

# Martha Creek

## ~ 100 yrs

### Information for Field Researchers

Transects are 120 m long x 12 m wide

Transect 3 is the focus transect with rigged trees

**High clearance vehicle recommended for the stretch on 41 as there are numerous deep waterbars.**

**Forest Service gate key required to access Road 41 – The Forest Canopy Lab has a copy for summer 2006.**



# Martha Creek ~ 100 yrs



- For permitting at Martha Creek contact Sarah Greene at the Forest Service - [sgreene@fs.fed.us](mailto:sgreene@fs.fed.us)

Figure 1. Study site locations. Numbers refer to sites as described in the text.

# Martha Creek General Information

- Lodging – Forest Service bunkhouses, or camping, or motels in Carson, WA.
- Nearest store is in Carson, WA (~ 8 miles south of Stabler on Wind River Road)
- Nearest hospital:
  - **Mount Hood Memorial Hospital**  
(<http://www.providence.org/HoodRiver/default.htm>), 811  
13th St, Hood River, OR 97031, US Phone: 1-800-955-3911.

# Local Lodging

- Lodging for the Wind River sites is available in the Forest Service ‘bunk’ houses. Cost is 3.76 per person per night.

Contact Annie Hamilton:

[annieh@u.washington.edu](mailto:annieh@u.washington.edu), 509-427-7028, to make reservations, ask questions about the lodging, etc.

- If the lodging is booked, then there are campgrounds and hotels nearby.

# Campgrounds

## **Panther Creek Campground (USDA FS)**

Wind River Ranger District

(<http://www.fs.fed.us/gpnf/recreation/campgrounds/sites/panther-creek.shtml> )

From Highway 14 take Wind River Road north through Carson 6 miles to Forest Road 65. Forest Road 65 4 miles to campground.

## **Beaver Campground (USDA FS)**

Wind River Ranger District

(509) 427-3200

Reservation Phone: 8002802267



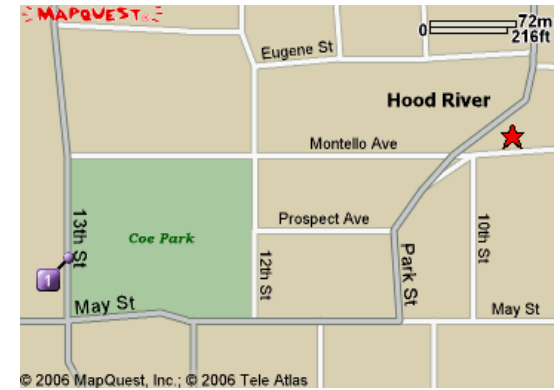
From SR 14, drive N from Carson for 13 mi along the Wind River Hwy.

**Features:** Shady river setting with large grassy field for day use

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# Closest Hospital

•Hood River Memorial (OR) Hospital is closest (~ 25 miles). There is another about the same distance on the Washington side in White Salmon Wa but it is not recommended!



Turn LEFT onto WA-14.

17.1 miles

Turn RIGHT onto HOOD RIVER BRIDGE (Portions toll).

1.0 miles

Merge onto I-84 W toward HOOD RIVER / PORTLAND.

0.3 miles

Take EXIT 63 toward HOOD RIVER / CITY CENTER.

0.1 miles

Turn LEFT onto 2ND ST.

0.1 miles

Turn RIGHT onto OAK ST / US-30 / OR-35.

0.6 miles

Turn LEFT onto 13TH ST.

0.2 miles

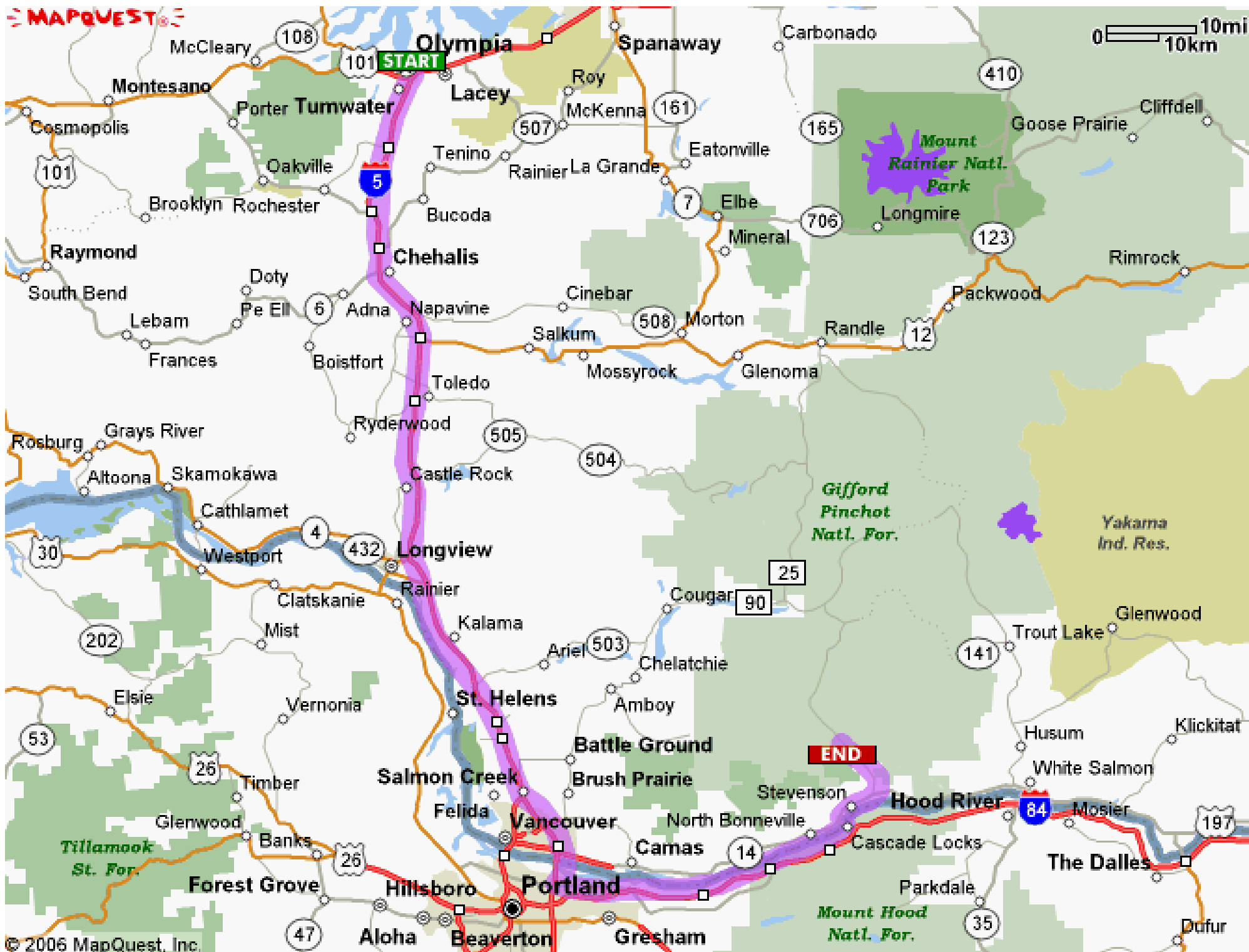
End at **Hood River Memorial Hospital**

811 13th St, Hood River, OR 97031, US

# Driving Directions

## (from Olympia)

From Hwy 101, merge onto I-5 S toward PORTLAND	97 miles
Merge onto I-205 S via EXIT 7 toward WA-14 / SALEM / I-84.	14.7 miles
Merge onto I-84 E / US-30 E via EXIT 22 toward THE DALLES	34.6 miles
Take the US-30 exit- EXIT 44- toward CASCADE LOCKS / STEVENSON	0.3 miles
Stay STRAIGHT to go onto WA-NA-PA ST / US-30.	0.1 miles
Turn LEFT onto BRIDGE OF THE GODS (1.00 toll to cross this bridge)	0.3 miles
Turn RIGHT onto WA-14 / EVERGREEN HWY. Continue to follow WA-14. You will go through Stevenson.	5.9 miles
Turn SLIGHT LEFT onto WIND RIVER RD and continue on the main road (Wind River HWY) to Stabler. You will pass through Carson. The sign to turn onto Wind River Road will mention that you are heading into the Wind River Recreation Area.	8.5 miles
In Stabler turn left onto Hemlock Road. Cross over the Wind River and continue to the Wind River Work Center.	1.2 miles
Continue past the work center, cross the bridge, and stay right onto Chapman Road. Turn right onto Forest Service road 41 on your right. It is just before the arboretum and housing. There is a gate at the beginning of this road and you will need to get a Forest Service gate key to access.	0.1 miles
Once on this road – it will turn to gravel road with lots of waterbars, follow approximately 2 miles to the south end of T1. The paths to the transects have been flagged with red permanent flagging tape.	2.3 miles
<b>Note: High clearance recommended for the stretch on 41 as there are numerous waterbars, Forest Service gate key required to access Road 41.</b>	





# Transect Locations

T1	Approximately 2 miles up FS road 41. Located on the East Side of the road. There is red flagging marking the trail to each end of the transect. To access the start of the transect, locate a double forking PSME (~25 cm dbh). just up from the road on the east-side of the road. This tree has a silver rectangular tag on it. From this tree go 20 m at a bearing of 110 degrees and you will find the start of T1.
T2	Continue up the road from where you enter T1 ~ 250 m. You will see red flagging that marks the entrance to the start of T2. There is a big Douglas-fir with a silver rectangular tag along the North side of the road. From the big PSME travel ~ 5 m at 30 degrees to the start of T2.
T3	The entrance to this transect is around where the entrance to T2 is, but slightly before the entrance to T2, again with red flagging to mark the entrance. There is a silver rectangular tag located on ~ 50 cm dbh PSME. Travel from this tree ~ 25 m at a bearing of 210 degrees to the start of T3. This is the focus transect with rigged trees.
T4	The east side of T4 is approximately 165 m up the road from the west end of T3, approximately .35 miles up the road from the start of T1. There is no rebar at the start of the transect. From a tree on the side of the road (?species and size) travel 65 m at a bearing of 160 degrees to the start of T4.
	Paths to start of transects should be flagged red, Transects are 120m long x 12 m wide.

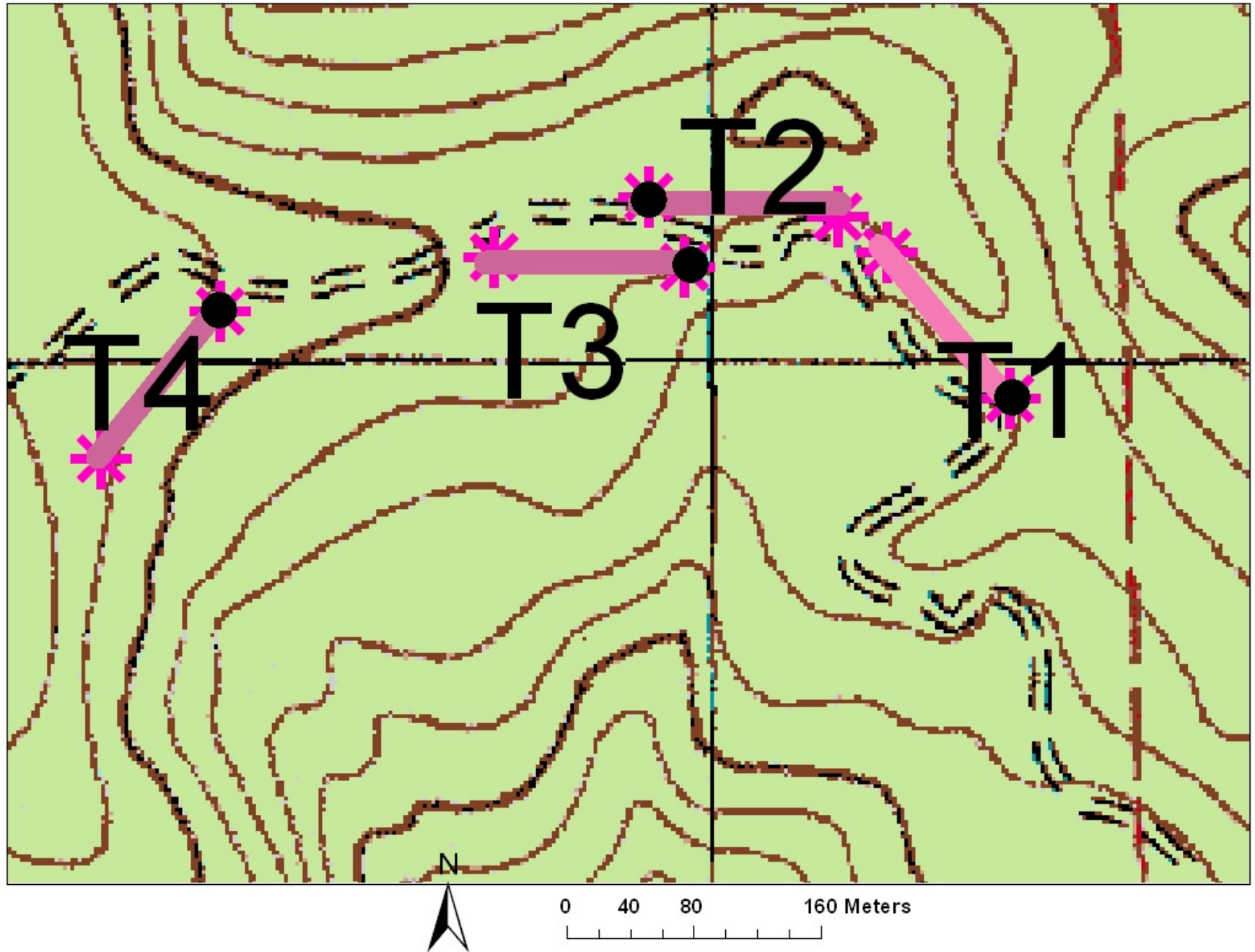
**Table 1. Summary of site characteristics. The Carbon River stand is on an alluvial flat, and the Cedar Flats stand is on swampy ground, thus reducing a need for summer precipitation at both sites. Precipitation data does not include condensation from fog, which can add 10–30% at all of these sites.**

