommarvägsträsket 3 gyttja, depth 2.80-2.90 m	1830±100

## VINTERVÄGSTRÄSKET SERIES, KIRKKONUMMI

60° 02' N, 24° 29' E, 5.6 m a.s.l.

Coll. and subm. by Hyvärinen, H. 1984.

General comment (HH): A stratigraphical site used for the reconstruction of relative sea-level changes near Helsinki. Hel-2006 dates the contact between brackish and small-lake sediments in the core (isolation of the basin from the Baltic), and the two other dates are control dates from just above and below the isolation contact.

Hel-2005	Vintervägsträsket 1 clay-gyttja, depth 2.50-2.60 m	2610±120
Hel-2006	Vintervägsträsket 2 gyttja, depth 2.30-2.40 m	2310±110
Hel-2007	Vintervägsträsket 3 gyttja, depth 2.10-2.20 m	2100±110

Hel-2008 - 2011 see HUISKAISSUO SERIES Hel-1770

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Hel-1750		Sotkamo, Kiikarusniemi

Hel-1751		Boat Series, Sotkamo
Hel-1752		Linnamäki, Porvoo
Hel-1773		Tengo, Kirkkonummi
Hel-1784	- 1787	Naarajärvi Series, Pieksämäki
Hel-1800		Kaerlan mylly, Turku
Hel-1801	- 1805	Tyttöpuisto, Eura, Kauttua
Hel-1809	- 1813	Vantaa, Jönsas
Hel-1814	- 1815	Karjaa, Domargård
Hel-1828		Eckerö, Storby, Nabbergen
Hel-1845		Eckerö, Storby, Nabbergen 176:10
Hel-1853		Joutenniemi, Suomussalmi
Hel-1925	- 1928	Naarajärvi Series, Pieksämäki
Hel-1964	- 1967	Leväluhta, Isokyrö
Hel-1974		Ruokojärvi, Varkaus
Hel-1975		Maren, Porvoo

## DEPARTMENT OF ARCHAEOLOGY, UNIVERSITY OF HELSINKI

Hel-1403		Vanutehtaanmäki Series, Salo
Hel-1464	- 1467	Ketohaka Series I, Salo
Hel-1494	- 1495	Vanutehtaanmäki Series, Salo
Hel-1514	- 1516	Ketohaka Series II, Salo
Hel-1528	- 1531	Ketohaka Series II, Salo
Hel-1547	- 1557	Lakes Province Series, S. Sudan
Hel-1565	- 1566	Ketohaka Series II, Salo
Hel-1570	- 1571	Ketohaka Series I, Salo
Hel-1572	- 1574	Ketohaka Series II, Salo
Hel-1577	- 1578	Katajamäki Series, Salo
Hel-1603	- 1610	Vanutehtaanmäki Series, Salo
Hel-1611	- 1612	Ketohaka Series III, Salo
Hel-1613	- 1614	Katajamäki Series, Salo
Hel-1615	- 1616	Ketohaka Series III, Salo
Hel-1618		Katajamäki Series, Salo
Hel-1622	- 1624	Isokylä Series, Salo
Hel-1642	- 1645	Nukkumajoki Series, Inari
Hel-1657	- 1659	Nukkumajoki Series, Inari
Hel-1664	- 1666	Nukkumajoki Series, Inari
Hel-1680	- 1682	Nukkumajoki Series, Inari
Hel-1684	- 1685	Nukkumajoki Series, Inari
Hel-1687	- 1690	Nukkumajoki Series, Inari
Hel-1759	- 1761	Vanutehdas 3 Series, Salo
Hel-1762	- 1769	Vanutehtaanmäki 4 Series, Salo
Hel-1908	- 1911	Nukkumajoki Series, Inari
Hel-1942	- 1944	Järvensuo, Humpila

## DEPARTMENT OF HISTORY, UNIVERSITY OF OULU

Hel-1471 - 1472 Ylikylä Series, Rovaniemi  
 Hel-1476 Linnankatu, Oulu  
 Hel-1477 - 1480 Ylikylä Series, Rovaniemi  
 Hel-1507 - 1508 Ylikylä Series, Rovaniemi

## DEPARTMENT OF ARCHAEOLOGY, UNIVERSITY OF TURKU

Hel-1806 - 1808 Sievola, Paimio  
 Hel-1877 - 1881 Eko, Vammala  
 Hel-1882 - 1883 Kirkkovainionmäki, Heinoo, Vammala  
 Hel-1884 - 1885 Vermunttila, Kallio, Rauma  
 Hel-1886 - 1892 Lehmihaka, Lemu, Perniö  
 Hel-1904 - 1905 Vakkari, Pappila, Kokemäki  
 Hel-1906 Linnaluoto, Harola, Kokemäki  
 Hel-1968 - 1969 Spurila, Paimio  
 Hel-1970 Huttala, Piikkiö

