Title: Demonstration of Ecosystem Management Options (DEMO) Study, western Oregon and Washington (post-treatment data, 1998-2016)

Abstract:

<p>The Demonstration of Ecosystem Management Options (DEMO) Study is a regional-scale experiment in variable-retention harvest, established at six sites in western Oregon and Washington. Initiated in 1994, DEMO was designed to assess newly established standards and guidelines for regeneration harvests in mature, coniferous forests of the Pacific Northwest. The experiment is a randomized complete block design. It includes six treatments that represent strong contrasts in the level of retention (15-100% of original basal area) and the spatial pattern in which trees are retained (uniformly dispersed vs. aggregated in 1-ha patches). The factorial nature of the design (15 and 40% retention in both an aggregated and dispersed pattern) is unique among variable-retention experiments, regionally and globally. &lt;/p&gt;Long-term measurements of vegetation response lie at the core the DEMO Study. Key response variables include overstory tree growth and mortality, the dynamics of snags, regeneration of conifers (including planted seedlings and natural recruitment), and the composition, structure and diversity of the understory (including herbaceous, woody, and bryophyte species). Pre-treatment measurements were made between 1994 and 1996 (data are archived under Study Code TP104). Post-treatments measurements have occurred at ~5- to 7-year intervals between 1998 and 2016 (data are archived under Study Code TP108).</p>

Keywords: community structure; stand structure; silviculture; forest ecology; plant ecology; community dynamics; successional dynamics; biodiversity; plant species composition; species diversity; permanent plots; tree growth; tree mortality; regeneration; forest disturbance; timber harvest; vascular plants; herbs; shrubs; trees; bryophytes.

Date data commenced: 1994-06-15
Date data terminated: 2016-08-31

Principal Investigator: Charles B. Halpern

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## I. General Plot Characteristics (U-A1)

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// Herb Layer in Uncut Plots: Cover, Height, Number of Tree Seedlings (U-B3)

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### 9. Tall Shrub and Understory Trees: Cover (U-D1)

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11. Coarse Woody Debris (U-E)

**Attribute List:**

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- **YEAR** Y N numeric(4,0) range 1998.0000 2009.0000 YYYY
- **DISTRICT** N N char(4) place
- **BLOCK** Y N char(1) enum 1.0000 8.0000
- **TRANS** Y N char(1) enum
- **TRT** N N char(1) enum 1.0000 6.0000
- **PLOT** Y N char(6) place
- **TREESPP** Y Y char(6) taxa
- **PIECE_NO** Y Y numeric(2,0) range 1.0000 11.0000 number
- **DIAMETER** N Y numeric(3,0) range 10.0000 180.0000 cm
- **LENGTH** N Y char(1) enum 1.0000 5.0000
- **LDECAY** N Y char(1) enum 1.0000 5.0000
- **PTYPE** N Y char(1) enum
- **PERSONNEL** N N varchar(30) freetext
- **SAMPLEDATE** N N datetime range 6/4/1998 12:00:00 AM 8/12/2009 12:00:00 AM YYYY-MM-DD


**Attribute List:**

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- **DISTRICT** N N char(4) place
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### 13. Overstory Trees (O-A, O-E, and O-G)

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### Attribute List: Tree Heights, Post-harvest (O-C)

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- **DISTRICT**: N N char(4) place
- **BLOCK**: N N char(1) enum 1.0000 8.0000
- **TRT**: N N char(1) enum 1.0000 6.0000
- **PLOT**: N N char(6) place
- **QTR**: N Y numeric(1,0) range 1.0000 4.0000 number
- **TAGNO**: N N numeric(5,0) range 1.0000 99999.0000 number
- **TREESPP**: N Y char(6) taxa
- **CANOPY**: N Y char(1) enum
- **DBH**: N Y numeric(5,1) range 2.1000 180.0000 cm
- **TOPHT**: N Y numeric(5,2) range 0.6000 80.0000 m
- **HTLOWBR**: N Y numeric(5,2) range 0.0000 60.0000 m
- **PTYPE**: N N char(1) enum
- **COMMENTS**: N Y varchar(254) freetext
- **PERSONNEL**: N Y varchar(30) freetext
- **SAMPLEDATE**: N Y datetime range 9/9/1999 12:00:00 AM 8/31/2016 12:00:00 AM YYYY-MM-DD

### Attribute List: Percent Overstory Canopy Cover: Truck Mirrors (U-H)

- **DATACODE**: N N char(5) enum
- **ENTITY**: N N numeric(2,0) range 16.0000 16.0000 number
- **YEAR**: T N numeric(4,0) range 1998.0000 1999.0000 YYYY
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- **BLOCK**: N N char(1) enum 1.0000 8.0000
- **TRT**: N N char(1) enum 1.0000 6.0000
- **PLOT**: T N char(6) place
17. Disturbance Assessment: Cover (U-I)

**Attribute List:**

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- **ENTITY**
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- **YEAR**
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- **DISTRICT**
  - N N char(4) place
- **BLOCK**
  - T N char(1) enum 1.0000 8.0000
- **TRT**
  - N N char(1) enum 1.0000 6.0000
- **PLOT**
  - T N char(6) place
- **TRANS**
  - T N char(1) enum
- **COVTYPE**
  - T N char(7) enum
- **LC**
  - T N numeric(1,0) range 1.0000 3.0000 number
- **CSTART1**
  - N Y numeric(4,2) range 0.0000 5.9800 m
- **CEND1**
  - N Y numeric(4,2) range 0.0200 6.0000 m
- **CSTART2**
  - N Y numeric(4,2) range 0.1900 5.9800 m
- **CEND2**
  - N Y numeric(4,2) range 0.3200 6.0000 m
- **CSTART3**
  - N Y numeric(4,2) range 0.4000 5.9800 m
- **CEND3**
  - N Y numeric(4,2) range 0.5300 6.0000 m
- **CSTART4**
  - N Y numeric(4,2) range 0.5800 5.9700 m
- **CEND4**
  - N Y numeric(4,2) range 1.2800 6.0000 m
- **CSTART5**
  - N Y numeric(4,2) range 1.4600 5.9800 m
- **CEND5**
  - N Y numeric(4,2) range 1.8000 6.0000 m
- **PTYPE**
  - N Y char(1) enum
- **PERSONNEL**
  - N N varchar(30) freetext
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### 20. Plot Photo Comments

**Attribute List:**

- **DATACODE** N N char(5) enum
- **ENTITY** N N numeric(2,0) range 20.0000 20.0000 number
- **PRE_POST** N N char(4) enum
- **PHOTO_YEAR** Y Y numeric(4,0) range 1996.0000 2006.0000 YYYY
- **DISTRICT** N N char(4) place
- **BLOCK** T N char(1) enum 1.0000 8.0000
- **TRT** N N char(1) enum
- **PLOT** T N char(6) place
- **TRANS** T N char(1) enum
- **MISSING** N Y char(1) enum
- **PHOTO_NR** T Y numeric(2,0) range 1.0000 4.0000 number
- **PHOTONAME** Y Y varchar(20) freetext
- **PCOMMENTS** N Y varchar(160) freetext