Site		Elevation (m)	Age	Slope (% aspect)	Plant association*	Precipitation (cm)			Temp (°C) (annual Ave.)
						Ann.	July–Sep.	Snowfall	
PL	Plantation	624	50	0–15% SE	<i>TSHE/BENE</i>	253	12	233	0–17.5 (8.0)
MC	Martha Creek	582	100	5–20% S	<i>TSHE/BENE/GASH</i>	253	12	233	0.6–17.8 (8.5)
PC	Panther Creek	732	157	0–15% W	<i>TSHE/BENE/GASH</i>	264	13	254	0–17.5 (7.8)
OH	Ohanepecosh	622	~280	0–10% SW	<i>TSHE/ACTR</i>	197	14	385	2.2–14.2 (7.9)
TC	Trout Creek	613	~500	0–10% S	<i>TSHE/VAAL/GASH</i>	253	12	233	0–17.5 (8.0)
CR	Carbon River	607	~500	0%	<i>TSHE/POMU/OXOR</i>	346	18	137	3.1–11.8 (7.5)
CF	Cedar Flats	411	~650	0%	<i>TSHE/TITR</i>	317	20	77	5.0–14.4 (9.7)
CH	Chinook	841	~950	0%	<i>ABAM/VAAL</i>	210	17	462	–0.6 –13.8 (6.6)

\* Based on Topik et al. 1986 and Franklin et al. 1988. *TSHE*, *Tsuga heterophylla*; *BENE*, *Berberis nervosa*; *GASH*, *Gaultheria shallon*; *ACTR*, *Achlys triphylla*; *VAAL*, *Vaccinium alaskaense*; *POMU*, *Polystichum munitum*; *OXOR*, *Oxalis oregana*; *TITR*, *Tiarella trifoliata*.

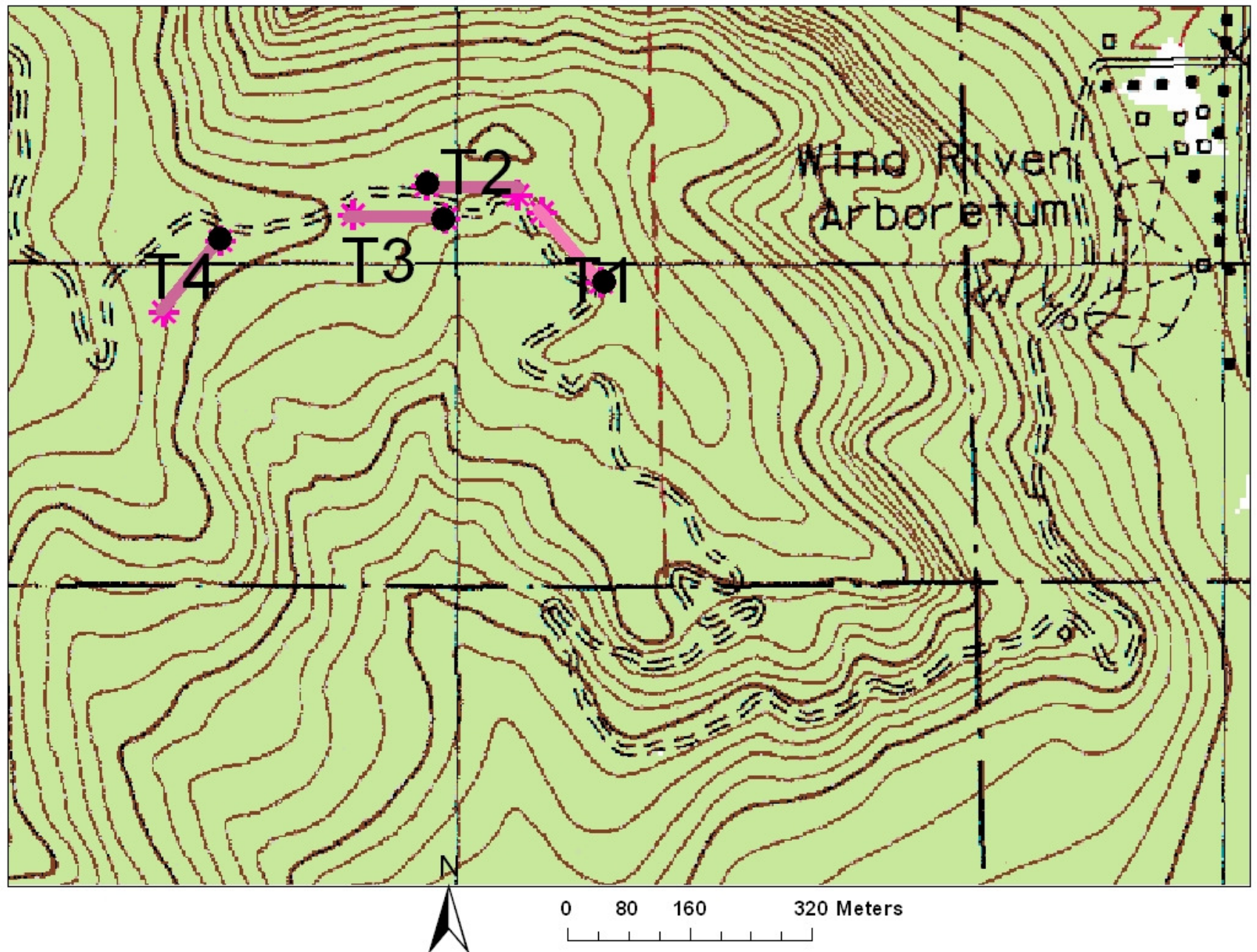
# Martha Creek

Black dot represents the start of the transect





# Martha Creek







An aerial photograph of a river, likely Martha Creek, showing a network of channels and floodplains. The terrain is dark and textured, with lighter patches indicating different sediment types or vegetation. Four white rectangular boxes are drawn on the upper portion of the image, indicating specific transect locations. These boxes are oriented diagonally, following the flow of the river. The text 'Transect locations' is centered below these boxes. In the lower right portion of the image, an orange arrow points to a specific location on the riverbank, with the text 'Rain Bucket location' placed above it. The overall image is in grayscale, emphasizing the topographic and hydrological features of the area.

Transect locations

Rain Bucket location

Martha Creek

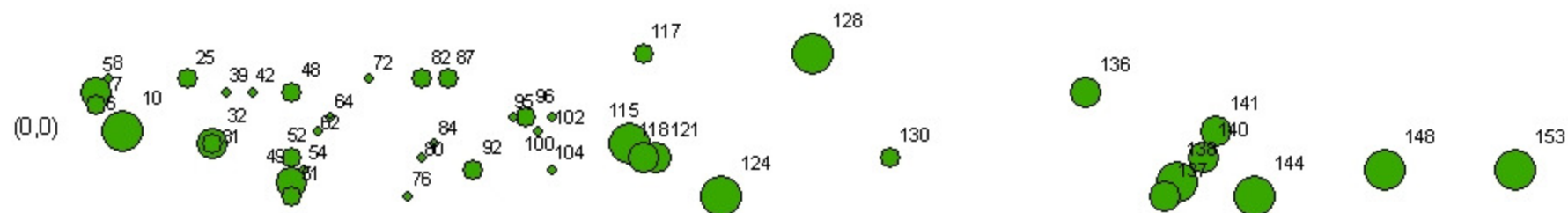
# UTM Coordinates

(may not be accurate – unknown datum)

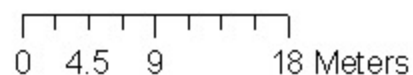
Stand	Transect	Easting	Northing	Angle	Length
MC	T1	582190	5071971	320	120
		582113	5072063		
MC	T2	581963	5072098	96	120
		582082	5072085		
MC	T3	581986	5072054	273	120
		581866	5072060		
MC	T4	581694	5072026	219	120
		581619	5071933		

# Martha Creek Transect 1

Live tagged trees  $\geq 25\text{cm}$  dbh in green



1 centimeter equals 5.112029 meters



120 m long x 12 m wide  
angle = 320 degrees

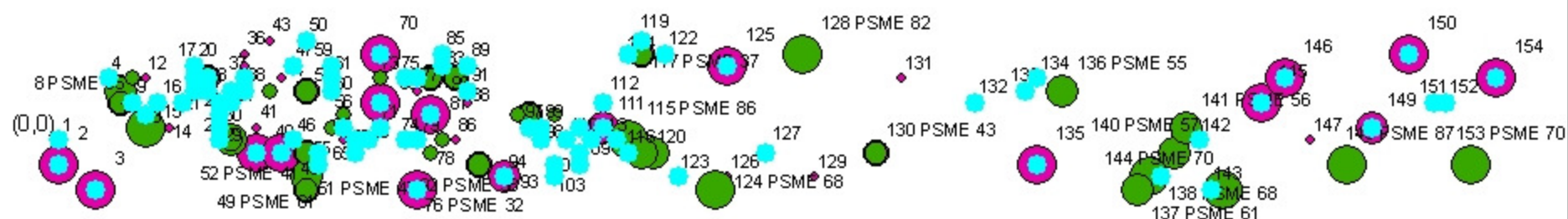
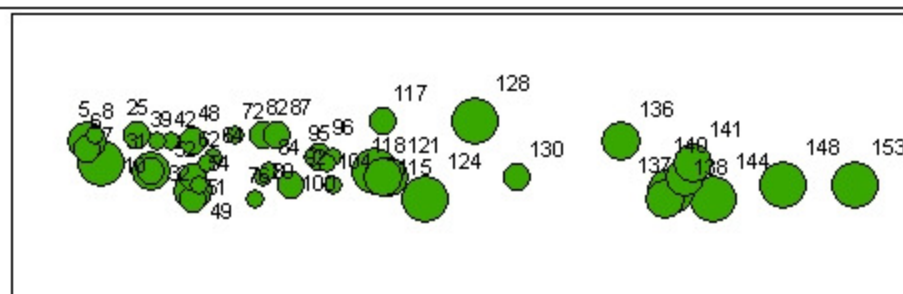
## Legend

### DBH

- 25 - 35
- 36 - 48
- 49 - 65
- 66 - 87

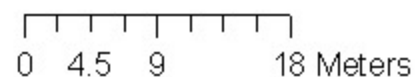


Martha Creek Transect 1 (all trees)  
 Live tagged trees  $\geq 25\text{cm}$  dbh in green  
 Dead trees highlighted in blue



