**Demonstration Plot Data History 1987~2011**

*Lixi Kong 03/12/2013*

# *Demographic data*

## *Demographic data collected in 1987 and 1988*

59 trees (DBH>=5cm) were tagged in 1987 in 20m\*20m plot and 10m radius additional spruce circles. In 1988, the plot was expanded to 32m\*32m, and 79 trees were tagged in the expanded area around the original 20\*20 plot.

SAS code: *R:\MOOSHUBB\longterm\Demo\demo89.sas*

Original data: *R:\MOOSHUBB\longterm\Demo\demo89.dat*

Lixi reran the code in 2013 and created permanent SAS data set:

*R:\MOOSHUBB\longterm\lixi kong\DEMOplot\ddemoms*

* Duplicate tag numbers: There are tag numbers 782.1,782.2, 992.1,992.2, 993.1, 993.2 in the data set, which are probably duplicated tags in field. Were they corrected in field?
* When DECM missing, assume it was alive?
* Some of the 1987 tagged trees, if they have BQUDX/BQUDY <0 or >10, they are actually in the expanded area? **Quadx/Quady: -2, -1, 0…..11, 12, 13, 14 (only one BQUDY=14)???**

## *Demographic data collected from 1999 to 2011 by PAP*

In 1999, 2001, 2005-2011, PAP re-measured DBH and survivorship for previously tagged trees, and if a new plant grew into the 5cm DBH size class, it was tagged with 6 digit number indicating the year and consecutive number as they were encountered.

Raw data from PAP: *R:\MOOSHUBB\longterm\DEMOplotPAP\ MRL \_Demo\_ plot\_tree\_dbhdata2001\_2011\_Palmiotto.xls*

* In 1999, not all the previously tagged trees were resampled, but since 2001, complete re-measurements were also done? Yes. The few measurements done in 1999 could be from training that PAP did.
* Outside plants: only a few were collected for DBH/survivorship data from 1999~2009? Yes.
* Outside plants correspond to tree tagged in expanded area? And some of 87 tagged plants had size\_m2=1024, which indicates they are actually outside the 20\*20? BQUDX/BQUDY for these trees needs to be updated? yes
* The trees that grew into the 5cm size class were tagged with 6 digit numbers indicating the year and consecutive number as we encountered them. Some tag number have 5 digit and start with 99, tagged in 1999?
* A few tree that had tag number indicating they were tagged before, but not in the demo89 data set: 867(no measurements, dead in 2001), 9(only one DBH measurement in 2010), 782(old data set has 782.1 and 782.2), 992 (old data set has 992.1 and 992.2), 993(old data set has 993.1 and 993.2). Demo89 was last modified in Feb. 1990.

782 should be 782.1 in old data set (dbh87 consistent); 992 should probably be 992.2 in old data set(DBH87(992.1)=18.3, DBH87(992.2)=8.5, DBH10(992)=11.9);

* Tree 782.2 was identified as “outside” by PAP, location data should be updated.
* Splot1, tree 800 fused with 794.
* Trees tagged by PAP after 1999 don’t have location data.

## *Master data set 1987~2011*

SUBPLOT: missing for additional spruce.

TAG:

SPEC

TAGYR: 1987, 1988, 1999, 2004, 2005, 2006, 2007, 2008, 2010, or 2011. No new trees tagged in 2001 or 2009.

DECM87/DECW87

DECM88/DECW88

SIZE\_m2: 400: the original 20\*20 area; 1024: the expanded area around the 20\*20 plot

DBH87/DBH88: DBH measured in cm in 1987/88

HT87/HT88: Some tree heights were calculated, should probably check the calculation

DBH99: DBH measured in cm in 1999

DBH01: DBH measure in cm in 2001

DBH04-DBH06: DBH were measured in inches in 2004~2006, and converted to cm in this data set.

DBH07-DBH11: DBH measured in cm in 2007~2011

BQUDX/BQUDY: Bole quadrat location collected in 1987 and 1988 basing on the original 20\*20 plot. Extended area would have BQUDY/BQUDY equal to -2, -1, 0, 11, 12, and 13. No data for additional spruce.

CQUDX/CQUDY: Crown quadrat location collected in 1987 and 1988. No data for additional spruce.

BQCRDX/BQCRDY: Bole location within a quadrat taking the North corner as origins collected in 1987 and 1988.

CQCRDX/CQCRDY: Crown location within a quadrat collected in 1987 and 1988.

BPCRDX/BPCRDY: Bole location referring to the whole plot calculated from quadrat location and location within quadrat collected in 1987/1988, referring to the original 20\*20 plot. Extended area would have BPCRD/BPCRD falling within {-6,0} and {20, 26}.

CPCRDX/CPCRDY: Crown location referring to the whole plot calculated from quadrat location and location within quadrat collected in 1987/1988, referring to the original 20\*20 plot.

CRHT87/CRHT88: Height from the base of the crown to the top of the crown collected in 1987/88

CLONG87/CLONG88: The longest width of a tree’s crown measured in 1987/1988

CAZLNG87/CAZLNG88: azimuth of the longest portion of a tree’s crown collected in 1987/1988

CPERP87/CPERP88: Width in the perpendicular direction of the longest portion of the crown collected in 1987/1988

CPOS87/CPOS88: crown position collected in 1987/1988

CLITOP87/CLITOP88: angle to the top of a tree's crown measured with a clinometer in 1987/1988. If missing, this is calculated from PERSLOPE, PERTLC, and PERBASE. Should check the calculation

CLIBAS87/CLIBAS88: angle to the base of a tree's crown measured with a clinometer in 1987/1988. If missing, this is calculated from PERSLOPE, PERTLC, and PERBASE

# *Cored data collected in 1988*

2 cores were extracted from every tree (all 138 plants tagged in 1987 and 1988) in the 32\*32m plot in 1988

Original SAS code: *R:\MOOSHUBB\longterm\Demo\democore.sas*

Original data: *R:\MOOSHUBB\longterm\Demo\democore.dat*

*Only RG1~GR8? Unit?*

*No total ring count?*

*This code only kept RG2~GR6: there is only one obs for GR7, no obs for GR8.*

*GR2-GR6=GR87~GR83, so GR1=GR88, why trees tagged in 87 have GR88?*

*And this only had data for 96 out of the total 138 trees.*

Lixi reran the code in 2013 and created permanent SAS data set:

*R:\MOOSHUBB\longterm\lixi kong\DEMOplot\dcorems.ssd*

# *Herb/shrub data collected in 1987*

Herb/shrub data were collected in 1987 following “Mt Moosilauke Permanent Plot Protocol 1996”. I haven’t found the data yet.

If dead in early years, should I set STAT for later years to dead too?

If last census was alive, and miss STAT between tagyr and last census, should I add alive for STAT for year in between?