

Database Code: GS006

Title: Dynamics of large wood in streams: Tagged log inventory, Mack Creek, Andrews Experimental Forest, 1985 to 2008

Abstract:

Although many studies have identified the characteristics of wood stored in streams, few have attempted to measure the long-term dynamics of large wood. From 1982-1985, we developed a long-term study of input, storage, decomposition, and redistribution of large wood in Mack Creek. Each year from 1985 to the present, we have surveyed a 1.1 km section of this stream. This annual survey has allowed us to quantify the standing stocks and characteristics of large wood within the stream and floodplain of an old-growth forest and an older (ca. 1963) clear-cut. In addition, these data allow us to measure rates of input, fragmentation and movement.

Keywords: Aquatic decomposition; Biomass; Debris dams; Disturbance; Ecology; Ecosystem processes; Floods; Geomorphology; Stream ecology; Streams; Wind; Wood movement; Woody debris; Disturbance; geomorphology; ecology; stream ecology; debris flows; floods; biomass; wind; decomposition; biological processes; disturbance; wood; woody debris; ecosystems; aquatic ecosystems; streams; ecosystem processes;

Date data commenced: 1985-10-20

Date data terminated: 2008-11-10

Principal Investigator: Stanley V. Gregory

List of Entities:

1. Tagged log inventory at Mack Creek, HJA

1. Tagged log inventory at Mack Creek, HJA

Attribute List:

DBC CODE	N	N	char(5)	enum			
ENTITY	N	N	numeric(2,0)	range	1.0000	1.0000	number
SITE CODE	N	N	char(2)	place			
YEAR	Y	N	numeric(4,0)	range			number
GRID	Y	N	numeric(4,0)	range	-30.0000	1030.0000	m
LOG ID	Y	N	char(5)	freetext			
STATUS	N	N	char(5)	enum			
FRAG CODE	N	Y	char(1)	enum			
LOCATION	N	Y	char(2)	enum			
POSITION	N	Y	char(1)	enum			
SIGHT TAG	N	Y	char(4)	enum			
BEARING	N	Y	numeric(3,0)	range	0.0000	360.0000	deg az
ORIENT	N	Y	char(1)	enum			
ROOT WAD	N	Y	char(1)	enum			
UPSTREAM	N	Y	char(4)	enum			
INBOARD	N	Y	char(4)	enum			
ORIGIN	N	Y	char(1)	enum			
ACCUM	N	Y	char(1)	enum			
DECAY	N	Y	char(3)	enum			

STABILITY1	N	Y	char(1)	enum			
STABILITY2	N	Y	char(1)	enum			
STABILITY3	N	Y	char(1)	enum			
STABILITY4	N	Y	char(1)	enum			
MOSS	N	Y	char(1)	enum			
DIAMETER	N	Y	numeric(4,2)	range	0.0000	2.2000	m
LENGTH	N	Y	numeric(5,2)	range	0.0000	51.0000	m
LENGPLUS	N	Y	char(1)	enum			
PCTZONE1	N	Y	numeric(3,0)	range	0.0000	100.0000	%
PCTZONE2	N	Y	numeric(3,0)	range	0.0000	100.0000	%
PCTZONE3	N	Y	numeric(3,0)	range	0.0000	100.0000	%
PCTZONE4	N	Y	numeric(3,0)	range	0.0000	100.0000	%
COMMENTS	N	Y	varchar(254)	freetext			

Attributes Definitions:

ACCUM

Log in accumulation (5 or more logs, must be touching) or not

BEARING

Compass bearing along one side of log

COMMENTS

Notes

DBCOD

FSDB Database code

DECAY

Decay class (based on Maser & Sedell)

DIAMETER

Diameter in middle of log

ENTITY

Entity number

FRAGCODE

Fragmentation code

GRID

Reach and section within grid

INBOARD

Inboard-most tag

LENGPLUS

Length plus (one or both ends buried)

LENGTH

Length

LOCATION

Geomorphic location code

LOGID

Log identification (tag color, number, letter (letter indicates log is broken & at least one tag is missing))

MOSS

Moss percent cover code

ORIENT

Orientation

ORIGIN

Origin of log if known

PCTZONE1

Percent of log in zone 1 (wetted channel) (Beschta)

PCTZONE2

Percent of log in zone 2 (active channel) (Beschta)

PCTZONE3

Percent of log in zone 3 (suspended above active channel) (Beschta)

PCTZONE4

Percent of log in zone 4 (floodplain) (Beschta)

POSITION

Geomorphic position code

ROOTWAD

Rootwad (present or absent)

SIGHTTAG

Sight tag from which bearing is shot

SITECODE

Location of study site

STABILITY1

Stability code 1 -- unstable

STABILITY2

Stability code 2 -- stabilized by rock

STABILITY3

Stability code 3 -- stabilized by another log

STABILITY4

Stability code 4 -- stabilized by tree

STATUS

Condition of log during year surveyed

UPSTREAM

Upstream-most tag

YEAR

Year surveyed

Enumerated Domains:

Enumerated Domain for Attribute: ACCUM

A	In an accumulation (5 or more logs touching)
X	Not in an accumulation

Enumerated Domain for Attribute: DECAY

1	Bark firmly attached
1.5	Intermediate between classes 1 and 2
2	Bark loosely attached
2.5	Intermediate between classes 2 and 3
3	No bark
3.5	Intermediate between classes 3 and 4
4	Punky
4.5	Intermediate between classes 4 and 5
5	No bark, extensive decay, log fragmenting and no longer a cylinder, soon to become soil

Enumerated Domain for Attribute: FRAGCODE

C	Child piece of fragmented log (portion moved from original position, or smaller of movers)
N	Not fragmented
P	Parent piece of fragmented log (in original position or, if mover, larger than child piece)

Enumerated Domain for Attribute: INBOARD

MA	A tag would be inboard-most, but tag is missing
MB	B tag would be inboard-most, but tag is missing
MC	C tag would be inboard-most, but tag is missing
MD	D tag would be inboard-most, but tag is missing
A	A tag is inboard most tag
B	B tag is inboard most tag
C	C tag is inboard most tag
D	D tag is inboard most tag
X	Inboard determination not possible due to orientation of log or missing tags

Enumerated Domain for Attribute: LENGPLUS

Y	One or both ends of log buried
---	--------------------------------

X Neither end of log buried

Enumerated Domain for Attribute: LOCATION

1 Completely on bank in island reach

2 Anchored on or in bank

3 Spanning active channel

4 Completely in active channel

5 Completely on island

6 Anchored on inboard bank of island

7 Completely in side channel

8 Anchored on outboard bank of island

9 Side channel spanner

10 Completely on bank in island reach

Enumerated Domain for Attribute: MOSS

1 Less than 5 percent of log covered by moss

2 Between 5 and 25 percent of log covered by moss

3 Between 25 and 75 percent of log covered by moss

4 More than 75 percent of log covered with moss

Enumerated Domain for Attribute: ORIENT

N Normal to channel

P Parallel to channel

X No particular orientation

Enumerated Domain for Attribute: ORIGIN

O Original position (fell in or missing in earlier years)

F Floated

S Slash

X Unknown

Enumerated Domain for Attribute: POSITION

L Left side of channel (facing upstream)

R Right side of channel (facing upstream)

C Center of channel

H Head of island

X None applicable

Enumerated Domain for Attribute: ROOTWAD

Y Rootwad present

X Rootwad absent

Enumerated Domain for Attribute: SIGHTTAG

MA	Bearing taken from end of log where A tag should be located if the entire log were present
MB	Bearing taken from end of log where B tag should be located if the entire log were present
MC	Bearing taken from end of log where C tag should be located if the entire log were present
MD	Bearing taken from end of log where D tag should be located if the entire log were present
A	Bearing taken from A tag
AC	Bearing taken from AC end of log
B	Bearing taken from B tag
BD	Bearing taken from BD end of log
C	Bearing taken from C tag
D	Bearing taken from D tag
AXIS	Bearing taken along primary log axis
BANK	Bearing taken from nearest stream bank
VERT	Log vertical, no bearing possible
X	Bearing not possible due to orientation of log and/or missing sighttags
M	Bearing taken, but sighttag not recorded

Enumerated Domain for Attribute: STABILITY1

Y	No stabilizing factor
X	Some other stabilizing factor

Enumerated Domain for Attribute: STABILITY2

Y	Log stabilized by boulder
X	Log not stabilized by boulder

Enumerated Domain for Attribute: STABILITY3

Y	Log stabilized by other logs
X	Log not stabilized by other logs

Enumerated Domain for Attribute: STABILITY4

Y	Log stabilized by tree (bole or roots)
X	Log not stabilized by tree

Enumerated Domain for Attribute: STATUS

F	Found
L	Likely still in previous location; no search due to large size & floodplain location OR deep snow (2003)
M	Moved
MR	Moved and retired
NR	New and retired
O	Original

OR	Original and retired
P	Probable
R	Retired
V	Overlooked
VR	Overlooked and retired
X	Not found
XMR	Not found, moved, then retired
XR	Not found and retired
N	New input

Enumerated Domain for Attribute: UPSTREAM

MA	A tag would be upstream-most, but tag is missing
MB	B tag would be upstream-most, but tag is missing
MC	C tag would be upstream-most, but tag is missing
MD	D tag would be upstream-most, but tag is missing
A	A tag is upstream most tag
B	B tag is upstream most tag
C	C tag is upstream most tag
D	D tag is upstream most tag
X	Upstream determination not possible due to orientation of log or missing tags

Enumerated Domain for Attribute: DBCODE

GS006	FSDB Data set code GS006
-------	--------------------------