120 m long x 12 m wide  
 angle = 320 degrees

1 centimeter equals 5.116997 meters



## Legend

**T1\_tagged Events MC\_T1\_all Events**

**DBH**

- 25 - 35
- 36 - 48
- 49 - 65
- 66 - 87

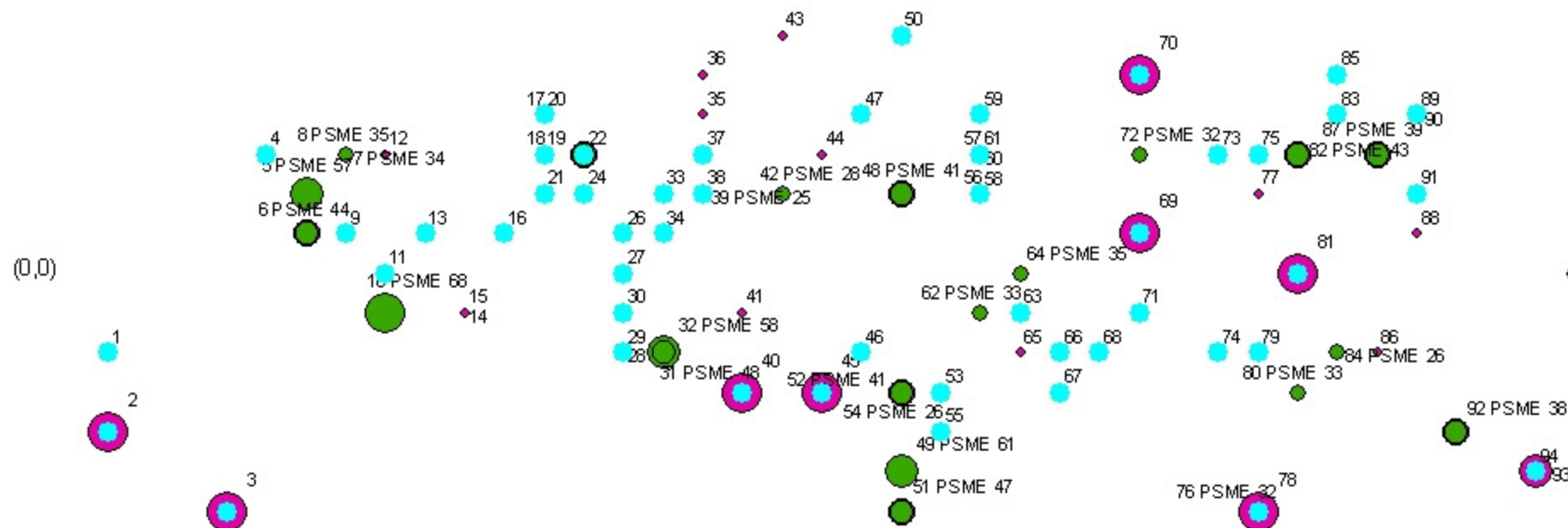
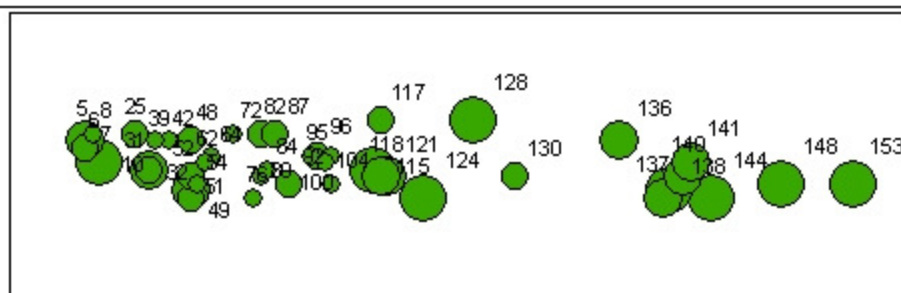
**DBH**

- 5 - 24
- 25 - 35
- 36 - 48
- 49 - 65
- 66 - 189



# Martha Creek Transect 1 (all trees)

Live tagged trees  $\geq 25\text{cm}$  dbh in green  
Dead trees highlighted in blue



## Legend

**T1\_tagged Events MC\_T1\_all Events**

**DBH**

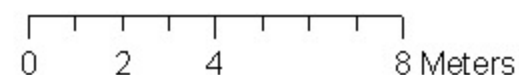
- 25 - 35
- 36 - 48
- 49 - 65
- 66 - 87

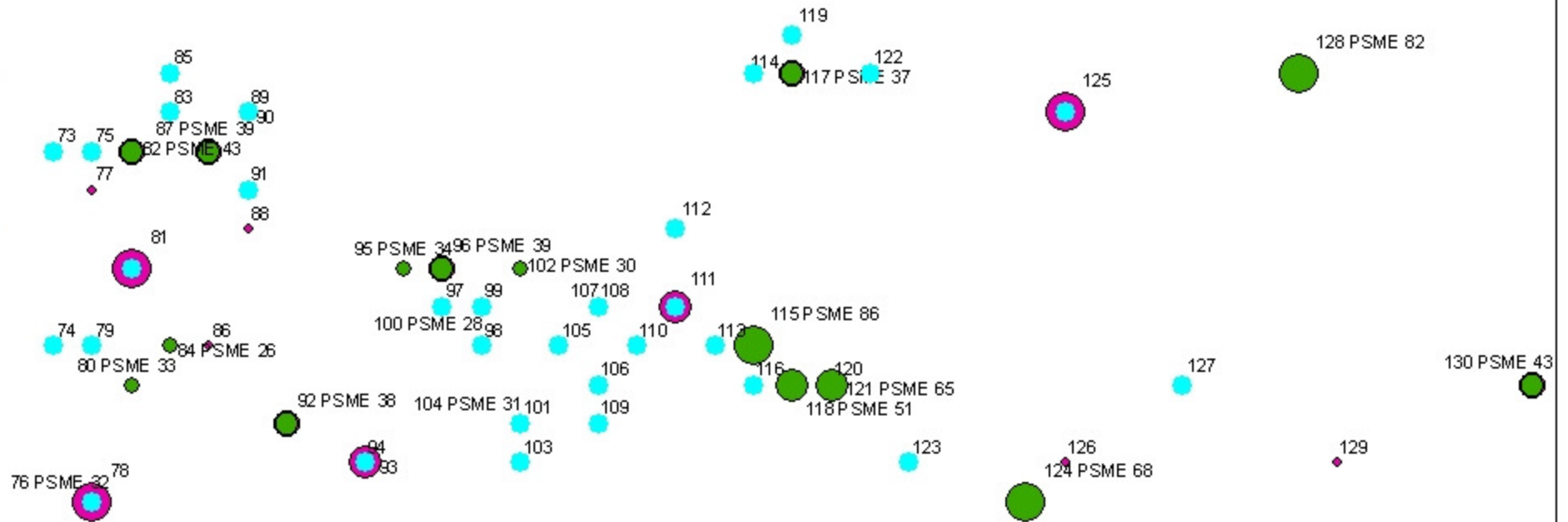
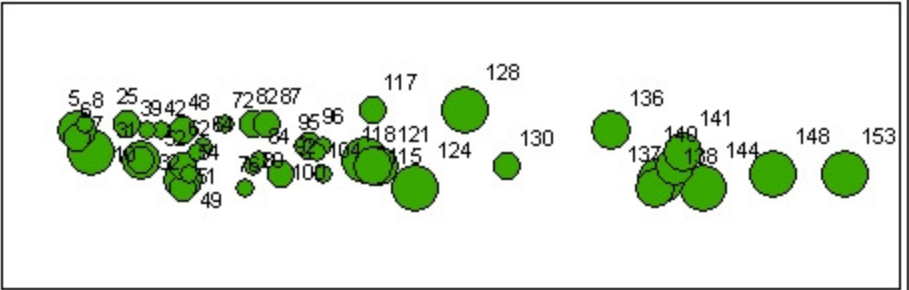
**DBH**

- 5 - 24
- 25 - 35
- 36 - 48
- 49 - 65
- 66 - 189

120 m long x 12 m wide  
angle = 320 degrees

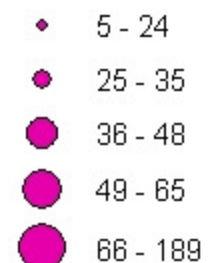
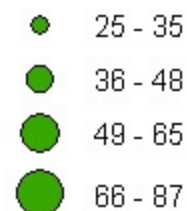
1 centimeter equals 1.619050 meters





**T1\_tagged Events MC\_T1\_all Events**

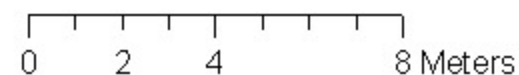
DBH



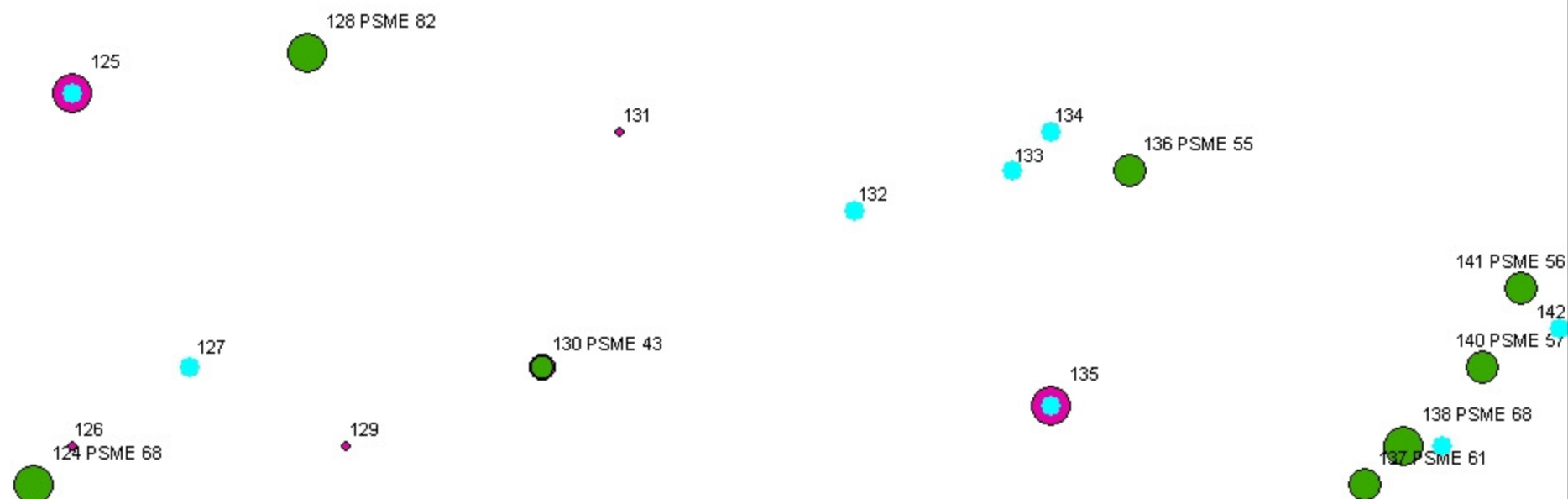
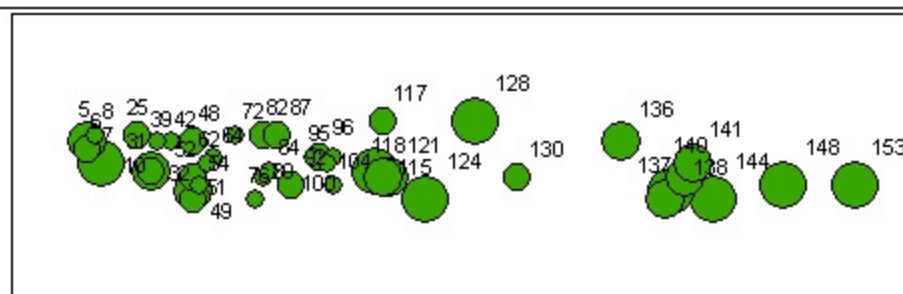
1 centimeter equals 1.619050 meters



1 centimeter equals 1.619050 meters



Martha Creek Transect 1 (all trees)  
 Live tagged trees  $\geq 25$ cm dbh in green  
 Dead trees highlighted in blue



120 m long x 12 m wide  
 angle = 320 degrees  
 1 centimeter equals 1.619050 meters  
 0 2 4 8 Meters