## LEPPE, V.

Hel-1558 San Pedro De Atacama, Chile

## LOUHIVUORI, M.

Hel-1417 - 1424 Lachish Series, Israel  
 Hel-1915 - 1916 Shiqmim, Israel

## ÅLANDS MUSEUM

Hel-1576 Kastelholm Series  
 Hel-1617 Kastelholm Series  
 Hel-1625 Kastelholm Series  
 Hel-1630 - 1631 Kastelholm Series  
 Hel-1832 - 1837 Kastelholm Series  
 Hel-1893 - 1903 Kastelholm Series  
 Hel-1983 Kastelholm Series

## B. SAMPLES FROM OTHER SUBMITTERS

## ALESTALO, J.

Hel-1686 Vähämäki, Hailuoto  
 Hel-1849 - 1850 Kaartusenneva, Alajärvi  
 Hel-1851 Junkki, Lohtaja, Karhi  
 Hel-1852 Eskeli, Lapua, Alajoki  
 Hel-1854 - 1859 Kaartusenneva, Alajärvi  
 Hel-1861 Junkki, Lohtaja, Vattaja  
 Hel-1862 Maristonpakka, Kalajoki

## DONNER, J.

Hel-1404 - 1406	Ryytimaan Series, Vimpeli
Hel-1542	Vuosaari, Helsinki
Hel-1569	Yrjölään hiekkakuoppa, Lapinlahti
Hel-1683	Kulennoinen, Punkaharju
Hel-1700 - 1710	Shell Series, Ireland
Hel-1774	Honkaniemenkangas, Vehkalahti
Hel-1782	Honkaniemenkangas, Vehkalahti
Hel-1783	Elijärvi, Kemi
Hel-1907	Rassijoki, Utsjoki

## ERONEN, M.

Hel-1518 - 1522	Ainavarppi Series, Enontekiö
Hel-1523 - 1527	Ladnajärvi Series, Enontekiö
Hel-1563	Björkbacka, Kirkkonummi

## HAILA, H.

Hel-1770 - 1771	Huiskaissuo Series, Askola
Hel-1846	Huiskaissuo Series, Askola
Hel-1875 - 1876	Huiskaissuo Series, Askola
Hel-1961 - 1963	Huiskaissuo Series, Askola
Hel-1971 - 1972	Huiskaissuo Series, Askola
Hel-1976 - 1978	Huiskaissuo Series, Askola
Hel-2008 - 2011	Huiskaissuo Series, Askola

## HUTTUNEN, A.

Hel-1949 - 1953	Kolmiloukkonen Series, Posio
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## HYVÄRINEN, H.

Hel-1432 - 1435	Kuttulampi Series, Espoo
Hel-1668 - 1670	Metsälampi Series, Espoo
Hel-1675 - 1679	Metsälampi Series, Espoo
Hel-1691 A, B	Metsälampi Series, Espoo
Hel-1994 - 1998	Kvarnträsk Series, Espoo
Hel-1999 - 2001	Molnträsk Series, Kirkkonummi
Hel-2002 - 2004	Sommarvägsträsket Series, Kirkkonummi
Hel-2005 - 2007	Vintervägsträsket Series, Kirkkonummi

## JAUHIAINEN, E.

Hel-1776a, b	Horonkylä
Hel-1777	Jurva

## KERÄNEN, R.

Hel-1407 - 1409	Oulunjärvi Series I
Hel-1426 - 1428	Oulunjärvi Series I
Hel-1775	Oulunjärvi Series II
Hel-1820 - 1824	Oulunjärvi Series II

## KOUTANIEMI, L.

Hel-1407 - 1409	Oulunjärvi Series I
Hel-1426 - 1428	Oulunjärvi Series I
Hel-1436	Kitkajoki Series, Kuusamo
Hel-1437 - 1440	Oulankajoki Series, Kuusamo
Hel-1488 - 1492	Kitkajoki Series, Kuusamo
Hel-1579	Ivalo Series
Hel-1582	Ivalo Series
Hel-1583 - 1585	Niskalampi Series, Kuusamo
Hel-1838	Niskalammen luusua, Kuusamo

## SAARNISTO, M.

Hel-1441 - 1454	Valkiajärvi Series, Ruovesi
Hel-1721	Heikkilänoja
Hel-1722	Ruihtu
Hel-1917	Valkiajärvi, Ruovesi
Hel-1973	Valkiajärvi, Ruovesi