### 21. Tree Mortality (O-D)

**Attribute List:**

- **DATACODE** N N char(5) enum
- **ENTITY** N N numeric(2,0) range 21.0000 21.0000 number
- **YEAR** Y N numeric(4,0) range 1999.0000 2016.0000 YYYY
- **DISTRICT** N N char(4) place
- **BLOCK** N N char(1) enum
- **TRT** N N char(1) enum
- **PLOT** N N char(6) place
- **QTR** N N numeric(1,0) range 1.0000 4.0000 number
- **TAGNO** N Y numeric(5,0) range 1.0000 9999.0000 number
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DTOT23  N  Y  numeric(3,0)  range  0.0000  20.0000  number
DTOT34  N  Y  numeric(3,0)  range  0.0000  10.0000  number
DTOT45  N  Y  numeric(3,0)  range  0.0000  13.0000  number
PTYPE   N  Y  char(1)    enum
PERSONNEL N  N  varchar(30) freetext
SAMPLEDATE N  N  datetime range  6/28/2003 8/31/2016 YYYY-MM-DD
REGENID  Y  N  varchar(13) freetext

25. Height and Leader Growth of Tagged Natural Regeneration (U-F3)

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### Attributes Definitions:

**BEARING**
- Compass bearing of the transect from 4m to 10m

**BLOCK**
- Sample block number

**BLSPP**
- Species code according to Garrison et al., 1976

**BOLE1**
- Bole Condition 1

**BOLE2**
- Bole Condition 2

**BOLE3**
- Bole Condition 3

**CANOPY**
- Canopy Class

**CEND1**
- The ending meter mark intersected by the first vertical projection of a cover type's surface

**CEND2**
- The ending meter mark intersected by the 2nd projection of a cover type's surface

**CEND3**
- The ending meter mark intersected by the 3rd projection of a cover type's surface

**CEND4**
- The ending meter mark intersected by the 4th projection of a cover type's surface

**CEND5**
- The ending meter mark intersected by the 5th projection of a cover type's surface

**COMMENTS**
- Comments

**COND1**
-
Code 1 for physical condition of tree
COND2
Code 2 for physical condition of tree
COND3
Code 3 for physical condition of tree
COND4
Code 4 for physical condition of tree
COND5
Code 5 for physical condition of tree
COND6
Code 6 for physical condition of tree
COVER
Cover; proportion of ground surface
COVER1
Percent cover of lichens or bryophytes in microplot 1
COVER2
Percent cover of lichens or bryophytes in microplot 2
COVER3
Percent cover of lichens or bryophytes in microplot 3
COVER4
Percent cover of lichens or bryophytes in microplot 4
COVER5
Percent cover of lichens or bryophytes in microplot 5
COVER6
Percent cover of lichens or bryophytes in microplot 6
COVTYPE
Type of Disturbance Cover
CRNWDTH1
Crown width 1st
CRNWDTH2
Crown width 2nd
CROWN1
Crown Condition 1
CROWN2
Crown Condition 2
CROWN3
Crown Condition 3
CSTART1
The beginning meter mark intersected by the first vertical projection of a cover type's surface
CSTART2
The beginning meter mark intersected by the 2nd projection of a cover type's surface
CSTART3
The beginning meter mark intersected by the 3rd projection of a cover type's surface
CSTART4
The beginning meter mark intersected by the 4th projection of a cover type's surface
CSTART5
The beginning meter mark intersected by the 5th projection of a cover type's surface

DATACODE
FSBD Database Code
DBH
Diameter at breast height
DEPT
Slash Depth
DIAMETER
Log diameter perpendicular to the long axis of the log where it intersects the transect line
DIRECT
Direction (azimuth) of uprooting or stem breakage
DIST1
Disturbance Code 1
DIST2
Disturbance Code 2
DISTRICT
National Forest System Code indicating location of the study block by National Forest and Ranger District
DISTURB1
Disturbance 1
DISTURB2
Disturbance 2
DTOT01
Number of saplings 0 - 1cm DBH
DTOT12
Number of saplings >1 - 2cm DBH
DTOT23
Number of saplings >2 - 3cm DBH
DTOT34
Number of saplings >3 - 4cm DBH

DTOT45

Number of saplings >4 - 5cm DBH

END1

The ending meter mark intersected by the first vertical projection of a cover

END2

The ending meter mark intersected by the 2nd projection of a species' canopy

END3

The ending meter mark intersected by the 3rd projection of a species' canopy

END4

The ending meter mark intersected by the 4th projection of a species' canopy

END5

The ending meter mark intersected by the 5th projection of a species' canopy

ENTITY

Entity Number

GRWTH1997

1997 height growth

GRWTH1998

1998 height growth

GRWTH1999

1999 height growth

GRWTH2000

2000 height growth

GRWTH2001

2001 height growth

GRWTH2002

2002 height growth

HCOVER1

Projected canopy cover for total herbs or cover of individual Herb species in microplot 1

HCOVER2

Projected canopy cover for total herbs or cover of individual Herb species in microplot 2

HCOVER3

Projected canopy cover for total herbs or cover of individual Herb species in microplot 3

HCOVER4

Projected canopy cover for total herbs or cover of individual Herb species in microplot 4

HCOVER5

Projected canopy cover for total herbs or cover of individual Herb species in microplot 5
HCOVER6
Projected canopy cover for total herbs or cover of individual Herb species in microplot 6

HEIGHT
Seedling Height

HEIGHT1
Maximum Height of Herb Species in microplot 1

HEIGHT2
Maximum Height of Herb Species in microplot 2

HEIGHT3
Maximum Height of Herb Species in microplot 3

HEIGHT4
Maximum Height of Herb Species in microplot 4

HEIGHT5
Maximum Height of Herb Species in microplot 5

HEIGHT6
Maximum Height of Herb Species in microplot 6

HT1
Max Height of species in Interval 1 (0-1 meters)

HT2
Max Height of species in Interval 2 (1-2 meters)

HT2002
Height in 2002

HT3
Max Height of species in Interval 3 (2-3 meters)

HT4
Max Height of species in Interval 4 (3-4 meters)

HT5
Max Height of species in Interval 5 (4-5 meters)

HT6
Max Height of species in Interval 6 (5-6 meters)

HTBASE
Height to lowest live branch

HTLOWBR
Height to the lowest live branch

HTOT1015
Number of saplings >1.0 - 1.5 m tall

HTOT12
Number of saplings 0.1 - 0.2 m tall

HTOT25

Number of saplings >0.2 - 0.5 m tall

HTOT510

Number of saplings >0.5 - 1.0 m tall

LC

The number of lines of a single record within a species, growth form class or cover type

LDECAY

A ranking which expresses the degree of decay of a log

LEADGRWTH1


LEADGRWTH2


LEAN

The lean angle of a snag or dead tree in degrees from vertical

LENGTH

Length class of the log or piece of wood

LIFEFORM

A two-letter character indicating a general class of plants

LOCATION

Location of Canopy Measurement

METMARK

Meter Mark

MICROPLOT

The number of the Daubenmire plot (0.2 x 0.5 m) used to sample understory attributes

MISSING

Missing photo indicator field

MMARK

Distance along Transect

NECOVER

Percent Overstory Cover in NE Quadrant

NRTRSEED1

Total Number of Tree Seedlings in Microplot 1

NRTRSEED2

Total Number of Tree Seedlings in Microplot 2

NRTRSEED3

Total Number of Tree Seedlings in Microplot 3
NRTRSEED4
  Total Number of Tree Seedlings in Microplot 4

NRTRSEED5
  Total Number of Tree Seedlings in Microplot 5

NRTRSEED6
  Total Number of Tree Seedlings in Microplot 6

NWCOVER
  Percent Overstory Cover in NW Quadrant

OCCURRENCE
  Occurrence of a species within a plot and transect. If greater than 1, then the specific species identification is unknown, but known to be different than other species on that plot and transect