## Legend

T1\_tagged Events MC\_T1\_all Events

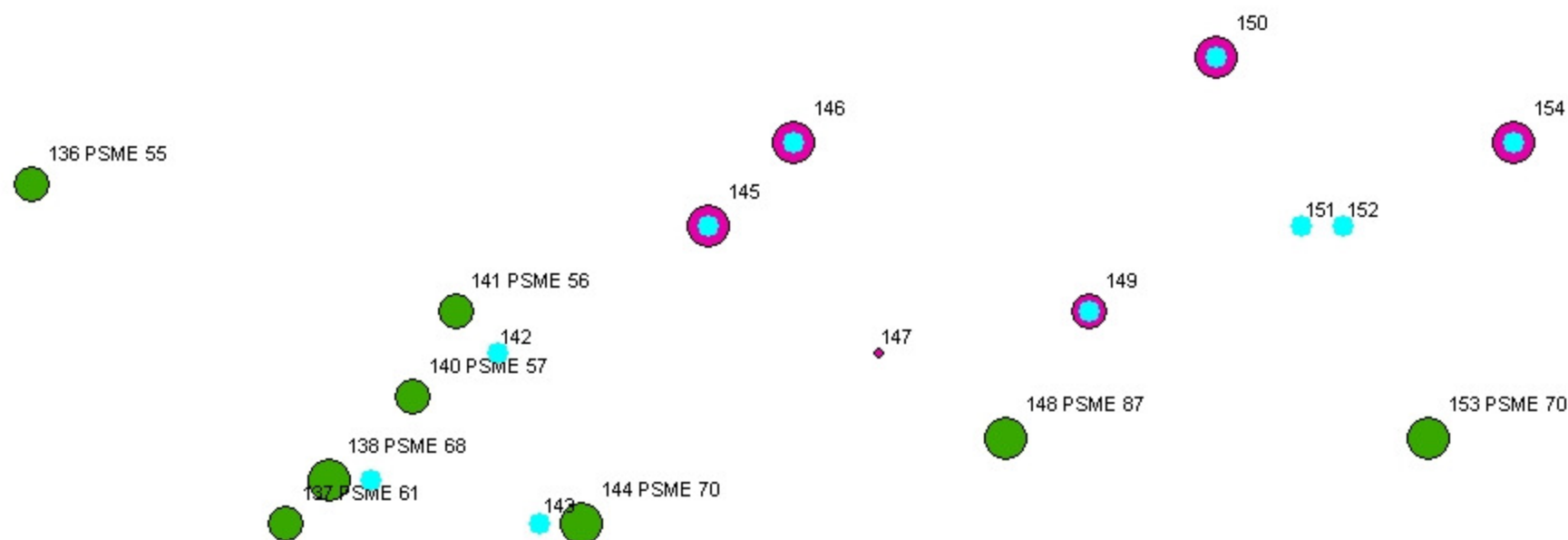
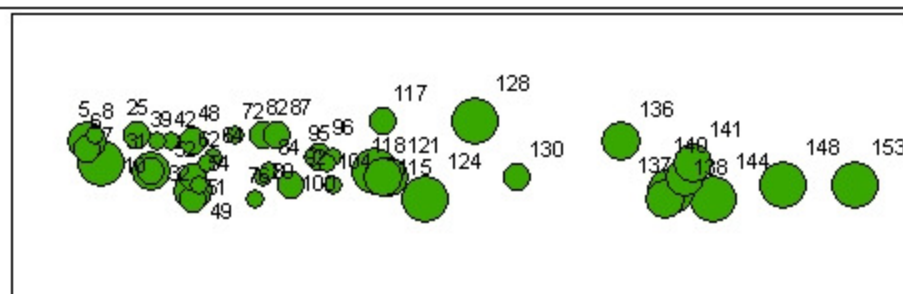
DBH

- 25 - 35
- 36 - 48
- 49 - 65
- 66 - 87

DBH

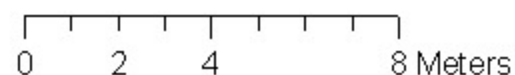
- 5 - 24
- 25 - 35
- 36 - 48
- 49 - 65
- 66 - 189

Martha Creek Transect 1 (all trees)  
 Live tagged trees  $\geq 25$ cm dbh in green  
 Dead trees highlighted in blue



120 m long x 12 m wide  
 angle = 320 degrees

1 centimeter equals 1.619050 meters



## Legend

**T1\_tagged Events MC\_T1\_all Events**

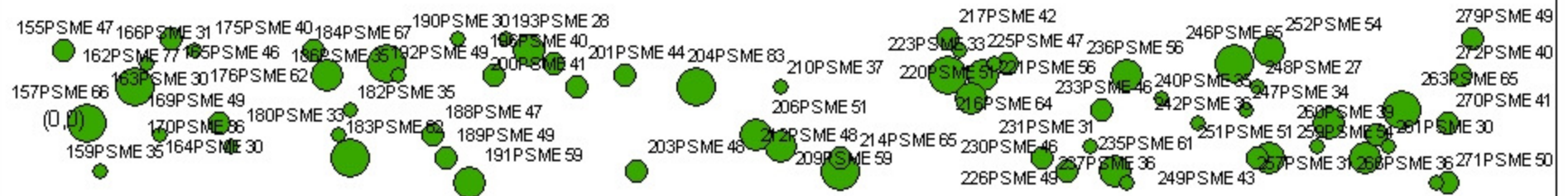
**DBH**

- 25 - 35
- 36 - 48
- 49 - 65
- 66 - 87

**DBH**

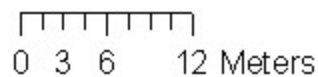
- 5 - 24
- 25 - 35
- 36 - 48
- 49 - 65
- 66 - 189

Martha Creek Transect 2  
Live tagged trees  $\geq 25$ cm dbh in green



120 m long x 12 m wide  
angle = 96 degrees

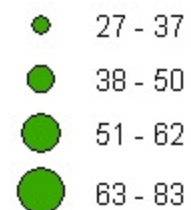
1 centimeter equals 5.244237 meters



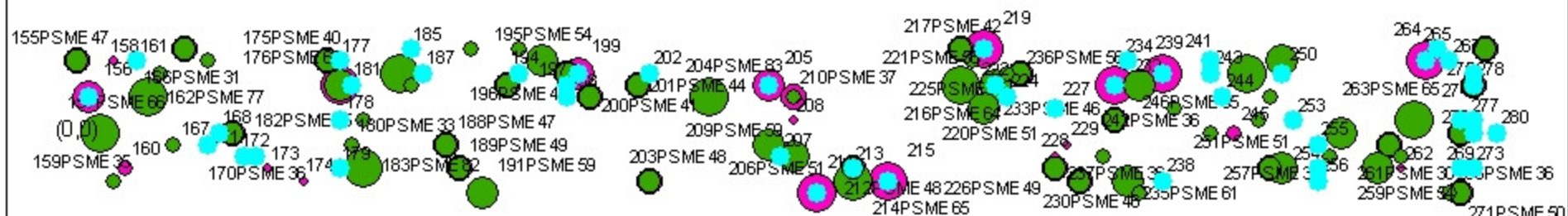
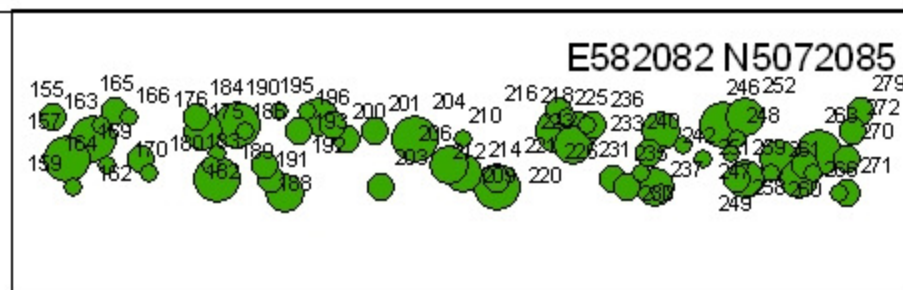
### Legend

### T2\_tagged Events

## DBH



Martha Creek Transect 2 (all trees)  
 Live tagged trees  $\geq 25\text{cm}$  dbh in green  
 Dead trees highlighted in blue

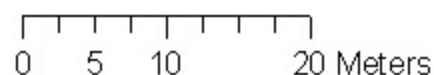


E581963 N5072098



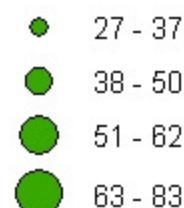
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1 centimeter equals 5.249333 meters

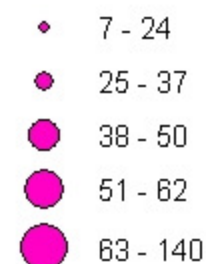


T2\_tagged Events MC\_T2\_all Events

DBH

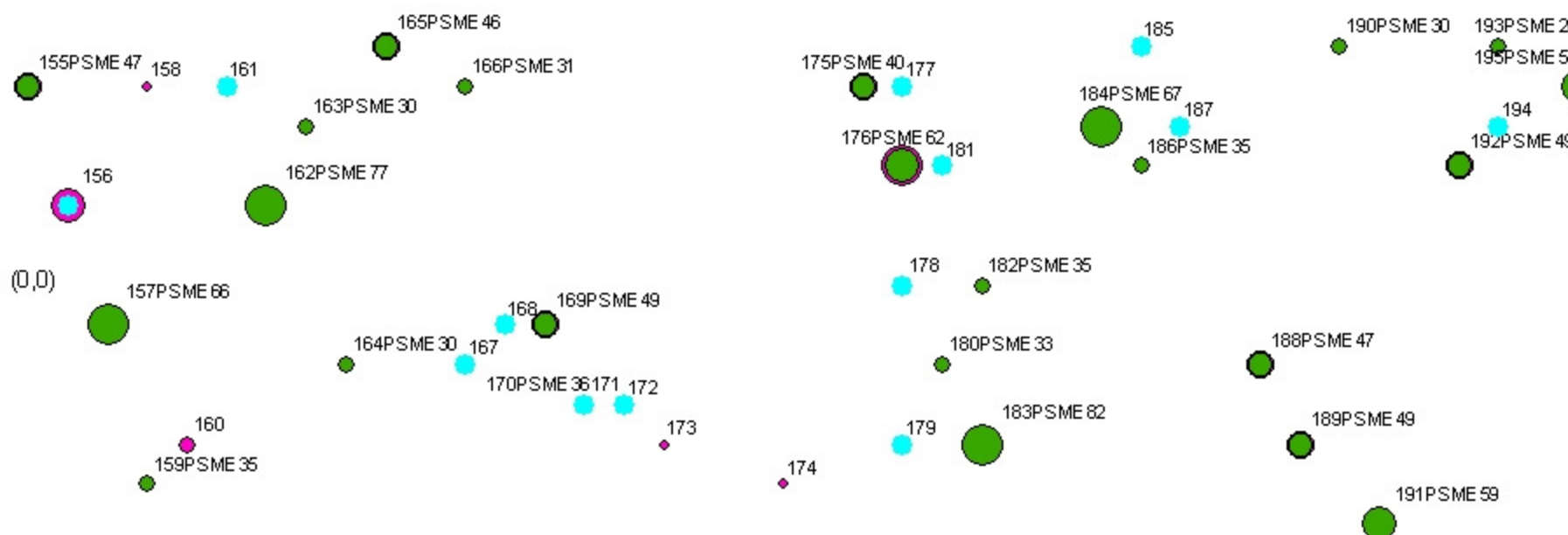
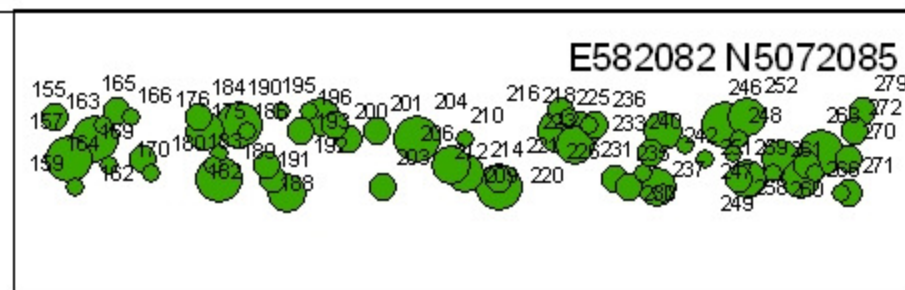


DBH





Martha Creek Transect 2 (all trees)  
 Live tagged trees  $\geq 25\text{cm}$  dbh in green  
 Dead trees highlighted in blue

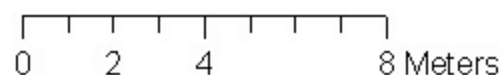


E581963 N5072098



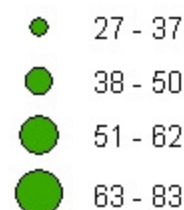
120 m long x 12 m wide  
 angle = 96 degrees

