

Database Code: TP115

Title: Plant biomass dynamics in old-growth Watersheds 8 and 9 at the Andrews Experimental Forest, 2003 to present

Abstract:

On the HJ Andrews Experimental Forest, OR, studies on paired small watersheds compared site productivity for locations with diverse environmental attributes. For study code TP115, Watershed 8 and Watershed 9 were measured in 2003 with a series of 17.82 m radius plots on multiple transects in each watershed. Watershed 8 is an unmanaged small watershed (median elevation 3600 feet) with a dynamic and varied history of fire disturbance. Watershed 9 is lower (median elevation 1750 feet) unmanaged small watershed and has less disturbance apparent in the extant forest. Trees, shrubs, and herbal vegetation were measured. The understory vegetative cover by species and species-specific structural characters were measured in 4 m square quadrats, while the all trees = 5.0 cm DBH were tagged and measured for diameter. Tree crown closure in each plot was measured by ocular estimate. Biomass estimates for each watershed was generated from the plots with equations in Biopak (Means, et al., 1994).

Keywords: Biomass (understory); Forest composition; Species composition; Thinning; Organic matter; Primary production; biomass; community composition; species composition; plant species composition; primary production; thinning; organic matter; forests; understory vegetation;

Date data commenced: 2003-06-01

Date data terminated: 2010-01-01

Principal Investigator: Mark E. Harmon

List of Entities:

1. Plot and quadrat level data, surface cover
2. Biomass measurements
3. Individual tree remeasurement
4. Whole plot species lists
5. Vegetation cover estimates
6. Plot Attribute Data

1. Plot and quadrat level data, surface cover

Attribute List:

Attribute	Plot	Quadrat	Units	Scale	Min	Max	Format
DATA CODE	N	N	char(5)	enum			
YEAR	T	N	numeric(4,0)	range	2003.0000	2003.0000	YYYY
MONTH	N	N	numeric(2,0)	range	6.0000	7.0000	month
DAY	N	N	numeric(2,0)	range	1.0000	26.0000	day
WATERSHED	Y	N	char(10)	place			
PLOT	T	N	numeric(2,0)	range	1.0000	22.0000	number
SLOPE	N	Y	numeric(2,0)	range	10.0000	41.0000	deg
ASPECT	N	Y	numeric(3,0)	range	22.0000	320.0000	deg
QUADRAT	T	Y	numeric(1,0)	range	1.0000	2.0000	az number
BEARING	N	Y	numeric(3,0)	range	40.0000	350.0000	deg
BARE	N	Y	numeric(5,1)	range	0.0000	45.0000	az %
MOSS	N	Y	numeric(5,1)	range	0.0000	87.0000	%
CWD	N	Y	numeric(5,1)	range	0.0000	63.0000	%
BOLE	N	Y	numeric(5,1)	range	0.0000	10.0000	%

LITTER	N	Y	numeric(5,1)	range	2.0000	100.0000	%
NONTREEVEG	N	Y	numeric(5,1)	range	0.0000	95.0000	%
TREECOVER	N	Y	numeric(5,1)	range	0.0000	100.0000	%

## 2. Biomass measurements

### Attribute List:

DATACODE	N	N	char(5)	enum			
WATERSHED	Y	N	char(10)	place			
YEAR	T	N	numeric(4,0)	range	2003.0000	2003.0000	YYYY
PLOT	T	N	numeric(2,0)	range	1.0000	22.0000	number
QUADRAT	T	N	numeric(1,0)	range	1.0000	2.0000	number
SPECIES	T	N	char(6)	taxa			
SPCNT	T	N	numeric(2,0)	range	1.0000	24.0000	number
COVER	N	Y	numeric(5,1)	range	0.1000	100.0000	%
DBA	N	Y	numeric(5,1)	range	0.1000	8.7000	cm
DBH	N	Y	numeric(6,1)	range	0.1000	55.0000	cm
HEIGHT	N	Y	numeric(4,0)	range	1.0000	400.0000	cm
NRSTEMS	N	Y	numeric(3,0)	range	1.0000	70.0000	number
LENGTH	N	Y	numeric(3,0)	range	7.0000	55.0000	cm
ROOTING	N	Y	char(1)	enum			

## 3. Individual tree remeasurement

These data are available through TV010 entity 2

### Attribute List:

DATACODE	N	N	char(5)	enum			
WATERSHED	Y	N	char(10)	place			
PLOT	T	N	numeric(2,0)	range	1.0000	22.0000	number
TAG	T	N	numeric(4,0)	range	1.0000	9999.0000	number
SPECIES	N	N	char(6)	taxa			
YEAR	T	N	numeric(4,0)	range	2003.0000	2003.0000	YYYY
SAMPLEDATE	N	Y	datetime	range			YYYY-MM-DD hh:mm:ss cm
DBH	N	N	numeric(6,1)	range	3.4000	177.7000	cm
CANCLASS	N	Y	char(1)	enum			
VIGOR	N	Y	char(1)	enum			
CRRATIO	N	Y	numeric(3,0)	range	2.0000	95.0000	%
STATUS	N	N	char(1)	enum			
PFLAG	N	Y	char(1)	enum			

DBH_EST	N	Y	char(1)	enum
COMMENTS	N	Y	varchar(110)	freetext
COMMENT2	N	Y	varchar(250)	freetext

#### 4. Whole plot species lists

**Attribute List:**

DATACODE	N	N	char(5)	enum		
WATERSHED	Y	N	char(10)	place		
YEAR	T	N	numeric(4,0)	range	2003.0000	2003.0000
PLOT	T	N	numeric(2,0)	range	1.0000	22.0000
SPECIES	T	N	char(6)	taxa		
COMMENTS	N	Y	varchar(110)	freetext		

#### 5. Vegetation cover estimates

File was imported from the now defunct TP106.