OLDTAG
  Old Tag Number

ORIGIN
  Origin of snag

PERSONNEL
  Name(s) of crew member(s) who sampled plots

PHOTO_NR
  Sequential photo number within transect

PHOTO_YEAR
  Year in which photo was taken

PHOTONAME
  Name of photo

PIECE_NO
  Unique CWD piece number by block, plot, and transect used as the primary key

PLANTED
  Indicates if tree was planted

PLOT
  Sample plot code designating block, plot, and a grid system location (e.g. 1A7: 1 = TRT, A = Row, 7 = Column)

POSITION
  Code for tree position

PRE_POST
  Indicates pre or post picture

PRESENT1
  Presence or Absence of Species in microplot 1

PRESENT2
  Presence or Absence of Species in microplot 2

PRESENT3
Presence or Absence of Species in microplot 3
PRESENT4
Presence or Absence of Species in microplot 4
PRESENT5
Presence or Absence of Species in microplot 5
PRESENT6
Presence or Absence of Species in microplot 6

PTYPE
Code indicating uncut (0) or cut (1) Plot

QTR
Plot Quarter

RCROWN
Percent crown remaining

REBAR10
Actual distance in meters of the 10m rebar from the plot center

REBAR4
Actual distance in meters of the 4m rebar from the plot center

REBARINT
Actual distance in meters of intermediate rebar (those between 4m and 10m) from the plot center

REBARINT2
Actual distance in meters of intermediate rebar2 (those between 4m and 10m) from the plot center

REBARINT3
Actual distance in meters of intermediate rebar3 (those between 4m and 10m) from the plot center

REBARINT4
Actual distance in meters of intermediate rebar4 (those between 4m and 10m) from the plot center

REGENID
Unique identifier for tree regeneration for database purposes; composed of 'P', block, plot, trans, treespp (otherwise blank for treespp)

RTREE
Percent tree remaining

SAMPLEDATE
Date on which plot was sampled

SDBH
The snag diameter at breast height (for exceptions, see field manual)

SDECAY
A ranking which expresses the degree of decay of a snag

SECOVER
Percent Overstory Cover in SE Quadrant
SHTCLASS
   Snag height class

SNAGID
   Unique snag identifier assigned to each individual for database purposes; typically composed of 'P', block, plot, qtr and, if a tag is present, tagno, otherwise a unique number or character

SNAGSTATUS
   Snag status

SPECIES
   Species code

START1
   The beginning meter mark intersected by the first vertical projection of a species' canopy

START2
   The beginning meter mark intersected by the 2nd projection of a species' canopy

START3
   The beginning meter mark intersected by the 3rd projection of a species' canopy

START4
   The beginning meter mark intersected by the 4th projection of a species' canopy

START5
   The beginning meter mark intersected by the 5th projection of a species' canopy

STATUS
   Status of Tree or Seedling

STEM1
   Stem Condition 1

STEM2
   Stem Condition 2

STOPHT
   the top (or total) height of a snag (in meters)

SUBS11
   Substrate 1

SUBS12
   Substrate 2

SUBS13
   Substrate 3

SUBSTRATE
   Ground surface characteristic

SWCOVER
   Percent Overstory Cover in SW Quadrant

TAG
Snag number or unique snag ID, if tag is missing

TAGNO
  Tag Number

TOPHT
  Total Tree Height

TOTCOVER1
  Total Cover of Herbs in Microplot 1

TOTCOVER2
  Total Cover of Herbs in Microplot 2

TOTCOVER3
  Total Cover of Herbs in Microplot 3

TOTCOVER4
  Total Cover of Herbs in Microplot 4

TOTCOVER5
  Total Cover of Herbs in Microplot 5

TOTCOVER6
  Total Cover of Herbs in Microplot 6

TOTSEED1
  The total number of understory trees in height class 1

TOTSEED2
  The total number of understory trees in height class 2

TOTSEED3
  The total number of understory trees in height class 3

TOTSEED4
  The total number of understory trees in height class 4

TOTSEED5
  The total number of understory trees in height class 5

TOTSEED6
  The total number of understory trees in height class 6

TRANS
  Letter Code designating Transect (A,B,C,D)

TREEID
  Unique tree id assigned to each individual for database purposed; typically composed of 'P', block, plot, qtr, tagno

TREESEED1
  Number of tree seedlings in microplot 1

TREESEED2
  Number of tree seedlings in microplot 2
TREESEED3
Number of tree seedlings in microplot 3

TREESEED4
Number of tree seedlings in microplot 4

TREESEED5
Number of tree seedlings in microplot 5

TREESEED6
Number of tree seedlings in microplot 6

TREESPP
Tree species code according to Garrison et al., 1976

TREEVIGOR
Tree Vigor Code

TRLOC_A
Location in treatment unit of Transect A

TRLOC_B
Location in treatment unit of Transect B

TRLOC_C
Location in treatment unit of Transect C

TRLOC_D
Location in treatment unit of Transect D

TRT
Treatment unit

UPDATE_YR
Most recent year in which a REBAR4, REBAR10, OR REBARINT distance was changed, or in which there is a grid point/center post

US_SPP
Understory species code according to Garrison et al., 1976

VIGOR
Vigor (1-3,6,9)

YEAR
Year in which plot was sampled

Enumerated Domains:

Enumerated Domain for Attribute: BLOCK
8 Capital Forest, Capital Forest, Thurston Co., WA
1 Watson Falls, Umpqua NF, Diamond Lake Distr., Douglas Co., OR
7 Paradise Hills, Gifford Pinchot NF, Wind River Distr., Skamania Co., WA
6 Little White Salmon, Gifford Pinchot NF, Mt. Adams Distr., NF, Skamania Co.,
5 Butte, Gifford Pinchot NF, Randle Distr., Skamania Co., WA
<table>
<thead>
<tr>
<th>Plot</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Layng Creek, Umpqua NF, Cottage Grove Distr., Lane Co., OR</td>
</tr>
<tr>
<td>2</td>
<td>Little River, Umpqua NF, N. Umpqua Distr., Douglas Co., OR</td>
</tr>
<tr>
<td>4</td>
<td>Dog Prairie, Umpqua NF, Diamond Lake Distr., Douglas Co., OR</td>
</tr>
</tbody>
</table>

**Enumerated Domain for Attribute: PTYPE**

<table>
<thead>
<tr>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Uncut Plot</td>
</tr>
<tr>
<td>1</td>
<td>Cut Plot</td>
</tr>
</tbody>
</table>

**Enumerated Domain for Attribute: TRLOC_A**

<table>
<thead>
<tr>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>clearcut area (TMT 2, 4, or 6)</td>
</tr>
<tr>
<td>A</td>
<td>aggregated retention patch (TMT 4 or 6)</td>
</tr>
<tr>
<td>U</td>
<td>uncut area (TMT 1 or 2)</td>
</tr>
<tr>
<td>D</td>
<td>dispersed retention (TMT 3 or 5)</td>
</tr>
<tr>
<td>E</td>
<td>edge (spanning two conditions) (TMT 2, 4 or 6)</td>
</tr>
</tbody>
</table>