## SALOMAA, R.

Hel-1632 - 1635	Lauhanvuori Series
Hel-1740 - 1744	Lauhanvuori Series
Hel-1945 - 1948	Lauhanvuori Series

## SALONEN, V.-P.

Hel-1429 - 1431	Kuoppajärvi Series
Hel-1719 - 1720	Mätäjärvi Series, Turku
Hel-1730 - 1734	Mätäjärvi Series, Turku
Hel-1839 - 1844	Mätäjärvi Series, Turku
Hel-1860	Mätäjärvi Series, Turku
Hel-1863 - 1871	Mätäjärvi Series, Turku
Hel-1918 - 1919	Mätäjärvi Series, Turku

## SARMAJA-KORJONEN, K.

Hel-1793 - 1794	Hältingträsk Series, Sipoo
Hel-1829 - 1831	Hältingträsk Series, Sipoo

## SEPPÄLÄ, M.

Hel-1481 - 1483	Liippasuo Series, Kuusamo
Hel-1979	Bröggerhalvöya, Svalbard



## TOLONEN, M.

Hel-1455 - 1462	Santamäki Series, Salo
Hel-1663	Monhegan Island Series, Maine, USA
Hel-1667	Kärkkä, Salo
Hel-1671 - 1672	Monhegan Island Series, Maine, USA
Hel-1920 - 1924	Preitilänsuo Series, Paimio
Hel-1932 - 1940	Kankareenjärvi Series, Halikko
Hel-1941	Preitilänsuo Series, Paimio
Hel-1954 - 1960	Preitilänsuo Series, Paimio
Hel-1984 - 1989	Vitsjö Series, Spjutsböle, Sipoo
Hel-1990 - 1993	Spurila Series, Paimio

## TOLONEN, K.

Hel-1649 - 1656	Kaurastensuo Series, Lammi
Hel-1660 - 1662	Kaurastensuo Series, Lammi
Hel-1716	Acadia, Big Heath, Maine, USA
Hel-1753 - 1758	Kaurastensuo Series, Lammi
Hel-1772	Regent Street Bog, New Brunswick
Hel-1778 - 1781	Ahvenjärvenvuoma Series, Kittilä
Hel-1788 - 1791	Point Escuminac Series, New Brunswick
Hel-1792	Carrying Place Cove Peat Cliff, Maine
Hel-1795	Carrying Place Cove Peat Cliff, Maine
Hel-1796 - 1799	Point Escuminac Series, New Brunswick
Hel-1816 - 1819	Point Escuminac Series, New Brunswick
Hel-1825 - 1827	Ahvenjärvenvuoma Series, Kittilä
Hel-1873 - 1874	Lutasuo Series, Kärkölä
Hel-1912 - 1914	Point Escuminac Series, New Brunswick
Hel-1929 - 1931	Takaperä Series, Lammi

## VASARI, Y.

Hel-1412 - 1416	Pohjassuo Series, Posio
Hel-1468 - 1470	Hanhilampi Series, Iisalmi
Hel-1502 - 1506	Sammakkolampi Series, Pudasjärvi
Hel-1509 - 1513	Rytisuo Series, Kuusamo
Hel-1541	Hanhilampi Series, Iisalmi
Hel-1543 - 1546	Purkuputaansuo Series, Kuusamo
Hel-1588 - 1590	Pyhä-Häkki Series, Saarijärvi
Hel-1591 - 1593	Hamunen Series, Rautavaara
Hel-1594 - 1595	Kiimiso Series, Hailuoto
Hel-1636 - 1639	Pisavaara Series, Rovaniemi
Hel-1872	Kiimiso Series, Hailuoto

## VESAJOKI, H.

Hel-1498 - 1501	Kontiosuo Series, Joensuu
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## WIECKOWSKI, K.

Hel-1847 - 1848	Lake Big Pond, Karkonosze Mount., Poland
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## VUORELA, I.

Hel-1484 - 1487	Perkiö Series, Hauho
Hel-1517	Pennala, Orimattila
Hel-1559 - 1560	Purmo Series
Hel-1561 - 1562	Lemunsuo Series, Perniö
Hel-1564	Purmo Series
Hel-1567 - 1568	Lemunsuo Series, Perniö
Hel-1586 - 1587	Oravilahti Series, Rääkkylä
Hel-1640 - 1641	Lemunsuo Series, Perniö
Hel-1673 - 1674	Lemunsuo Series, Perniö
Hel-1728 - 1729	Lemunsuo Series, Perniö
Hel-1745	Vohtenkellarinsuo, Paimio
Hel-1980 - 1982	Inmossen Series, Maalahti

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