1 centimeter equals 1.660922 meters

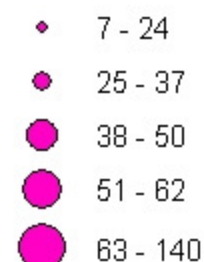


T2\_tagged Events MC\_T2\_all Events

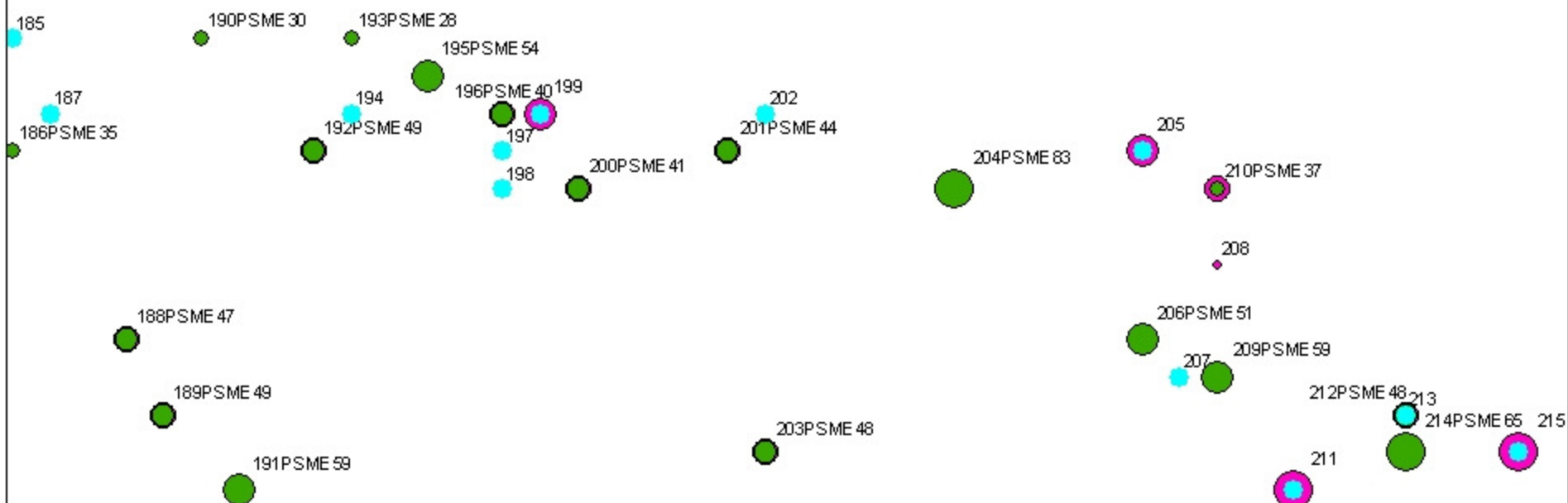
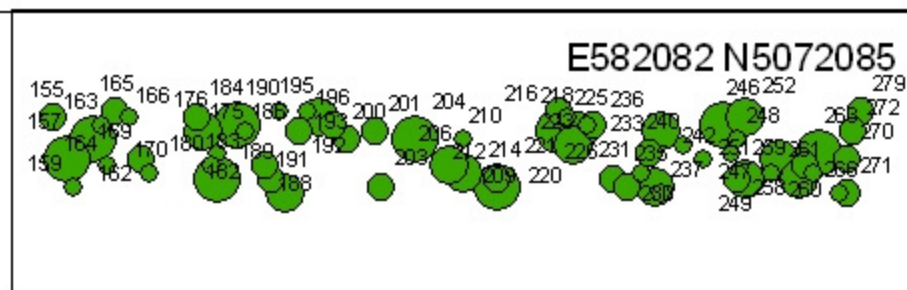
DBH



DBH



Martha Creek Transect 2 (all trees)  
 Live tagged trees  $\geq 25\text{cm}$  dbh in green  
 Dead trees highlighted in blue



E581963 N5072098



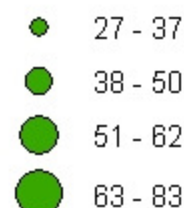
120 m long x 12 m wide  
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1 centimeter equals 1.660922 meters

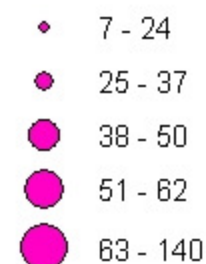


**T2\_tagged Events MC\_T2\_all Events**

**DBH**

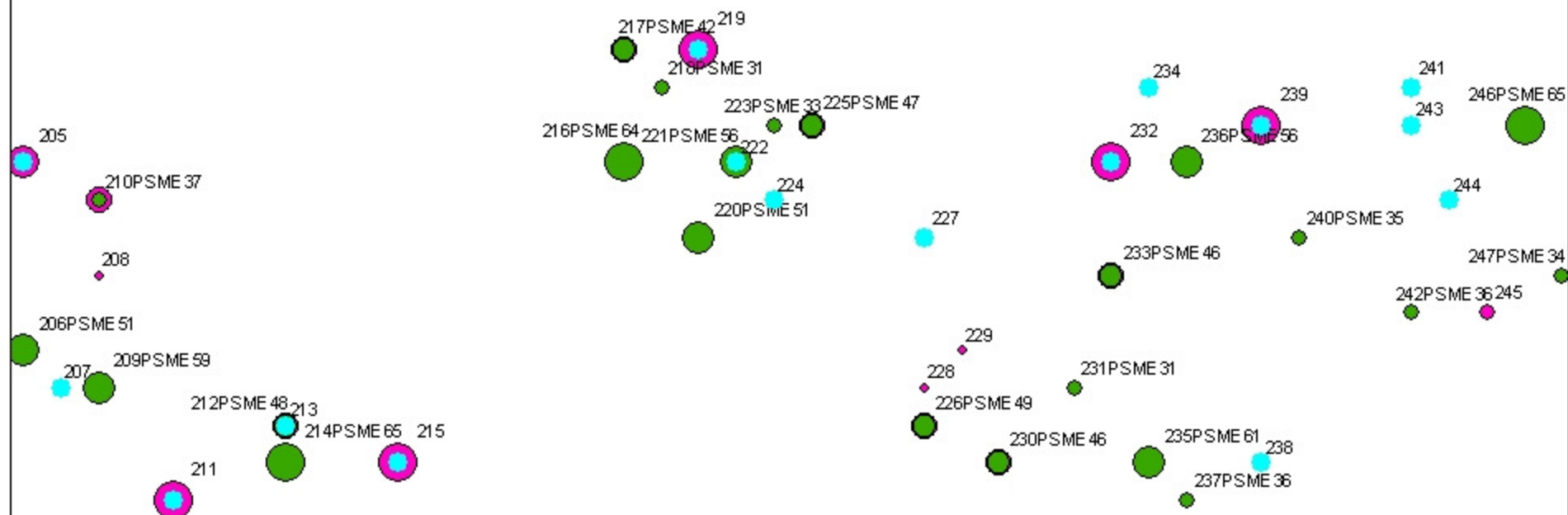
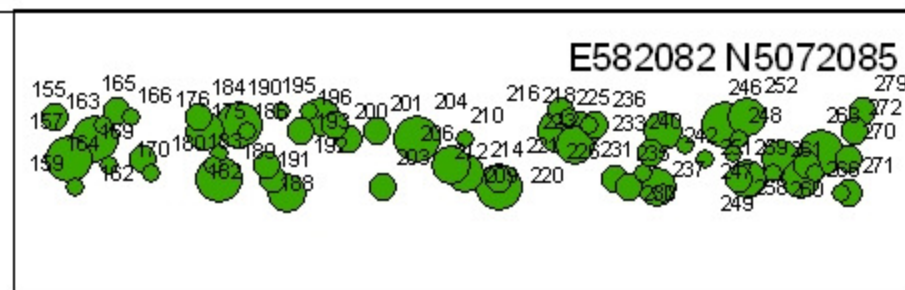


**DBH**





Martha Creek Transect 2 (all trees)  
 Live tagged trees  $\geq 25$ cm dbh in green  
 Dead trees highlighted in blue



120 m long x 12 m wide  
 angle = 96 degrees

1 centimeter equals 1.660922 meters



T2\_tagged Events MC\_T2\_all Events

DBH

27 - 37

38 - 50

51 - 62

63 - 83

DBH

7 - 24

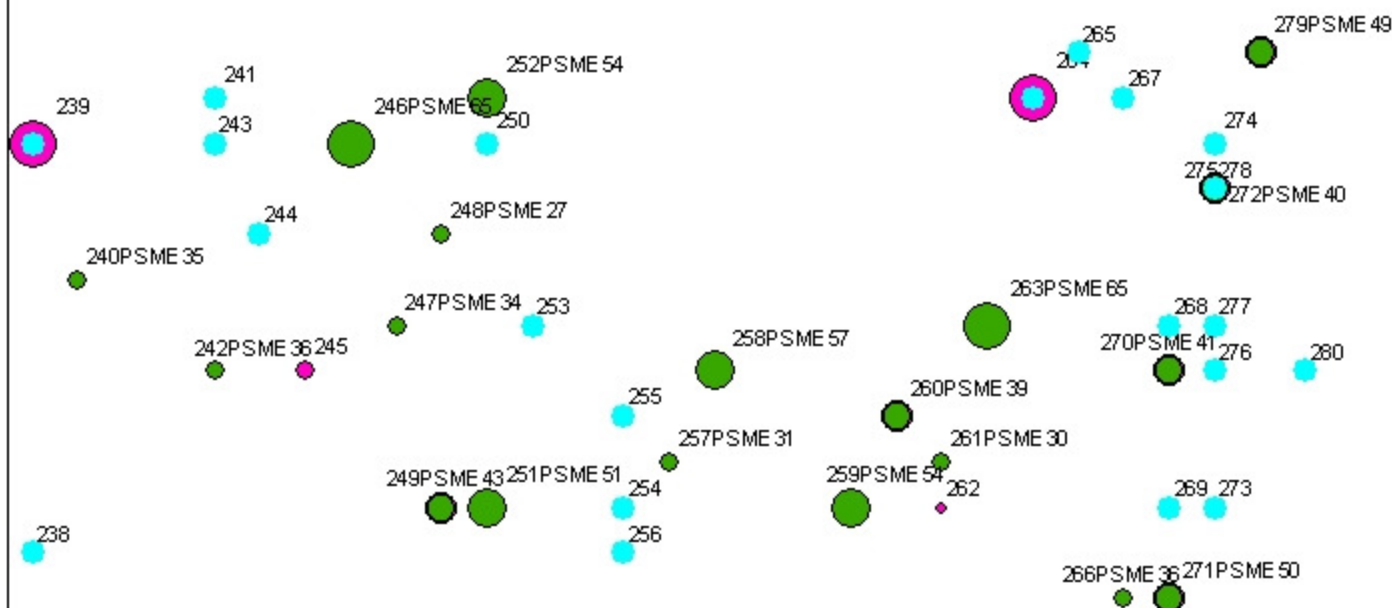
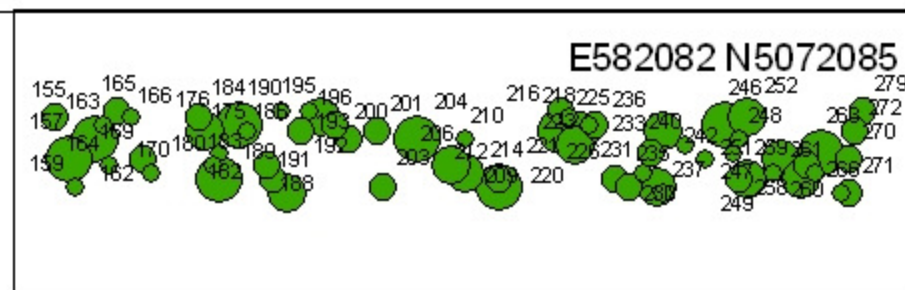
25 - 37

38 - 50

51 - 62

63 - 140

Martha Creek Transect 2 (all trees)  
 Live tagged trees  $\geq 25\text{cm}$  dbh in green  
 Dead trees highlighted in blue



E581963 N5072098

120 m long x 12 m wide  
 angle = 96 degrees

1 centimeter equals 1.660922 meters



0 2 4 8 Meters

T2\_tagged Events MC\_T2\_all Events

DBH

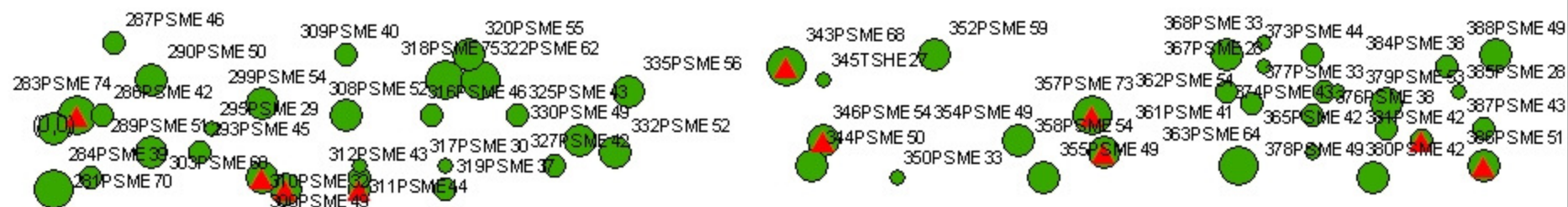
- 27 - 37
- 38 - 50
- 51 - 62
- 63 - 83

DBH

- 7 - 24
- 25 - 37
- 38 - 50
- 51 - 62
- 63 - 140

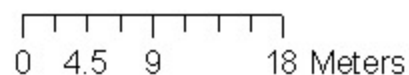
# Martha Creek Transect 3 (all trees)