**Enumerated Domain for Attribute: TRLOC_B**

<table>
<thead>
<tr>
<th>Value</th>
<th>Description</th>
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<tbody>
<tr>
<td>C</td>
<td>clearcut area (TMT 2, 4, or 6)</td>
</tr>
<tr>
<td>A</td>
<td>aggregated retention patch (TMT 4 or 6)</td>
</tr>
<tr>
<td>U</td>
<td>uncut area (TMT 1 or 2)</td>
</tr>
<tr>
<td>D</td>
<td>dispersed retention (TMT 3 or 5)</td>
</tr>
<tr>
<td>E</td>
<td>edge (spanning two conditions) (TMT 2, 4 or 6)</td>
</tr>
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</table>

**Enumerated Domain for Attribute: TRLOC_C**

<table>
<thead>
<tr>
<th>Value</th>
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<tbody>
<tr>
<td>C</td>
<td>clearcut area (TMT 2, 4, or 6)</td>
</tr>
<tr>
<td>A</td>
<td>aggregated retention patch (TMT 4 or 6)</td>
</tr>
<tr>
<td>U</td>
<td>uncut area (TMT 1 or 2)</td>
</tr>
<tr>
<td>D</td>
<td>dispersed retention (TMT 3 or 5)</td>
</tr>
<tr>
<td>E</td>
<td>edge (spanning two conditions) (TMT 2, 4 or 6)</td>
</tr>
</tbody>
</table>

**Enumerated Domain for Attribute: TRLOC_D**

<table>
<thead>
<tr>
<th>Value</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>C</td>
<td>clearcut area (TMT 2, 4, or 6)</td>
</tr>
<tr>
<td>A</td>
<td>aggregated retention patch (TMT 4 or 6)</td>
</tr>
<tr>
<td>U</td>
<td>uncut area (TMT 1 or 2)</td>
</tr>
<tr>
<td>D</td>
<td>dispersed retention (TMT 3 or 5)</td>
</tr>
<tr>
<td>E</td>
<td>edge (spanning two conditions) (TMT 2, 4 or 6)</td>
</tr>
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**Enumerated Domain for Attribute: TRT**

<table>
<thead>
<tr>
<th>Value</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>100% retention (uncut)</td>
</tr>
<tr>
<td>5</td>
<td>15% retention (dispersed)</td>
</tr>
<tr>
<td>6</td>
<td>15% retention (aggregated)</td>
</tr>
<tr>
<td>4</td>
<td>40% retention (aggregated)</td>
</tr>
</tbody>
</table>
2 75% retention with gaps
3 40% retention (dispersed)

Enumerated Domain for Attribute: DATACODE
TP108 FSDB database code for Terrestrial Productivity, TP108

Enumerated Domain for Attribute: BLOCK
8 Capital Forest, Capital Forest, Thurston Co., WA
1 Watson Falls, Umpqua NF, Diamond Lake Distr., Douglas Co., OR
7 Paradise Hills, Gifford Pinchot NF, Wind River Distr., Skamania Co., WA
6 Little White Salmon, Gifford Pinchot NF, Mt. Adams Distr., NF, Skamania Co.,
5 Butte, Gifford Pinchot NF, Randle Distr., Skamania Co., WA
3 Layng Creek, Umpqua NF, Cottage Grove Distr., Lane Co., OR
2 Little River, Umpqua NF, N. Umpqua Distr., Douglas Co., OR
4 Dog Prairie, Umpqua NF, Diamond Lake Distr., Douglas Co., OR

Enumerated Domain for Attribute: TRANS
C Transect C
D Transect D
B Transect B
A Transect A
0 plot center (grid point)

Enumerated Domain for Attribute: DATACODE
TP108 FSDB database code for Terrestrial Productivity, TP108

Enumerated Domain for Attribute: BLOCK
8 Capital Forest, Capital Forest, Thurston Co., WA
1 Watson Falls, Umpqua NF, Diamond Lake Distr., Douglas Co., OR
7 Paradise Hills, Gifford Pinchot NF, Wind River Distr., Skamania Co., WA
6 Little White Salmon, Gifford Pinchot NF, Mt. Adams Distr., NF, Skamania Co.,
5 Butte, Gifford Pinchot NF, Randle Distr., Skamania Co., WA
3 Layng Creek, Umpqua NF, Cottage Grove Distr., Lane Co., OR
2 Little River, Umpqua NF, N. Umpqua Distr., Douglas Co., OR
4 Dog Prairie, Umpqua NF, Diamond Lake Distr., Douglas Co., OR

Enumerated Domain for Attribute: LIFEFORM
T Trees
TS Tall Shrubs
L Lichens
CT Conifer Trees
<table>
<thead>
<tr>
<th>Attribute</th>
<th>Domain</th>
</tr>
</thead>
<tbody>
<tr>
<td>HT</td>
<td>Hardwood Trees</td>
</tr>
<tr>
<td>H</td>
<td>Herbs</td>
</tr>
<tr>
<td>B</td>
<td>Bryophytes</td>
</tr>
<tr>
<td>N</td>
<td>Not measured</td>
</tr>
</tbody>
</table>

Enumerated Domain for Attribute: PRESENT1
- 1 present
- 0 absent

Enumerated Domain for Attribute: PRESENT2
- 1 present
- 0 absent

Enumerated Domain for Attribute: PRESENT3
- 1 present
- 0 absent

Enumerated Domain for Attribute: PRESENT4
- 1 present
- 0 absent

Enumerated Domain for Attribute: PRESENT5
- 1 present
- 0 absent

Enumerated Domain for Attribute: PRESENT6
- 1 present
- 0 absent

Enumerated Domain for Attribute: PTYPE
- 0 Uncut Plot
- 1 Cut Plot

Enumerated Domain for Attribute: SUBS11
- M Mineral Soil
- L Litter
- F Fresh log or snag (class I or II)
- O Other
- D Decayed log or snag (class III - V)
- T Tree Base/Snag Base
- S Shrub (base/stem)
- R Rock /Stone
- P Stump
Enumerated Domain for Attribute: SUBS12
M Mineral Soil
L Litter
F Fresh log or snag (class I or II)
O Other
D Decayed log or snag (class III - V)
T Tree Base/Snag Base
S Shrub (base/stem)
R Rock /Stone
P Stump

Enumerated Domain for Attribute: SUBS13
M Mineral Soil
L Litter
F Fresh log or snag (class I or II)
O Other
D Decayed log or snag (class III - V)
T Tree Base/Snag Base
S Shrub (base/stem)
R Rock /Stone
P Stump

Enumerated Domain for Attribute: SUBS21
M Mineral Soil
L Litter
F Fresh log or snag (class I or II)
O Other
D Decayed log or snag (class III - V)
T Tree Base/Snag Base
S Shrub (base/stem)
R Rock /Stone
P Stump

Enumerated Domain for Attribute: SUBS22
M Mineral Soil
L Litter
F Fresh log or snag (class I or II)
O Other
D Decayed log or snag (class III - V)
T Tree Base/Snag Base
S Shrub (base/stem)
R Rock /Stone
P Stump

Enumerated Domain for Attribute: SUBS23
M Mineral Soil
L Litter
F Fresh log or snag (class I or II)
O Other
D Decayed log or snag (class III - V)
T Tree Base/Snag Base
S Shrub (base/stem)
R Rock /Stone
P Stump

Enumerated Domain for Attribute: SUBS31
M Mineral Soil
L Litter
F Fresh log or snag (class I or II)
O Other
D Decayed log or snag (class III - V)
T Tree Base/Snag Base
S Shrub (base/stem)
R Rock /Stone
P Stump