**Attribute List:**

DATACODE	N	Y	char(5)	enum		
YEAR	Y	Y	numeric(4,0)	range		YYYY
MONTH	N	Y	numeric(2,0)	range		month
DAY	N	Y	numeric(2,0)	range		day
WATERSHED	Y	Y	char(10)	place		
PLOT	Y	Y	numeric(2,0)	range		number
SPECIES	Y	Y	char(6)	taxa		
MILCOVER	N	Y	numeric(3,0)	range		%
SUB1COVER	N	Y	numeric(3,0)	range		%
SUB2COVER	N	Y	numeric(3,0)	range		%
SUB3COVER	N	Y	numeric(3,0)	range		%
SUB4COVER	N	Y	numeric(1,0)	range		%

#### 6. Plot Attribute Data

**Attribute List:**

DATACODE	N	Y	char(5)	enum		
FORMAT	N	Y	numeric(2,0)	range		number
WATERSHED	N	Y	char(10)	place		
TRANSECT	N	Y	char(1)	place		
PLOT	N	Y	numeric(2,0)	range		number
AREA	N	Y	numeric(4,0)	range		m2
PLOT_RADIUS	N	Y	numeric(5,2)	range		m

TRANS_BEARING	N	Y	numeric(3,0)	range	deg
SLOPE	N	Y	numeric(2,0)	range	az
SLOPE_CORRECTED	N	Y	numeric(2,0)	range	deg
SLOPE_CORRECTED	N	Y	char(10)	enum	angle
EST_YEAR	N	Y	numeric(4,1)	range	YYYY
DETAILPLOT	N	Y	char(1)	enum	
MIN_DBH	N	Y	numeric(3,1)	range	cm

Attributes Definitions:

AREA

Area of plot

ASPECT

Plot aspect

BARE

Percent cover by bare ground

BEARING

Bearing from center quadrat

BOLE

Percent cover by boles or stems

CANCLASS

Crown class

COMMENT2

Second remeasurement comment

COMMENTS

Comments

COVER

Percent cover

CRRATIO

Crown ratio

CWD

Percent cover by coarse woody debris

DATA CODE

FSDB Database Code

DAY

Day of sampling

DBA

Diameter at the base

DBH

Diameter at breast height

DBH\_EST

Cases where dbh was estimated using methods defined in the codes

DETAILPLOT

Indicates whether plot is a detail plot

EST\_YEAR

Establishment year of plot

FORMAT

FSDB entity number

HEIGHT

Height of plant

LENGTH

Length (of fronds)

LITTER

Percent cover by litter

MILCOVER

Percent cover in milacre plot

MIN\_DBH

Minimum dbh measured in non-detail plots

MONTH

Month of sampling

MOSS

Percent cover by moss

NONTREEVEG

Percent cover by non-tree vegetation

NRSTEMS

Number of stems

PFLAG

Print flag for field sheets

PLOT

Plot number

PLOT\_RADIUS

Radius of plot

QUADRAT

Quadrat

ROOTING

Indication of whether plant is rooted inside (I) or outside (O) of plot for cover estimate

SAMPLEDATE

Date of sample measurement

SLOPE

Plot slope

SLOPE\_CORRECTED

Indicates whether the plot slope is corrected or not (Y/N)

SPCNT

Count within species

SPECIES

Species code according to Garrison et al., 1972

STATUS

Status of tree

SUB1COVER

Percent cover in 1.1 ftsq. subplot 1

SUB2COVER

Percent cover in 1.1 ftsq. subplot 2

SUB3COVER

Percent cover in 1.1 ftsq. subplot 3

SUB4COVER

Percent cover in 1.1 ftsq. subplot 4

TAG

Tag number

TRANS\_BEARING

Bearing of transect

TRANSECT

Transect number within the watershed

TREECOVER

Percent tree cover (canopy closure)

VIGOR

Tree vigor code

WATERSHED

Sampling watershed

YEAR

Year of sampling

Enumerated Domains:

Enumerated Domain for Attribute: DATACODE

TP115

FSDB Database Code TP115

Enumerated Domain for Attribute: ROOTING

Y

Out of plot

In plot

Enumerated Domain for Attribute: DATACODE  
TP115 FSDB Database Code TP115

Enumerated Domain for Attribute: CANCLASS

D	Dominant
C	Codominant
I	Intermediate
	Unknown canopy class
S	Suppressed

Enumerated Domain for Attribute: STATUS

	Missing
1	Live

Enumerated Domain for Attribute: VIGOR

1	Good vigor
3	Poor vigor
2	Fair vigor
	Vigor not recorded

Enumerated Domain for Attribute: DATACODE  
TP115 FSDB Database Code TP115

Enumerated Domain for Attribute: PFLAG

	Comment not printed on field sheets
1	Comment 1 printed on field sheets
2	Comment 1 and 2 printed on field sheets

Enumerated Domain for Attribute: DBH\_EST

	Normally measured DBH
1	DBH estimated by linear interpolation
2	DBH estimated from growth rates of nearby trees of similar size
3	DBH estimated assuming 'no growth' (usually missing, non-vigorous, or damaged trees)
9	DBH estimated, method unknown or unspecified

Enumerated Domain for Attribute: DATACODE  
TP115 FSDB Database Code TP115

Enumerated Domain for Attribute: DATACODE  
TP115 FSDB Database Code TP115

Enumerated Domain for Attribute: DATACODE  
TP115 FSDB Database Code TP115

Enumerated Domain for Attribute: SLOPE\_CORRECTED

Y Yes, plot is slope corrected

N No, plot is not slope corrected

Enumerated Domain for Attribute: DETAILPLOT

F Plot is not a detail plot

T Plot is a detail plot