Live tagged trees  $\geq 25\text{cm}$  dbh in green  
 Rigged trees with red triangles



120 m long x 12 m wide  
 angle = 273 degrees

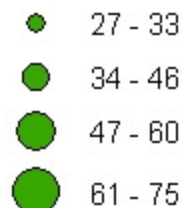
1 centimeter equals 5.200168 meters



## Legend

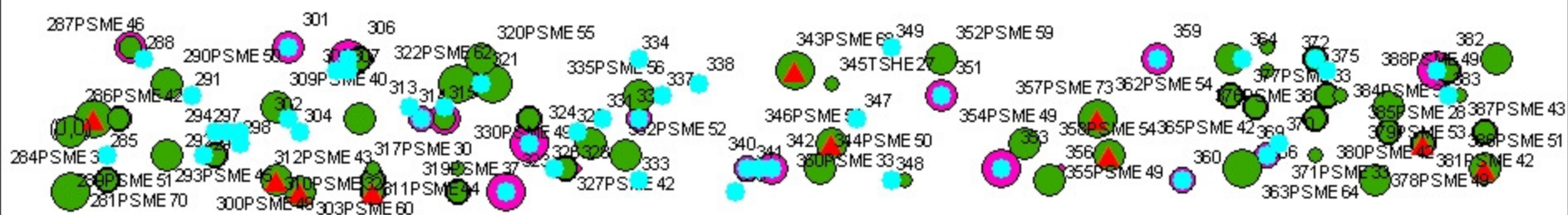
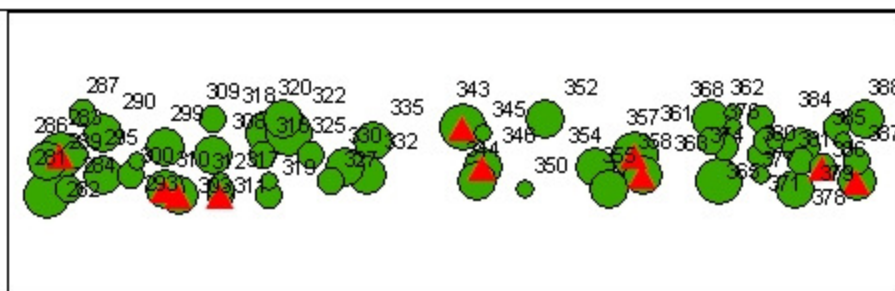
### T3\_tagged Events

#### DBH



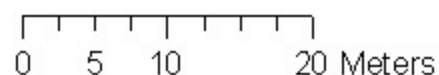
▲ T3\_tagged Events selection 2

Martha Creek Transect 3 (all trees)  
 Live tagged trees  $\geq 25\text{cm}$  dbh in green  
 Dead trees highlighted in blue  
 Rigged trees with red triangles



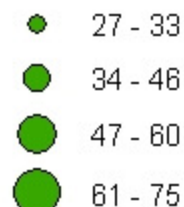
120 m long x 12 m wide  
 angle = 273 degrees

1 centimeter equals 5.203726 meters

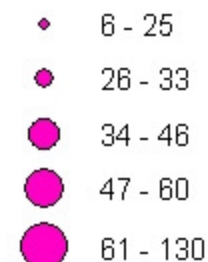


### T3\_tagged Events MC\_T3\_all Events

DBH



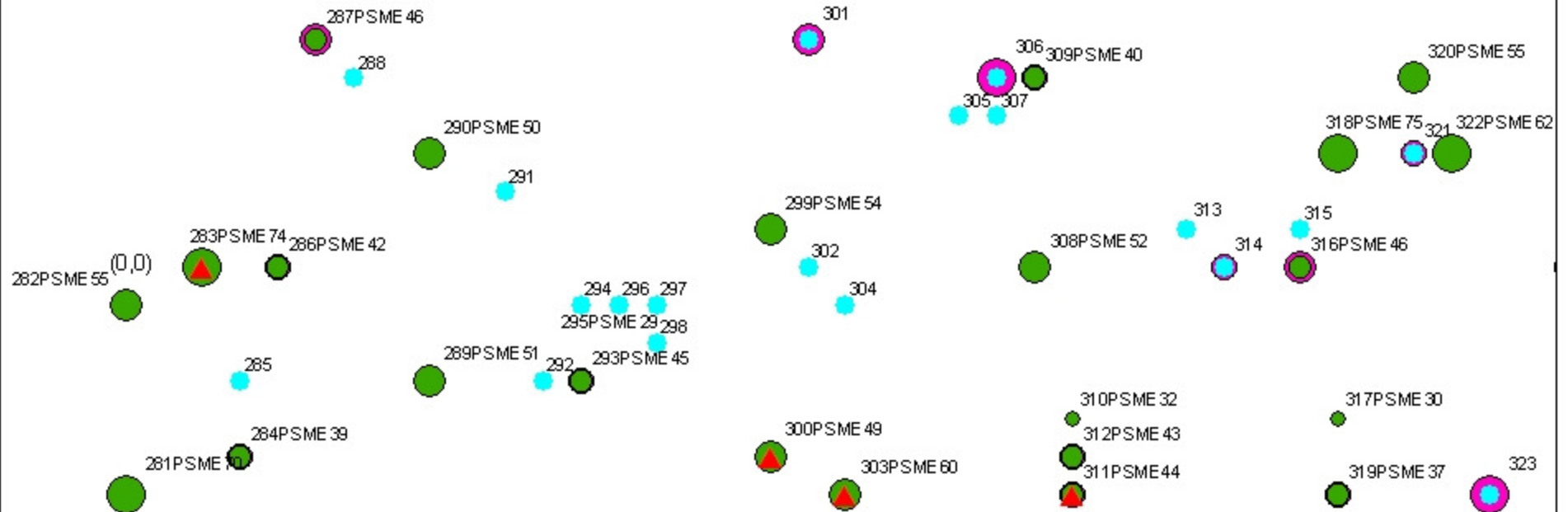
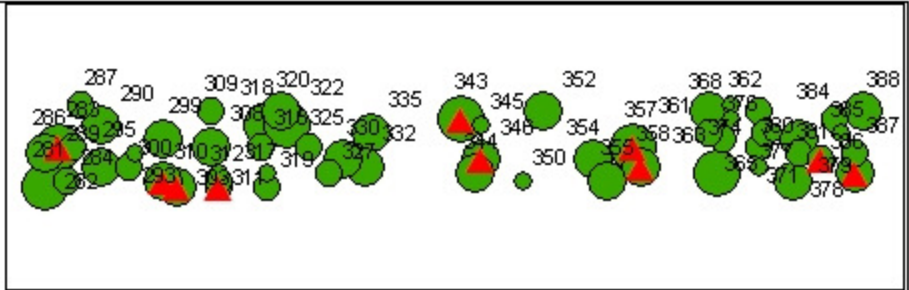
DBH



▲ T3\_tagged Events selection 2

Dead trees highlighted in blue

## Rigged trees with red triangles

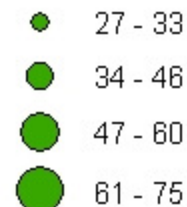


1 centimeter equals 1.646491 meters

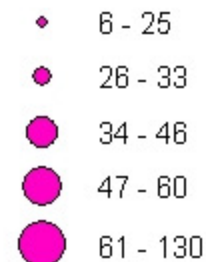


**T3\_tagged Events MC\_T3\_all Events**

DBH



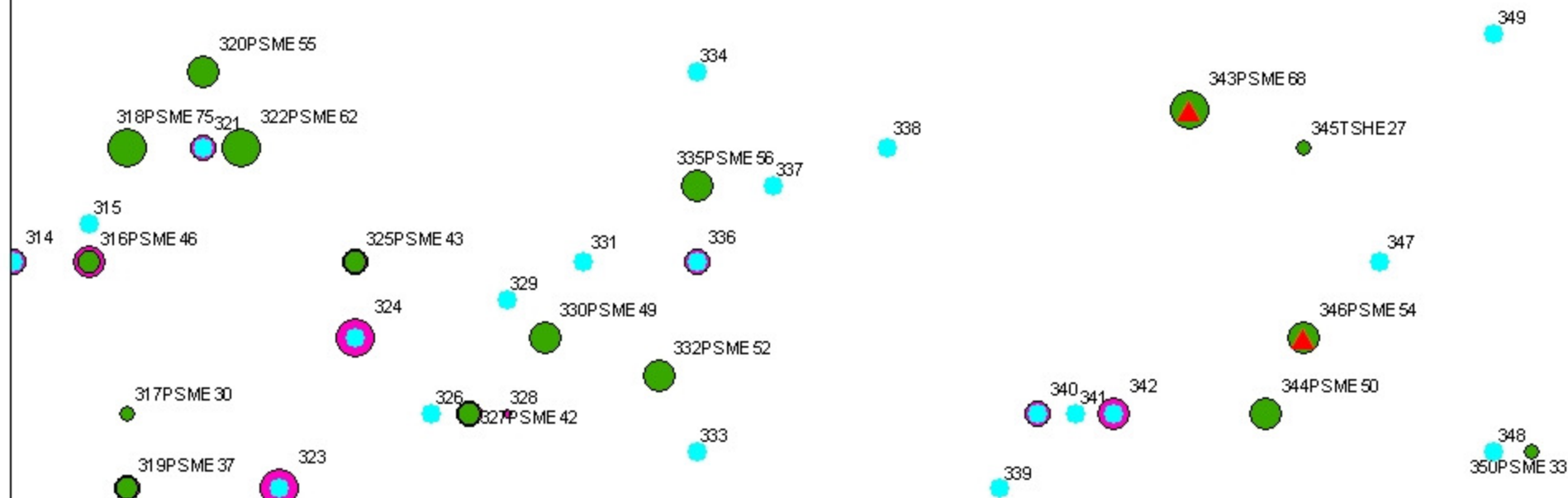
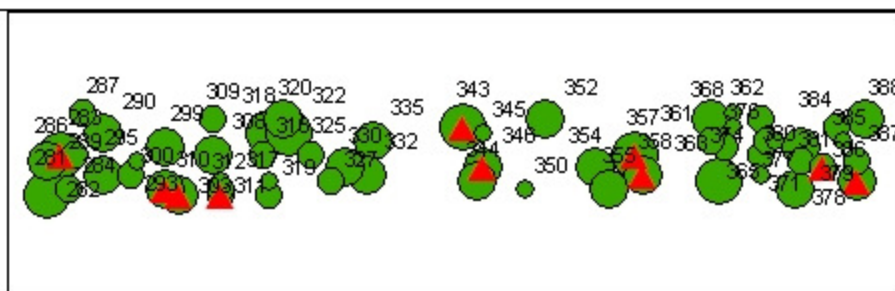
DBH



▲ T3\_tagged Events selection 2



Martha Creek Transect 3 (all trees)  
 Live tagged trees  $\geq 25\text{cm}$  dbh in green  
 Dead trees highlighted in blue  
 Rigged trees with red triangles



120 m long x 12 m wide  
 angle = 273 degrees  
 1 centimeter equals 1.646491 meters  
 0 2 4 8 Meters

