ADDITIONAL DETAILS ON METHODS AND QUALITY ASSURANCE/CONTROL CHECKS

Prior to January 2004 the data were checked by Evan P. McDonald (EM). All data were entered correctly. At some point prior to 2003 there was a bad sort or a deletion leaving a small portion of the data incorrect (approximately 25%). Most of the difference was apparent in 2001 & 2002.

Beginning of January 2004 Vanessa S. Quinn (VSQ) corrected the 2001-2003 data that needed corrected.

1-26-2004: VSQ quality checked data. Notes written in data set. Measured diameters marked in data set Maple-2002 diameters are measured not calculated.

2-6-2004: VSQ In Aspen quad, Ring 3.1 - I Subtracted 4 centimeters (cm) from heights except K15-L22 because of a misread height pole. In B/A quads, all rings - I subtracted 4-cm from heights. Sort number (Column A) is added. This will return the data set to the order of the data sheets.

3-23-2004: VSQ Data collected on dead trees is found to be questionable. Trees are noted as dead, often because the diameter shrunk from the previous year's measurement. In the following year the tree is measured and it has grown, suggesting that it is not dead. These trees are noted as 99: Dead? 00: Growing.

** A DEAD TREE is operationally defined as a tree that has not leafed-out.

3-24-2004: VSQ Trees harvested in aspen quad in 00 have height and diameter data for 2000. The height and diameter data is from the harvest. These trees are noted in the data set. Officially dead trees were noted in 2003. A list of these trees is available on the FACE web site. I compared this official list with the list of dead trees from the data set. There are approximately 10 trees per ring that are unofficially dead and approximately 2 trees that are listed as dead that have increasing height and diameter. These will be rectified in the spring-summer of 2004.

** With regard to the official-unofficial dead tree problem I have done the following:
1. If a tree is unofficially dead and there are data available, I have included the data in the spreadsheet.
2. If a tree is officially dead and there are data available, I have included the data in the spreadsheet.
3. If a tree is unofficially dead and there are no data available, I will examine the tree in the spring and add a 2003 height and diameter.

3-25-2004: This data set includes some questionable values. These data points include official and unofficially dead trees and will be checked in the spring-summer of 2004. Please see notes on 3-24-2004 to see how these trees were handled.

3-25-2004: VSQ added a page with the means (only, no measures of variation) of heights and diameters of trees.

5-13-2004: VSQ entered data from remeasuring campaign.

6-4-2004: John King (J. King) pointed out that the rate of growth in the A-B quad from 2001-2002 was less than 0 in many cases. This is the case because the diameter from 2001 was measured at 3 cm and the diameter from 2002 was measured at 10 cm. The 3 cm diameter is artificially inflated. VSQ added a column (2001 diameter @ 10 cm) and added the correct data to the data set.

9-1-2004: DBH (diameter at breast height) was measured by William Mattson (and his crew) in 2004 in aspen half and aspen-birch quad. Measurements were taken twice.

1-12-2005: VSQ quality checked data

2-21-2005: VSQ received DBH data from Bruce Birr (B. Birr). DBH integrated into data set and DBH data did quality assurance checks. In the original XLS data files, cells were highlighted yellow for values that are less than the previous year's measurement. Heights are smaller if the current year's height is > 10 cm smaller than previous year's height. Diameters are smaller if the current year's diameter is > 1 cm smaller than previous year's diameter.

11-18-2005: VSQ entered heights and diameters. Yellow cells are values that are less than the previous year's measurement. Significant number of trees in 1-4 were mis-measured in 2004. A section of the height pole was stuck. Any data changes have been flagged.

2006 GENERAL NOTES:
Data entered by JoAnne Lund (J. Lund) October-November 2006.
Data proofed by Ray Lange Nov-Dec 2006.
Data corrected by J. Lund Nov-Dec 2006.
Cells in XLS file were marked with yellow fill if tree needed to be measured or remeasured, due to error. Cells in XLS file were also marked with yellow fill for trees for which life status discrepancy occurred between those measuring height and DBH. Revisit in spring 2007 to determine life status.

Important Note Changes in 2006: We used a ring-map style (versus a list format) data sheet in the field in 2006. The definition of a core vs. non-core tree was not clearly defined among all parties. Therefore inclusion/exclusion of some trees is inconsistent with previous end-of-season data.

Maple quad note: There were no DBH measurements from previous years, therefore diameter at 10 cm AND DBH were measured in 2006. Heights and 10 cm diameters by David Karnosky and company, DBH by FS Project 4158 members.

Recall for 10 cm diameters, 2 measurements/stem were taken with calipers, one in North-South, one in E-W orientation. These were averaged.

3-6-2007: J. Lund deleted from Aspen Core tree list the following trees as requested by Mark Kubiske (M. Kubiske): 1.4 tree C21, 1.4 tree E23, 2.2 tree B18, 2.3 tree D22, 2.3 tree E23. This was due to a reconsideration of core tree definition.

4-2-2007: J. Lund added to 2001 maple quad data: Ring 1-4 height/diam-3cm/diam-10cm, and diam-10 cm data for all rings. This data had been previously omitted.

1-19-2007: Meeting with M. Kubiske, J. Lund, B. Birr: For trees with multiple stems, we will list largest stem only. Mark is working on individual tree height curves to find aberrant measurements.

4-27-2007: J. Lund entered aspen height remeasures as requested by M. Kubiske. These trees were remeasured on 3-20-2007.

May 2007: J. Lund discovered that 2001 Maple quad data was incomplete. Aspen and birch sections had diameters at both 3 cm and 10 cm recorded. In Maple quad, ring 1.3 had no diameters entered, and diameters at 10 cm were not entered for any rings. Also, when calipers were used, the 2 values had not been averaged, but rather the number in the first column on data sheet had been entered. This was rectified by J. Lund.

6-6-2007: Re-examine trees of questionable life status and modify data set accordingly. Trees that have produced no leaves were noted as dead. (J. Lund)

2007 GENERAL NOTES:

Aspen and Birch DBH were measured by 10-10-2007 participants: Ray Lange, Dan Baumann, Ron Teclaw, Adam Wiese, B. Birr, Paula Marquardt (P. Marquardt), J. Lund, Neil Nelson, M. Kubiske. And then by 10-11- 2007 participants: Ray Lange, Adam Wiese, B. Birr, P. Marquardt, Ron Teclaw, Dan Baumann, M. Kubiske.

Aspen and Birch heights were measured by 10-23-2007 participants: Anita Foss, J. Lund, P. Marquardt, Adam Weise, Ron Teclaw, Dan Baumann, B. Birr, Ray Lange (R. Lange). And then by 10-24-2007 participants: Anita Foss, J. Lund, P. Marquardt, Adam Weise, Ron Teclaw, Dan Baumann, B. Birr, R. Lange.

All data proofed by R. Lange. Height data entered and corrected by J. Lund, DBH data entered and corrected by B. Birr. Cells in XLS file were marked with yellow fill if tree needed to be measured or remeasured, due to error.

Maple quad note: Heights and DBH measured by Joseph Darbah and crew, data entered and corrected by J. Lund.

5-15-2008: Remeasures of outliers from 2007 data were made by B. Birr, P. Marquardt, and J. Lund.

6-3-2008: Changes were made to data by J. Lund as a result of the remeasures on 5-5-2008.