**Riedel et al. Supplemental Material 5 – Radiocarbon ages calibrated with OxCal 4.3 (Bronk Ramsay, 2009).**

|  |  |  |  |  |  |  |  |
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| **Site Location - Field Sample**  | **Lab Number**\* | **Method** | **Material** | **14C age**  | **13C/12C** | **Calibrated Age Range (95.4%)** | **Median (cal ka BP)** |
| **Skagit macrofossil assemblages (Riedel et al. 2010)** |
| GLC Big Boy NOCA 89 | Beta 195974 | AMS | cone | 16,400 ± 80 | -22.7 | 20,027-19,565 | 19.8 |
| GLC Big Boy NOCA 104 | Beta 215977  | AMS | wood | 17,170 ± 50 | -24.6 | 20,904-20,533 | 20.7 |
| GLC Big Boy NOCA 85/105 | Beta 195976 | radiometric | wood | 17,570 ± 90 | -25.9 | 21,540-20,930 | 21.2 |
| GLC Big Boy NOCA 88/101 | Beta 195973 | AMS | wood | 18,810 ± 100 | -24.7 | 22,941-22,441 | 22.7 |
| GLC Big Boy NOCA 107 | Beta 211363 | AMS | wood | 19,880 ± 80 | -28.6 | 24,175-23,663 | 23.9 |
| GLS R. Pt. NOCA 23/61/98 | Beta 178538 | radiometric | wood | 18,020 ± 170 | -24.9 | 22,069-21,581 | 21.8 |
| GLS Skymo NOCA 40 | UCIAMS 34410 | AMS | wood | 20,310 ± 60 | -25.6 | 24,590-24,147 | 24.4 |
| GLS Skymo NOCA 37 | Beta 216087 | AMS | wood | 20,770 ± 80 | -24.3 | 25,340-24,649 | 25.1 |
| GLS Skymo NOCA 6/33/77 | Beta 178536 | radiometric | wood | 21,570 ± 80 | -24.6 | 26,024-25,693 | 25.9 |
| GLS Rainbow Pt. NOCA 28/56 | LLNL 114612 | AMS | charcoal | 23,620 ± 120 | -25.0 | 27,938-27,522 | 27.7 |
|  |  |  |  |  |  |  |  |
| **Other key Skagit ages (Riedel et al. 2010)** |
| Skagit 2 maximum.Cedar Grove NOCA 126 | UCIAMS 31866 | AMS | wood | 20,730 ± 40 | -26.6 | 25,270-24,678 | 25.0 |
| Skagit 1 minimum Silver Creek NOCA 84 | Beta 220960  | AMS | wood | 24,080 ± 170  | -23.2 | 28,528-27,775 | 28.1 |
| Skagit 1 minimum Skymo NOCA19 | Beta 178537  | radiometric | wood | 23,970 ± 100 | -23.3 | 28,297-27,750 | 28.0 |
| Skagit 1 maximum Cedar GroveNOCA 130 | UCIAMS 44540 | AMS | wood | 30,279 ± 226 | -27.6 | 34,715-33,899 | 34.3 |
| CIS maximumMammoth NOCA 125 | Beta 220961  | AMS | cone | 16,333 ± 60  | -26.6 | 19,941-19,528 | 19.7 |

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| **Site Location - Field Sample** **(Publication)** | **Lab Number** | **Method** | **Material** | **14C age**  | **13C/12C** | **Calibrated Age Range (95.4%)** | **Median (cal ka BP)** |
| **Key regional pollen-zone, interstade, and stade (glacial advance) limiting ages** |
| Kalaloch 1\*\* (Heusser, 1974) |  | radiometric | n/a | 18,000 ± 500 | n/a | 22,960–20,564 | 21.8 |
| Bogachiel 1 (Heusser, 1978) |  | radiometric | n/a | 20,100 ±750 | n/a | 25,938–22,622 | 24.3 |
| Bogachiel 2(Heusser, 1978) |  | radiometric | n/a | 16,850 ± 630 | n/a | 22,002–18,926 | 20.4 |
| Batteground Lake 1\*\* (Barnosky, 1985) | QL 1599 | radiometric | gyttja | 17,300 ± 350 | n/a | 21,840–20,065 | 20.9 |
| Battleground Lake 2\*\* (Barnosky, 1985) | QL 1638 | radiometric | gyttja | 15,650 ± 250 | n/a | 19,545–18,410 | 18.9 |
| Fargher Lake 1 (Heusser and Heusser, 1980) | RL-1243 | radiometric | n/a | 17,100 ± 650 | n/a | 22,368–19,220 | 20.7 |
| Fargher Lake 2 (Grigg et al., 2001) | NSRL-10602 | radiometric | n/a | 21,500 ± 160 | n/a | 28,373–21,670 | 25.8 |
| Davis Lake 1 (Barnosky, 1981) | QL 1306 | radiometric | n/a | 20,500 ± 400 | n/a | 25,663–23,811 | 24.7 |
| Port Moody Hollyburn Creek max. (Hicock and Lian, 1995) | GSC 5656 | radiometric# | wood | 18,600 ± 170 | n/a | 22,901–22,042 | 22.5 |
| Port Moody / Sisters Creek min. (Hicock and Lian, 1995) | GSC 5723 | radiometric# | wood | 17,700 ± 320 | n/a | 22,253–20,630 | 21.4 |
| Port Moody maximum Hollyburn(Lian et al. 2001) | TO 5207 | AMS | wood | 18,290 ± 140 | n/a | 22,445–21,831 | 22.1 |
| Port Moody minimum Hollyburn(Lian et al. 2001) | GSC 5981 | radiometric# | log | 18,000 ± 180 | n/a | 22,315–21,336 | 21.8 |
| Coquitlam glacial maximum(Hicock and Lian, 1995) | GSC 3305 | radiometric# | wood | 21,300 ± 250# | n/a | 26,065–25,096 | 25.6 |
| Coquitlam glacial minimum(Hicock and Lian, 1995) | GSC 2344 | radiometric# | wood | 18,700 ± 170# | n/a | 23,008–22,239 | 22.6 |
| Hoh Oxbow 2 maximum (Thackray, 2001) | AA 18402 | AMS | wood | 29,157 ± 417 | n/a | 34,120–32,134 | 33.3 |
| Hoh Oxbow 2 minimum (Thackray, 2001) | AA 18414 | AMS | wood | 26,600 ± 343 | n/a | 31,280–30,060 | 30.8 |
| Hoh Oxbow 3\*\* minimum (Thackray, 2001) | AA-18407 | AMS | wood | 19,324 ± 165 | n/a | 23,714–22,853 | 23.3 |
| Hoh Oxbow 3\*\* maximum (Thackray, 2001) | inferred |  |  | 22,000 ± 150## | n/a | 24,429–23,677 | 24.1 |
| Twin Creek I maximum (Thackray, 2001) | AA-18407 | AMS | wood | 19,324 ± 165 | n/a | 23,714–22,853 | 23.3 |
| Twin Creek I minimum (Thackray, 2001) | inferred |  |  | 18,300 ± 150## | n/a | 22,466–21,821 | 22.2 |

\* Radiocarbon laboratories: AA – University of Arizona AMS; Beta – Beta Analytic Laboratory; GSC – Geological Survey of Canada Radiocarbon Laboratory; LLNL – Lawrence Livermore National Laboratory; QL – University of Washington Radiocarbon Laboratory; TO – University of Toronto Isotrace Laboratory, UCIAMS – Keck laboratory University of California Irvine.

\*\* Age and error estimated.

# 2σ error, others 1σ.

## Error estimated from other ages.

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