### T3\_tagged Events MC\_T3\_all Events

#### DBH

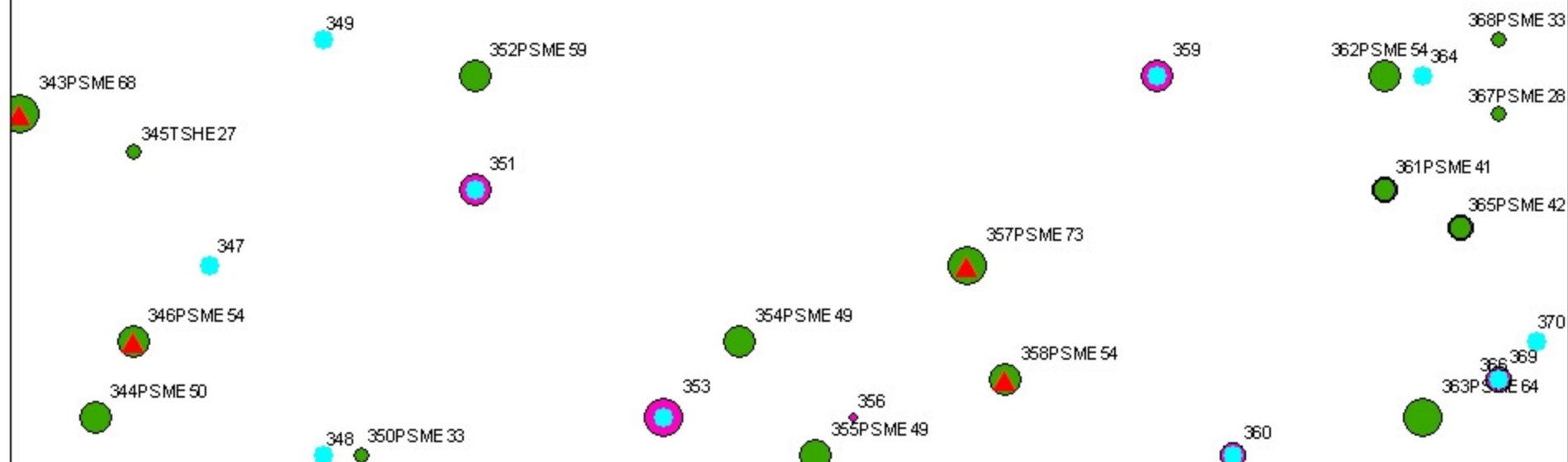
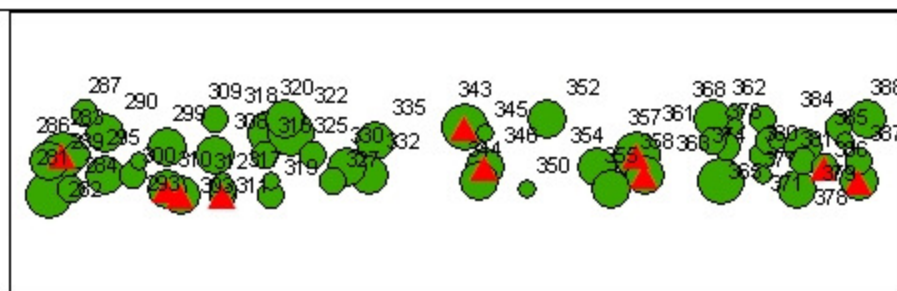
- 27 - 33
- 34 - 46
- 47 - 60
- 61 - 75

#### DBH

- 6 - 25
- 26 - 33
- 34 - 46
- 47 - 60
- 61 - 130

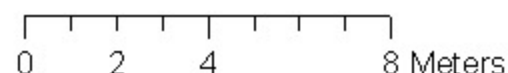
▲ T3\_tagged Events selection 2

Martha Creek Transect 3 (all trees)  
 Live tagged trees  $\geq 25\text{cm}$  dbh in green  
 Dead trees highlighted in blue  
 Rigged trees with red triangles



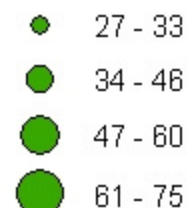
120 m long x 12 m wide  
 angle = 273 degrees

1 centimeter equals 1.646491 meters

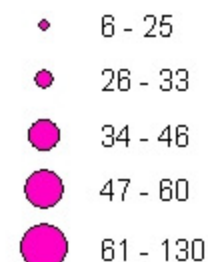


### T3\_tagged Events MC\_T3\_all Events

#### DBH

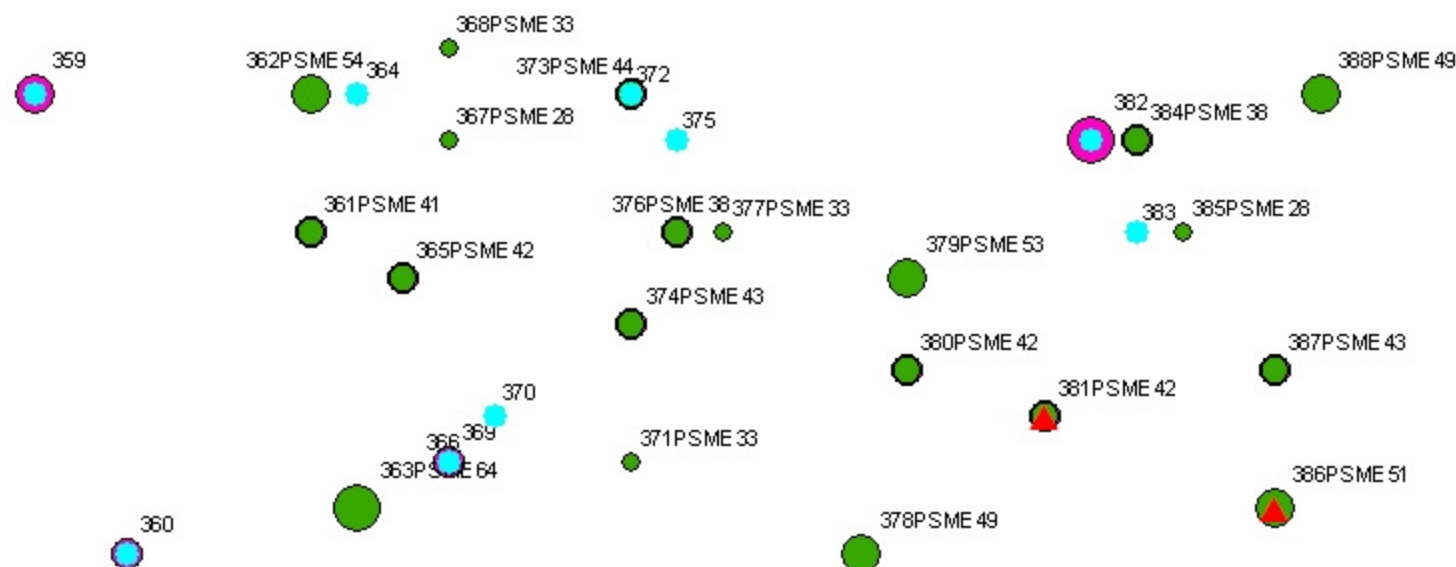
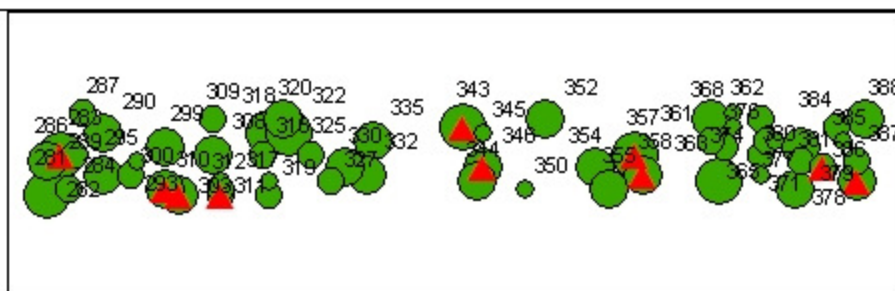


#### DBH



▲ T3\_tagged Events selection 2

Martha Creek Transect 3 (all trees)  
 Live tagged trees  $\geq 25\text{cm}$  dbh in green  
 Dead trees highlighted in blue  
 Rigged trees with red triangles



120 m long x 12 m wide  
 angle = 273 degrees

1 centimeter equals 1.646491 meters

### T3\_tagged Events MC\_T3\_all Events

#### DBH

- 27 - 33
- 34 - 46
- 47 - 60
- 61 - 75

#### DBH





- ◆ 6 - 25
- ◆ 26 - 33
- ◆ 34 - 46
- ◆ 47 - 60
- ◆ 61 - 130

▲ T3\_tagged Events selection 2



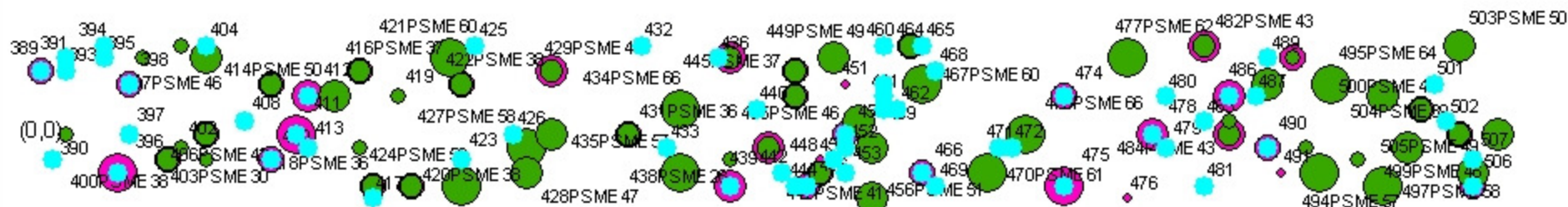
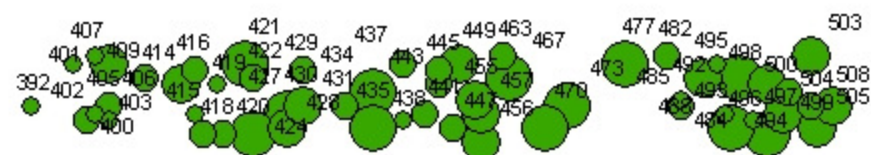
Martha Creek Transect 4 (all trees)  
Live tagged trees  $\geq 25$ cm dbh in green



 25 - 34  
 35 - 43  
 44 - 51  
 52 - 66

# Martha Creek Transect 4 (all trees)

Live tagged trees  $\geq 25\text{cm}$  dbh in green  
Dead trees highlighted in blue



120 m long x 12 m wide  
angle = 219 degrees

1 centimeter equals 4.940549 meters

0 4.5 9 18 Meters



## Legend

T4\_tagged Events MC\_T4\_all Events

DBH

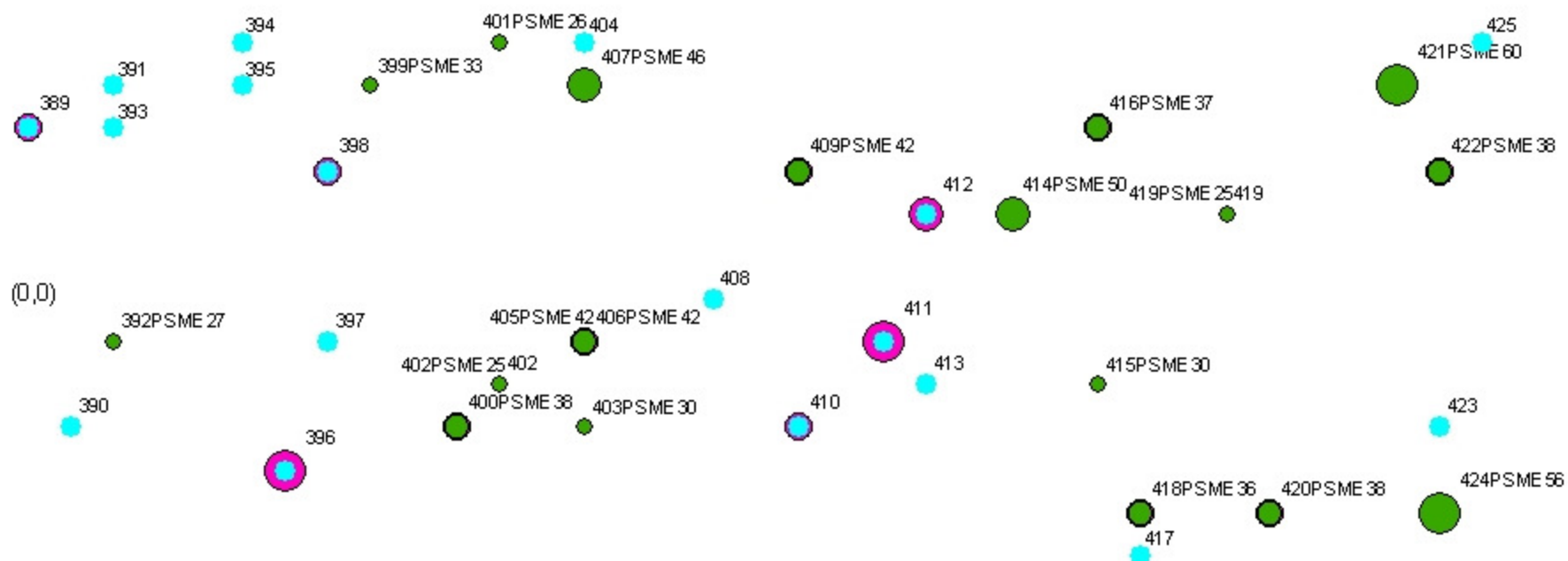
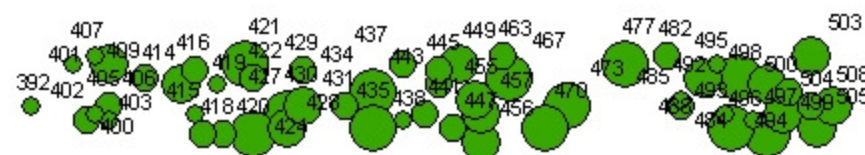
- 25 - 34
- 35 - 43
- 44 - 51
- 52 - 66