Enumerated Domain for Attribute: SUBS32
M Mineral Soil
L Litter
F Fresh log or snag (class I or II)
O Other
D Decayed log or snag (class III - V)
T Tree Base/Snag Base
S Shrub (base/stem)
R  Rock /Stone
P  Stump

Enumerated Domain for Attribute: SUBS33
M  Mineral Soil
L  Litter
F  Fresh log or snag (class I or II)
O  Other
D  Decayed log or snag (class III - V)
T  Tree Base/Snag Base
S  Shrub (base/stem)
R  Rock /Stone
P  Stump

Enumerated Domain for Attribute: SUBS41
M  Mineral Soil
L  Litter
F  Fresh log or snag (class I or II)
O  Other
D  Decayed log or snag (class III - V)
T  Tree Base/Snag Base
S  Shrub (base/stem)
R  Rock /Stone
P  Stump

Enumerated Domain for Attribute: SUBS42
M  Mineral Soil
L  Litter
F  Fresh log or snag (class I or II)
O  Other
D  Decayed log or snag (class III - V)
T  Tree Base/Snag Base
S  Shrub (base/stem)
R  Rock /Stone
P  Stump

Enumerated Domain for Attribute: SUBS43
M  Mineral Soil
L Litter
F Fresh log or snag (class I or II)
O Other
D Decayed log or snag (class III - V)
T Tree Base/Snag Base
S Shrub (base/stem)
R Rock /Stone
P Stump

Enumerated Domain for Attribute: SUBS51
M Mineral Soil
L Litter
F Fresh log or snag (class I or II)
O Other
D Decayed log or snag (class III - V)
T Tree Base/Snag Base
S Shrub (base/stem)
R Rock /Stone
P Stump

Enumerated Domain for Attribute: SUBS52
M Mineral Soil
L Litter
F Fresh log or snag (class I or II)
O Other
D Decayed log or snag (class III - V)
T Tree Base/Snag Base
S Shrub (base/stem)
R Rock /Stone
P Stump

Enumerated Domain for Attribute: SUBS53
M Mineral Soil
L Litter
F Fresh log or snag (class I or II)
O Other
D Decayed log or snag (class III - V)
<table>
<thead>
<tr>
<th>Symbol</th>
<th>Type</th>
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</thead>
<tbody>
<tr>
<td>T</td>
<td>Tree Base/Snag Base</td>
</tr>
<tr>
<td>S</td>
<td>Shrub (base/stem)</td>
</tr>
<tr>
<td>R</td>
<td>Rock /Stone</td>
</tr>
<tr>
<td>P</td>
<td>Stump</td>
</tr>
</tbody>
</table>

Enumerated Domain for Attribute: SUBS61

- **M**: Mineral Soil
- **L**: Litter
- **F**: Fresh log or snag (class I or II)
- **O**: Other
- **D**: Decayed log or snag (class III - V)

Enumerated Domain for Attribute: SUBS62

- **M**: Mineral Soil
- **L**: Litter
- **F**: Fresh log or snag (class I or II)
- **O**: Other
- **D**: Decayed log or snag (class III - V)

Enumerated Domain for Attribute: SUBS63

- **M**: Mineral Soil
- **L**: Litter
- **F**: Fresh log or snag (class I or II)
- **O**: Other
- **D**: Decayed log or snag (class III - V)
Enumerated Domain for Attribute: TRANS
   C       Transect C
   D       Transect D
   B       Transect B
   A       Transect A
   0       plot center (grid point)

Enumerated Domain for Attribute: TRT
   1       100% retention (uncut)
   5       15% retention (dispersed)
   6       15% retention (aggregated)
   4       40% retention (aggregated)
   2       75% retention with gaps
   3       40% retention (dispersed)

Enumerated Domain for Attribute: DATACODE
   TP108   FSDB database code for Terrestrial Productivity, TP108

Enumerated Domain for Attribute: BLOCK
   8       Capital Forest, Capital Forest, Thurston Co., WA
   1       Watson Falls, Umpqua NF, Diamond Lake Distr., Douglas Co., OR
   7       Paradise Hills, Gifford Pinchot NF, Wind River Distr., Skamania Co., WA
   6       Little White Salmon, Gifford Pinchot NF, Mt. Adams Distr., NF, Skamania Co.,
   5       Butte, Gifford Pinchot NF, Randle Distr., Skamania Co., WA
   3       Layng Creek, Umpqua NF, Cottage Grove Distr., Lane Co., OR
   2       Little River, Umpqua NF, N. Umpqua Distr., Douglas Co., OR
   4       Dog Prairie, Umpqua NF, Diamond Lake Distr., Douglas Co., OR

Enumerated Domain for Attribute: LIFEFORM
   T       Trees
   TS      Tall Shrubs
   L       Lichens
   CT      Conifer Trees
   HT      Hardwood Trees
   H       Herbs
   B       Bryophytes
   N       Not measured

Enumerated Domain for Attribute: PTYPE
   0       Uncut Plot
1 Cut Plot

<table>
<thead>
<tr>
<th>Enumerated Domain for Attribute: TRANS</th>
</tr>
</thead>
<tbody>
<tr>
<td>C Transect C</td>
</tr>
<tr>
<td>D Transect D</td>
</tr>
<tr>
<td>B Transect B</td>
</tr>
<tr>
<td>A Transect A</td>
</tr>
<tr>
<td>0 plot center (grid point)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Enumerated Domain for Attribute: TRT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 100% retention (uncut)</td>
</tr>
<tr>
<td>5 15% retention (dispersed)</td>
</tr>
<tr>
<td>6 15% retention (aggregated)</td>
</tr>
<tr>
<td>4 40% retention (aggregated)</td>
</tr>
<tr>
<td>2 75% retention with gaps</td>
</tr>
<tr>
<td>3 40% retention (dispersed)</td>
</tr>
</tbody>
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<table>
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<tr>
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<td>TP108 FSDB database code for Terrestrial Productivity, TP108</td>
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<table>
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<tr>
<th>Enumerated Domain for Attribute: BLOCK</th>
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<tbody>
<tr>
<td>8 Capital Forest, Capital Forest, Thurston Co., WA</td>
</tr>
<tr>
<td>1 Watson Falls, Umpqua NF, Diamond Lake Distr., Douglas Co., OR</td>
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<tr>
<td>2 Little River, Umpqua NF, N. Umpqua Distr., Douglas Co., OR</td>
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<td>4 Dog Prairie, Umpqua NF, Diamond Lake Distr., Douglas Co., OR</td>
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<td>T Trees</td>
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</tr>
<tr>
<td>L Lichens</td>
</tr>
<tr>
<td>CT Conifer Trees</td>
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<tr>
<td>HT Hardwood Trees</td>
</tr>
<tr>
<td>H Herbs</td>
</tr>
<tr>
<td>B Bryophytes</td>
</tr>
<tr>
<td>N Not measured</td>
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Enumerated Domain for Attribute: PRESENT1
1  present
0  absent

Enumerated Domain for Attribute: PRESENT2
1  present
0  absent

Enumerated Domain for Attribute: PRESENT3
1  present
0  absent

Enumerated Domain for Attribute: PRESENT4
1  present
0  absent

Enumerated Domain for Attribute: PRESENT5
1  present
0  absent

Enumerated Domain for Attribute: PRESENT6
1  present
0  absent

Enumerated Domain for Attribute: PTYPE
0  Uncut Plot
1  Cut Plot

Enumerated Domain for Attribute: TRANS
C  Transect C
D  Transect D
B  Transect B
A  Transect A
0  plot center (grid point)

Enumerated Domain for Attribute: TRT
1  100% retention (uncut)
5  15% retention (dispersed)
6  15% retention (aggregated)
4  40% retention (aggregated)
2  75% retention with gaps
3  40% retention (dispersed)
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3 40% retention (dispersed)

Enumerated Domain for Attribute: DATACODE
TP108 FSDB database code for Terrestrial Productivity, TP108

Enumerated Domain for Attribute: BLOCK
8 Capital Forest, Capital Forest, Thurston Co., WA
1 Watson Falls, Umpqua NF, Diamond Lake Distr., Douglas Co., OR
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Enumerated Domain for Attribute: LIFEFORM
T Trees
TS Tall Shrubs
L Lichens
CT Conifer Trees
HT Hardwood Trees
H Herbs
B Bryophytes
N Not measured

Enumerated Domain for Attribute: PTYPE
0 Uncut Plot
1 Cut Plot

Enumerated Domain for Attribute: TRANS
C Transect C
D Transect D
B Transect B
A Transect A
0 plot center (grid point)

Enumerated Domain for Attribute: TRT
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4 Dog Prairie, Umpqua NF, Diamond Lake Distr., Douglas Co., OR

Enumerated Domain for Attribute: PTYPE
0 Uncut Plot
1 Cut Plot

Enumerated Domain for Attribute: SUBSTRATE
MINSOIL  Mineral Soil
LTREEBR  Live Tree Base, Root, Branches
STONE   Stone
FLITTER  Fine Litter Substrate
STUMP   Stump, Stump Root
CLITTER  Coarse Litter Substrate
SCAT    Animal Scat
MTRAP   Metal Trap
WINDTH  Windthrown Tree
SHSTEM  Shrub Stem, Shrub Base, Shrub Root
APRINT  Animal Print
BONE    Animal Bone
PITFALL Pit Fall Trap
MUD     Mud
FTPATH  Footpath
ABURR  Animal Burrow
WATER   Standing Water
SKDRD  Skid Road
SNAG    Snag
TUMOUND Tip-up mound
DEACLOG Decayed Log Chunks, CWDEB, Tree Bark
SUSPLOG Suspended Log
TREEBOL Live Tree Bole
ASH     Ashes
CHARCOL Charcoal
STREAM  Stream bed/channel with water
ROOTWAD Rootwad, holds mineral soil
OTHER   Other substrate; not listed or not defined

Enumerated Domain for Attribute: TRANS
C       Transect C
D       Transect D
B       Transect B
A       Transect A
0       plot center (grid point)

Enumerated Domain for Attribute: TRT
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TP108   FSDB database code for Terrestrial Productivity, TP108

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<td><strong>A</strong> Transect A</td>
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<tr>
<td>2</td>
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Enumerated Domain for Attribute: **LIFEFORM**

- **T**: Trees
- **TS**: Tall Shrubs
- **L**: Lichens
- **CT**: Conifer Trees
- **HT**: Hardwood Trees
- **H**: Herbs
- **B**: Bryophytes
- **N**: Not measured

Enumerated Domain for Attribute: **PTYPE**

- **0**: Uncut Plot
- **1**: Cut Plot

Enumerated Domain for Attribute: **TRANS**

- **C**: Transect C
- **D**: Transect D
- **B**: Transect B
- **A**: Transect A
- **0**: plot center (grid point)

Enumerated Domain for Attribute: **TRT**

- **1**: 100% retention (uncut)
- **5**: 15% retention (dispersed)
- **6**: 15% retention (aggregated)
- **4**: 40% retention (aggregated)
- **2**: 75% retention with gaps
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Enumerated Domain for Attribute: **DATACODE**

- **TP108**: FSDB database code for Terrestrial Productivity, TP108

Enumerated Domain for Attribute: **BLOCK**

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- **5**: Butte, Gifford Pinchot NF, Randle Distr., Skamania Co., WA
Enumerated Domain for Attribute: LDECAY

M Missing Ldecay

4 Bark absent; twigs <3 cm in diam absent; texture—wood chunks small, soft, blocky, cross-section round to oval; color light to brown-yellow; log on ground
5 Bark and twigs <3 cm in diam absent; texture—wood soft and powdery; cross-section oval; wood color light yellow or gray; all of log on ground
2 Bark intact; twigs <3 cm in diam absent; texture—wood intact to partly-soft cross-section round; wood original color; log elevated but sagging slightly
1 Bark intact; twigs <3 cm in diam present; texture—wood intact; log cross-section round; wood original color; log elevated on support points
3 Bark loose/missing in places; <3 cm in diam absent; wood hard but in large pieces; cross-section round; wood original color/faded; log sagging near ground

Enumerated Domain for Attribute: LENGTH

1 <= 0.5 m
4 > 5.0 - 10.0 m
5 > 10.0 m
3 > 1.0 - 5.0 m
M Missing Length
2 > 0.5 - 1.0 m

Enumerated Domain for Attribute: PTYPE

0 Uncut Plot
1 Cut Plot

Enumerated Domain for Attribute: TRANS

C Transect C
D Transect D
B Transect B
A Transect A
0 plot center (grid point)

Enumerated Domain for Attribute: TRT

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3 40% retention (dispersed)

Enumerated Domain for Attribute: DATACODE

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Enumerated Domain for Attribute: PTYPE
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Enumerated Domain for Attribute: BOLE1
8 Crook(s) in bole
U Not recorded
9 Conk(s) present
7 Sweeping
3 Butt swell (if abnormal for species)
6 Grouse ladder
5 Leaning
1 Straight bole
2 Pistol butt
4 Forked or multiple boles

Enumerated Domain for Attribute: BOLE2
8 Crook(s) in bole
U Not recorded
9 Conk(s) present
7 Sweeping
3 Butt swell (if abnormal for species)
6 Grouse ladder
5 Leaning
1 Straight bole
2 Pistol butt
4 Forked or multiple boles

Enumerated Domain for Attribute: BOLE3
8 Crook(s) in bole
U Not recorded
9 Conk(s) present
7 Sweeping
3 Butt swell (if abnormal for species)
6 Grouse ladder
5 Leaning
1 Straight bole
2 Pistol butt
4 Forked or multiple boles
Enumerated Domain for Attribute: CANOPY

I  Intermediate
S  Suppressed
D  Dominant
C  Co-dominant
9  Not recorded

Enumerated Domain for Attribute: CROWN1

7  Crook in crown
6  Half-crowned
9  Flat top
8  Witch's broom
5  Unknown tops
4  Dead top
1  Good condition
3  Multiple tops/leaders
2  Broken top
U  Not recorded

Enumerated Domain for Attribute: CROWN2

7  Crook in crown
6  Half-crowned
9  Flat top
8  Witch's broom
5  Unknown tops
4  Dead top
1  Good condition
3  Multiple tops/leaders
2  Broken top
U  Not recorded

Enumerated Domain for Attribute: CROWN3

7  Crook in crown
6  Half-crowned
9  Flat top
8  Witch's broom
5  Unknown tops
4 Dead top
1 Good condition
3 Multiple tops/leaders
2 Broken top
U Not recorded

Enumerated Domain for Attribute: DISTURB1
3 Old Scar(s)
1 No scar(s)
2 Fresh scar(s) (logging scar)
U Not recorded