DBH

- 6 - 25
- 26 - 34
- 35 - 43
- 44 - 51
- 52 - 66

# Martha Creek Transect 4 (all trees)

Live tagged trees  $\geq 25\text{cm}$  dbh in green  
Dead trees highlighted in blue



## Legend

**T4\_tagged Events** **MC\_T4\_all Events**

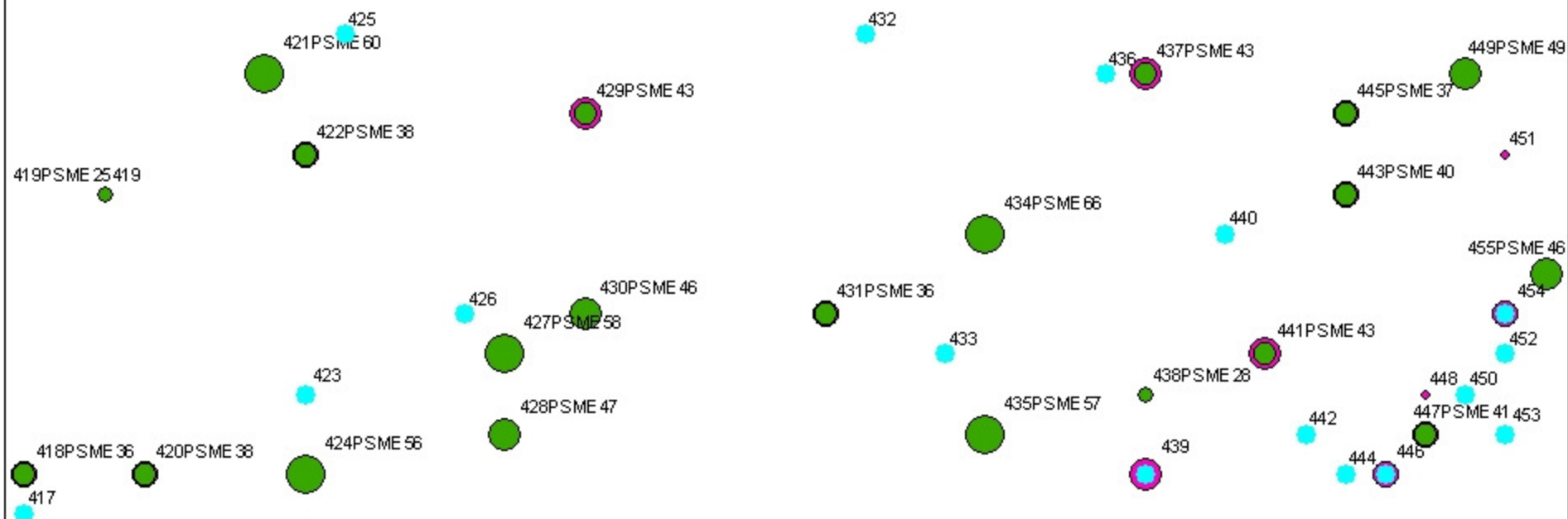
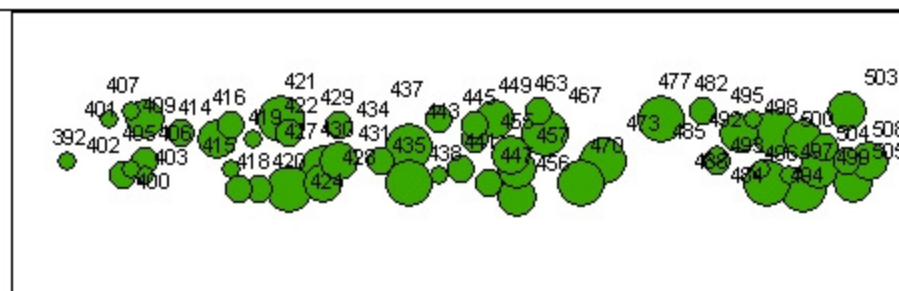
**DBH**

- 25 - 34
- 35 - 43
- 44 - 51
- 52 - 66

**DBH**

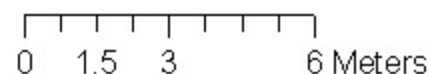
- 6 - 25
- 26 - 34
- 35 - 43
- 44 - 51
- 52 - 66

Martha Creek Transect 4 (all trees)  
 Live tagged trees  $\geq 25$ cm dbh in green  
 Dead trees highlighted in blue



120 m long x 12 m wide  
 angle = 219 degrees

1 centimeter equals 1.563221 meters



## Legend

**T4\_tagged Events** **MC\_T4\_all Events**

**DBH**

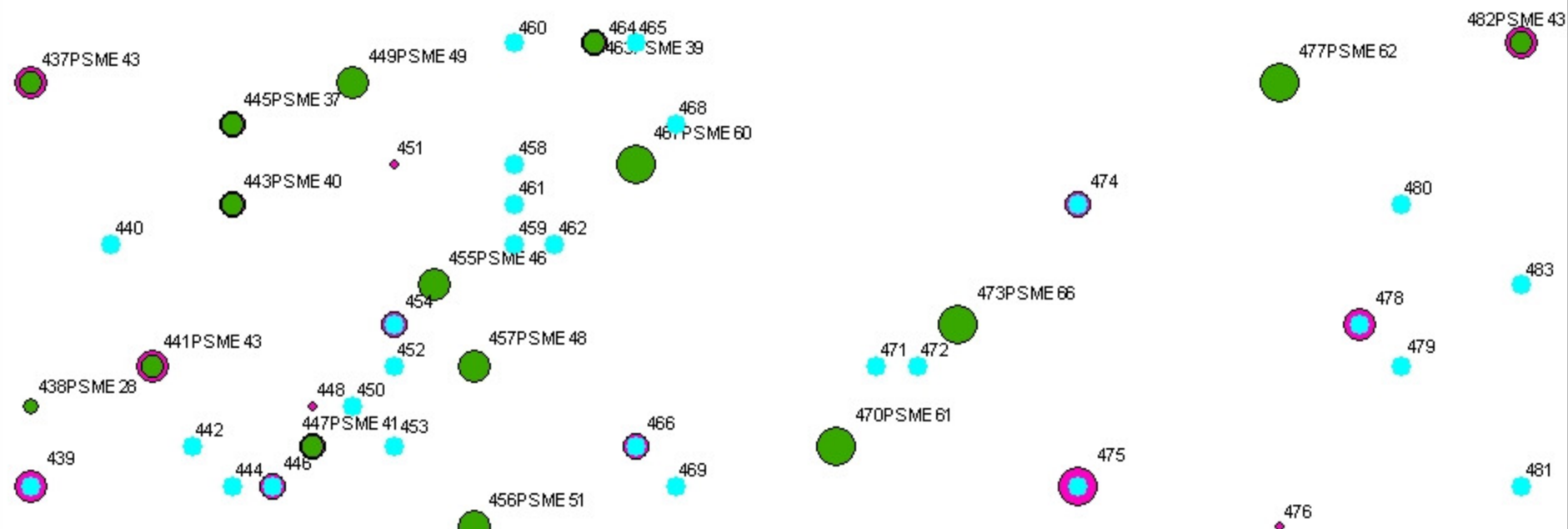
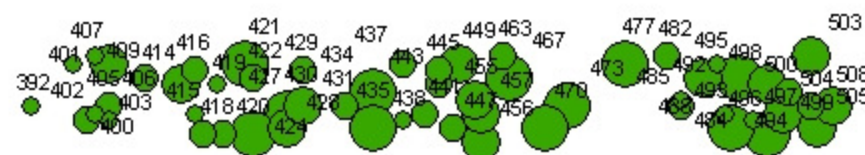
- 25 - 34
- 35 - 43
- 44 - 51
- 52 - 66

**DBH**

- 6 - 25
- 26 - 34
- 35 - 43
- 44 - 51
- 52 - 66

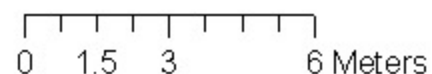
# Martha Creek Transect 4 (all trees)

Live tagged trees  $\geq 25\text{cm}$  dbh in green  
Dead trees highlighted in blue



120 m long x 12 m wide  
angle = 219 degrees

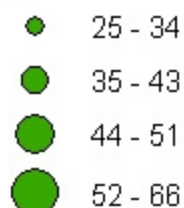
1 centimeter equals 1.563221 meters



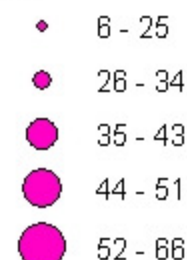
## Legend

T4\_tagged Events MC\_T4\_all Events

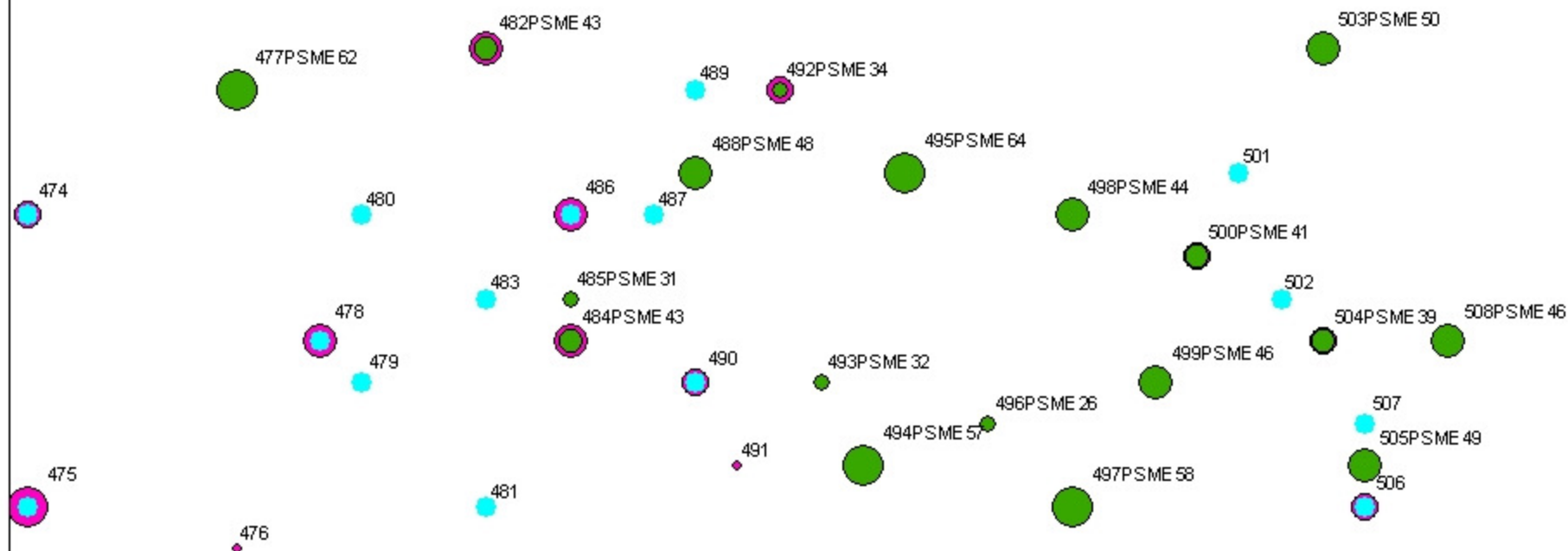
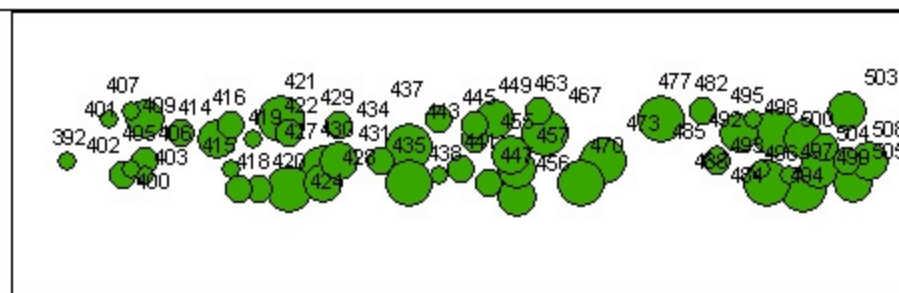
DBH



DBH

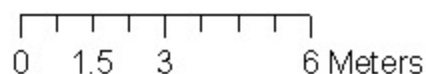


Martha Creek Transect 4 (all trees)  
 Live tagged trees  $\geq 25$ cm dbh in green  
 Dead trees highlighted in blue



120 m long x 12 m wide  
 angle = 219 degrees

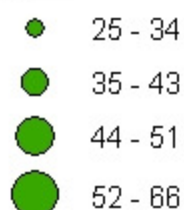
1 centimeter equals 1.563221 meters



## Legend

T4\_tagged Events MC\_T4\_all Events

DBH



DBH