Enumerated Domain for Attribute: DISTURB2
3 Old Scar(s)
1 No scar(s)
2 Fresh scar(s) (logging scar)
U Not recorded

Enumerated Domain for Attribute: PTYPE
0 Uncut Plot
1 Cut Plot

Enumerated Domain for Attribute: STATUS
9 Tree missing
0 Tree measured at plot establishment
1 Tree remeasured
6 Tree died
2 Ingrowth
8 No trees present in this year
U Unknown/not recorded

Enumerated Domain for Attribute: TREEVIGOR
9 missing
3 Poor
6 Dead
1 Good
2 Fair
U unknown

Enumerated Domain for Attribute: TRT
1 100% retention (uncut)
15% retention (dispersed)
15% retention (aggregated)
40% retention (aggregated)
75% retention with gaps
40% retention (dispersed)

Enumerated Domain for Attribute: DATACODE
TP108  FSDB database code for Terrestrial Productivity, TP108

Enumerated Domain for Attribute: PLANTED
U  Not recorded (if TreeID was ever status 2 in the past, i.e., originating as ingrowth, then "Planted" is undetermined)
P  Tree was planted
N  Tree was not planted
X  No trees present on plot

Enumerated Domain for Attribute: BLOCK
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Enumerated Domain for Attribute: ORIGIN
W  Created wildlife snag
N  Natural Snag
9  no snag present in plot

Enumerated Domain for Attribute: PTYPE
0  Uncut Plot
1  Cut Plot

Enumerated Domain for Attribute: SDECAY
3  Needles, twigs absent; bark absent
4  Needles, twigs absent; top broken out
5  Needles, twigs absent; bark absent; top broken out; decomposition obvious
2  Needles, twigs present; bark loose
9  Class missing due to snag missing, not present in plot, or not recorded
1  Needles, twigs present; bark tight
Enumerated Domain for Attribute: SHTCLASS
2  >1.5 - 5.0 m
4  >15.0 m
3  >5.0 - 15.0 m
1  0.5 - 1.5 m
9  Class missing due to snag missing, not present in plot, or not recorded

Enumerated Domain for Attribute: SNAGSTATUS
0  establishment year
1  present at remeasurement
9  missing; snag cannot be located
2  new snag in current year
6  snag has fallen, no longer in current population
8  no snag present in plot

Enumerated Domain for Attribute: TRT
1  100% retention (uncut)
5  15% retention (dispersed)
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Enumerated Domain for Attribute: CANOPY
I  Intermediate
S  Suppressed
D  Dominant
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<tr>
<th>C</th>
<th>Co-dominant</th>
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**Enumerated Domain for Attribute: PTYPE**

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<td>Paradise Hills, Gifford Pinchot NF, Wind River Distr., Skamania Co., WA</td>
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<tr>
<td>6</td>
<td>Little White Salmon, Gifford Pinchot NF, Mt. Adams Distr., NF, Skamania Co.,</td>
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<tr>
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<td>Butte, Gifford Pinchot NF, Randle Distr., Skamania Co., WA</td>
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<td>Layng Creek, Umpqua NF, Cottage Grove Distr., Lane Co., OR</td>
</tr>
<tr>
<td>2</td>
<td>Little River, Umpqua NF, N. Umpqua Distr., Douglas Co., OR</td>
</tr>
<tr>
<td>4</td>
<td>Dog Prairie, Umpqua NF, Diamond Lake Distr., Douglas Co., OR</td>
</tr>
</tbody>
</table>

**Enumerated Domain for Attribute: LOCATION**

<table>
<thead>
<tr>
<th>C</th>
<th>Transect C</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Transect A</td>
</tr>
<tr>
<td>B</td>
<td>Transect B</td>
</tr>
<tr>
<td>D</td>
<td>Transect D</td>
</tr>
<tr>
<td>X</td>
<td>Plot Center</td>
</tr>
</tbody>
</table>

**Enumerated Domain for Attribute: MMARK**

<table>
<thead>
<tr>
<th>6</th>
<th>End of Transect</th>
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</thead>
<tbody>
<tr>
<td>0</td>
<td>Start of Transect</td>
</tr>
</tbody>
</table>

**Plot Center Location**
1 Cut Plot

Enumerated Domain for Attribute: TRT
1 100% retention (uncut)
5 15% retention (dispersed)
6 15% retention (aggregated)
4 40% retention (aggregated)
2 75% retention with gaps
3 40% retention (dispersed)

Enumerated Domain for Attribute: DATACODE
TP108 FSDB database code for Terrestrial Productivity, TP108

Enumerated Domain for Attribute: BLOCK
8 Capital Forest, Capital Forest, Thurston Co., WA
1 Watson Falls, Umpqua NF, Diamond Lake Distr., Douglas Co., OR
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2 Little River, Umpqua NF, N. Umpqua Distr., Douglas Co., OR
4 Dog Prairie, Umpqua NF, Diamond Lake Distr., Douglas Co., OR

Enumerated Domain for Attribute: COVTYPE
CLITTER Coarse litter (< 10 cm diam.), not of harvest origin
STONE Stone, Rock (> 7 cm)
STUMP Stump, old or newly created
SLASH Slash (<10 cm diam.), derived from harvest activity
DSOIL Disturbed mineral soil
SKID Skid trail
FLOOR Intact forest floor
LOG Log (>=10 cm diam.); includes bark
LTREEBR Live tree base, bole, or root
HOLE Hole in the ground, burrow
TRAIL human-created trail
ROAD logging road or road edge
BURNP slash pile that has been burned
STREAMB Stream bed/channel with water
SHSTEM  Shrub stem, root, or base
RTWAD  Rootwad, holds mineral soil
SNAG  Snag, includes base and root
CLUMBER  cut lumber (for amphibian study)

Enumerated Domain for Attribute: PTYPE
0  Uncut Plot
1  Cut Plot

Enumerated Domain for Attribute: TRANS
C  Transect C
D  Transect D
B  Transect B
A  Transect A
0  plot center (grid point)

Enumerated Domain for Attribute: TRT
1  100% retention (uncut)
5  15% retention (dispersed)
6  15% retention (aggregated)
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2  75% retention with gaps
3  40% retention (dispersed)

Enumerated Domain for Attribute: DATACODE
TP108  FSDB database code for Terrestrial Productivity, TP108

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Enumerated Domain for Attribute: PTYPE
0  Uncut Plot
1  Cut Plot
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<tr>
<td>B Transect B</td>
</tr>
<tr>
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<td>0 plot center (grid point)</td>
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</tr>
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<tr>
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<tr>
<td>1 Cut Plot</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Enumerated Domain for Attribute: STATUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>9 Tree missing</td>
</tr>
<tr>
<td>0 Tree measured at plot establishment</td>
</tr>
<tr>
<td>1 Tree remeasured</td>
</tr>
<tr>
<td>6 Tree died</td>
</tr>
<tr>
<td>2 Ingrowth</td>
</tr>
<tr>
<td>8 No trees present in this year</td>
</tr>
<tr>
<td>U Unknown/not recorded</td>
</tr>
</tbody>
</table>
Enumerated Domain for Attribute: TRT
1  100% retention (uncut)
5  15% retention (dispersed)
6  15% retention (aggregated)
4  40% retention (aggregated)
2  75% retention with gaps
3  40% retention (dispersed)

Enumerated Domain for Attribute: VIGOR
1  Good (no apparent sign of distress)
9  Missing
3  Poor (extreme distress apparent, death imminent)
6  Dead
2  Fair (some signs of distress)
8  No trees present in plot (qtr=0 and tag=0)
U  Unknown/not recorded

Enumerated Domain for Attribute: DATACODE
TP108  FSDB database code for Terrestrial Productivity, TP108

Enumerated Domain for Attribute: BLOCK
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Enumerated Domain for Attribute: MISSING
Y  Photo missing

Enumerated Domain for Attribute: PRE_POST
post  Photo taken after application of treatment
pre   Photo taken before application of treatment

Enumerated Domain for Attribute: TRANS
C  Transect C
D  Transect D
B  Transect B
A Transect A
0 plot center (grid point)

Enumerated Domain for Attribute: TRT
1 100% retention (uncut)
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6 15% retention (aggregated)
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Enumerated Domain for Attribute: CANOPY
I Intermediate
S Suppressed
D Dominant
C Co-dominant
9 Not recorded

Enumerated Domain for Attribute: COND1
41 pitch tubes on bole
21 rot at break
42 beetle galleries
99 no condition code
52 rot (note type and position)
1 green needles/leaves present
4 dead several years
11 crown flat-topped
3 bark sloughing
53 tree hollow
2 dead needles/leaves present
55 oozing wounds
54 pitch sheets
72 girdling (comment)
73 woodpecker/sapsucker activity
14 crown stripped by falling tree or snag
71 scarring of bole (comment)
60 witch's broom
56 mistletoe
12 evidence of earlier loss of part of crown
13 spike top/top dieback

Enumerated Domain for Attribute: COND2
41 pitch tubes on bole
21 rot at break
42 beetle galleries
99 no condition code
52 rot (note type and position)
1 green needles/leaves present
4 dead several years
11 crown flat-topped
3 bark sloughing
53 tree hollow
2 dead needles/leaves present
55 oozing wounds
54 pitch sheets
72 girdling (comment)
73 woodpecker/sapsucker activity
14 crown stripped by falling tree or snag
71 scarring of bole (comment)
60 witch's broom
56 mistletoe
12 evidence of earlier loss of part of crown
13 spike top/top dieback

Enumerated Domain for Attribute: COND3
41 pitch tubes on bole
21 rot at break
42 beetle galleries
99 no condition code
52 rot (note type and position)
1 green needles/leaves present
4 dead several years
11 crown flat-topped
3 bark sloughing
53 tree hollow
2 dead needles/leaves present
55 oozing wounds
54 pitch sheets
72 girdling (comment)
73 woodpecker/sapsucker activity
14 crown stripped by falling tree or snag
71 scarring of bole (comment)
60 witch's broom
56 mistletoe
12 evidence of earlier loss of part of crown
13 spike top/top dieback

Enumerated Domain for Attribute: COND4
41 pitch tubes on bole
21 rot at break
42 beetle galleries
99 no condition code
52 rot (note type and position)
1 green needles/leaves present
4 dead several years
11 crown flat-topped
3 bark sloughing
53 tree hollow
2 dead needles/leaves present
55 oozing wounds
54 pitch sheets
72 girdling (comment)
73 woodpecker/sapsucker activity
14 crown stripped by falling tree or snag
71 scarring of bole (comment)
60 witch's broom
56 mistletoe
12 evidence of earlier loss of part of crown
13 spike top/top dieback

Enumerated Domain for Attribute: COND5
41 pitch tubes on bole
21 rot at break
42 beetle galleries
99 no condition code
52 rot (note type and position)
4 dead several years
11 crown flat-topped
3 bark sloughing
53 tree hollow
2 dead needles/leaves present
55 oozing wounds
54 pitch sheets
72 girdling (comment)
73 woodpecker/sapsucker activity
14 crown stripped by falling tree or snag
71 scarring of bole (comment)
60 witch's broom
56 mistletoe
12 evidence of earlier loss of part of crown
13 spike top/top dieback
Enumerated Domain for Attribute: COND6
41  pitch tubes on bole
21  rot at break
42  beetle galleries
99  no condition code
52  rot (note type and position)
 1  green needles/leaves present
 4  dead several years
11  crown flat-topped
 3  bark sloughing
53  tree hollow
 2  dead needles/leaves present
55  oozing wounds
54  pitch sheets
72  girdling (comment)
73  woodpecker/sapsucker activity
14  crown stripped by falling tree or snag
71  scarring of bole (comment)
60  witch's broom
56  mistletoe
12  evidence of earlier loss of part of crown
13  spike top/top dieback

Enumerated Domain for Attribute: POSITION
 3  crushed but rooted
 4  uprooted
 2  main stem broken
 1  Standing w/ crown
 9  position is unknown; tree is missing

Enumerated Domain for Attribute: PTYPE
 0  Uncut Plot
 1  Cut Plot

Enumerated Domain for Attribute: TRT
 1  100% retention (uncut)
 5  15% retention (dispersed)
6 15% retention (aggregated)
4 40% retention (aggregated)
2 75% retention with gaps
3 40% retention (dispersed)

Enumerated Domain for Attribute: DATACODE
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Enumerated Domain for Attribute: PTYPE
0 Uncut Plot
1 Cut Plot

Enumerated Domain for Attribute: TRANS
C Transect C
D Transect D
B Transect B
A Transect A
0 plot center (grid point)

Enumerated Domain for Attribute: TRT
1 100% retention (uncut)
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Enumerated Domain for Attribute: DATACODE
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4. Dog Prairie, Umpqua NF, Diamond Lake Distr., Douglas Co., OR

Enumerated Domain for Attribute: CROWN1
7. Crook in crown
6. Half-crowned
9. Flat top
8. Witch's broom
5. Unknown tops
4. Dead top
1. Good condition
3. Multiple tops/leaders
2. Broken top
U. Not recorded

Enumerated Domain for Attribute: CROWN2
7. Crook in crown
6. Half-crowned
9. Flat top
8. Witch's broom
5. Unknown tops
4. Dead top
1. Good condition
3. Multiple tops/leaders
2. Broken top
U. Not recorded

Enumerated Domain for Attribute: DIST1
3. Old Scar(s)
1. No scar(s)
2. Fresh scar(s) (logging scar)
U. Not recorded
Enumerated Domain for Attribute: DIST2
3 Old Scar(s)
1 No scar(s)
2 Fresh scar(s) (logging scar)
U Not recorded

Enumerated Domain for Attribute: PTYPE
0 Uncut Plot
1 Cut Plot

Enumerated Domain for Attribute: STEM1
1 Straight stem
3 Butt swell (if abnormal for species)
6 lost dominance in terminal leader
5 Leaning
2 Pistol butt
4 Forked or multiple stems
9 foliage discoloration
7 Sweep
no code
8 Crook(s) in stem

Enumerated Domain for Attribute: STEM2
1 Straight stem
3 Butt swell (if abnormal for species)
6 lost dominance in terminal leader
5 Leaning
2 Pistol butt
4 Forked or multiple stems
9 foliage discoloration
7 Sweep
no code
8 Crook(s) in stem

Enumerated Domain for Attribute: TRANS
C Transect C
D Transect D
B Transect B
A Transect A
0 plot center (grid point)

Enumerated Domain for Attribute: TRT
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Enumerated Domain for Attribute: DATACODE
TP108 FSDB database code for Terrestrial Productivity, TP108