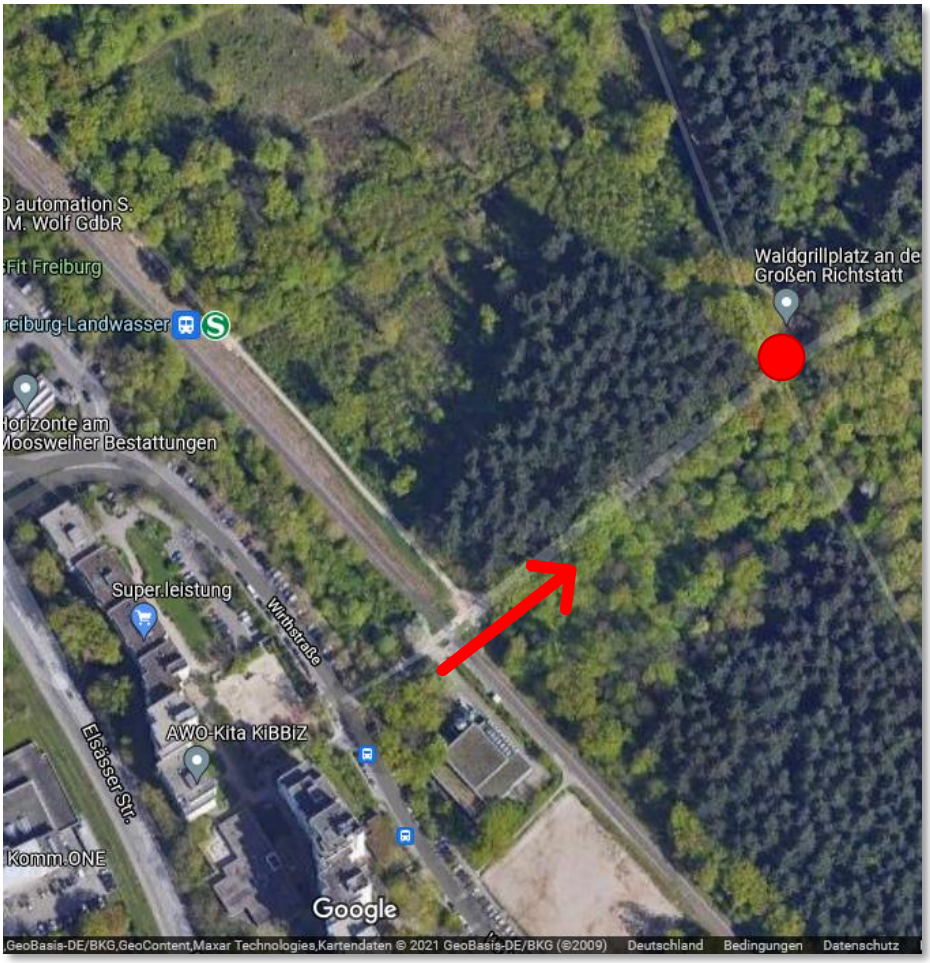
Inventory Field exercise Mooswald – Landwasser

Meeting point: Waldgrillplatz an der Großen Richtstatt

(coordinates: 48.02891663829445, 7.814221862976078)



Approaching from Landwasser: Cross the railway line at Wirthstaße

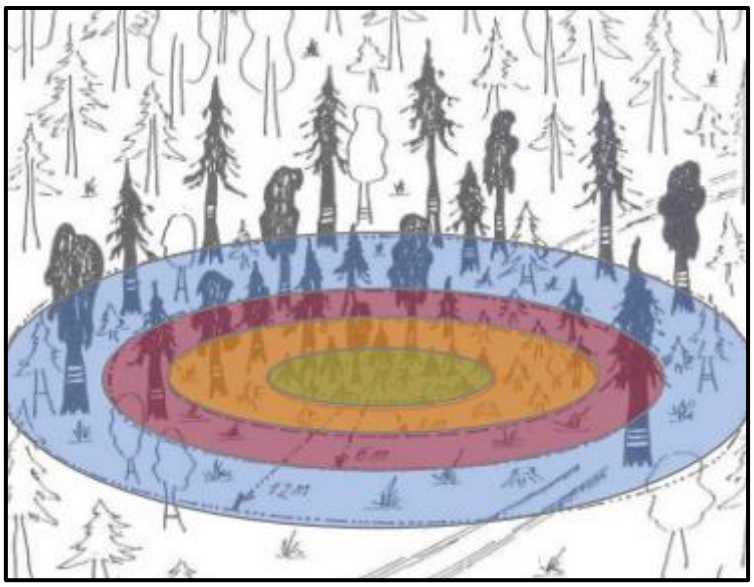
Meeting point: Waldgrillplatz ca. 100 m by foot

Goal: to undertake a simulation forest inventory following the method of the LVF, using 4 concentric circle plots to record single trees (divided by DBH class) and regeneration.

You will learn:

- how to set up and undertake a partial first inventory
- refresh the use of measurement techniques and associated equipment
- practice the need for clear and precise record keeping within a set protocol.

You will be divided up into groups (with a mixture of experience). Please work as a team and efficiently divide the workload and tasks. We aim that each collective group will survey at least 2-3 single plots.



Tree height →			**Below 1.3m**	**Above 1.3m**		
Plot radius (m)	Plot area (m^2)		Regeneration	Single trees		
			DBH below 6.9 cm	DBH 7.0 – 14.9 cm	DBH 15.0 – 29.9 cm	DBH above 30.0 cm
2	12.6		Measurement in radius of 0 – 2 m	Measurement in radius of 0 – 3 m	Measurement in radius of 0 – 6 m	Measurement in radius of 0 – 12 m
3	28.3					
6	113.1					
12	452.4					

Tasks

Please use the data collection sheet (one per plot). Note the numbers in **[square brackets]** indicate the field to be filled. Certain fields do not need to be completed as part of this exercise these are greyed out where appropriate.

1. Establish your sample plot

a. Find centre of the sample plot (for the purpose of this exercise today please avoid forest tracks and hard boundaries, and please leave at least 50m between group centres) mark with a ranging pole.
b. Note the date **[29]**
c. Sample plot number – your group number **[2]**
d. Note the coordinates of the central point **[3G, 4G]**

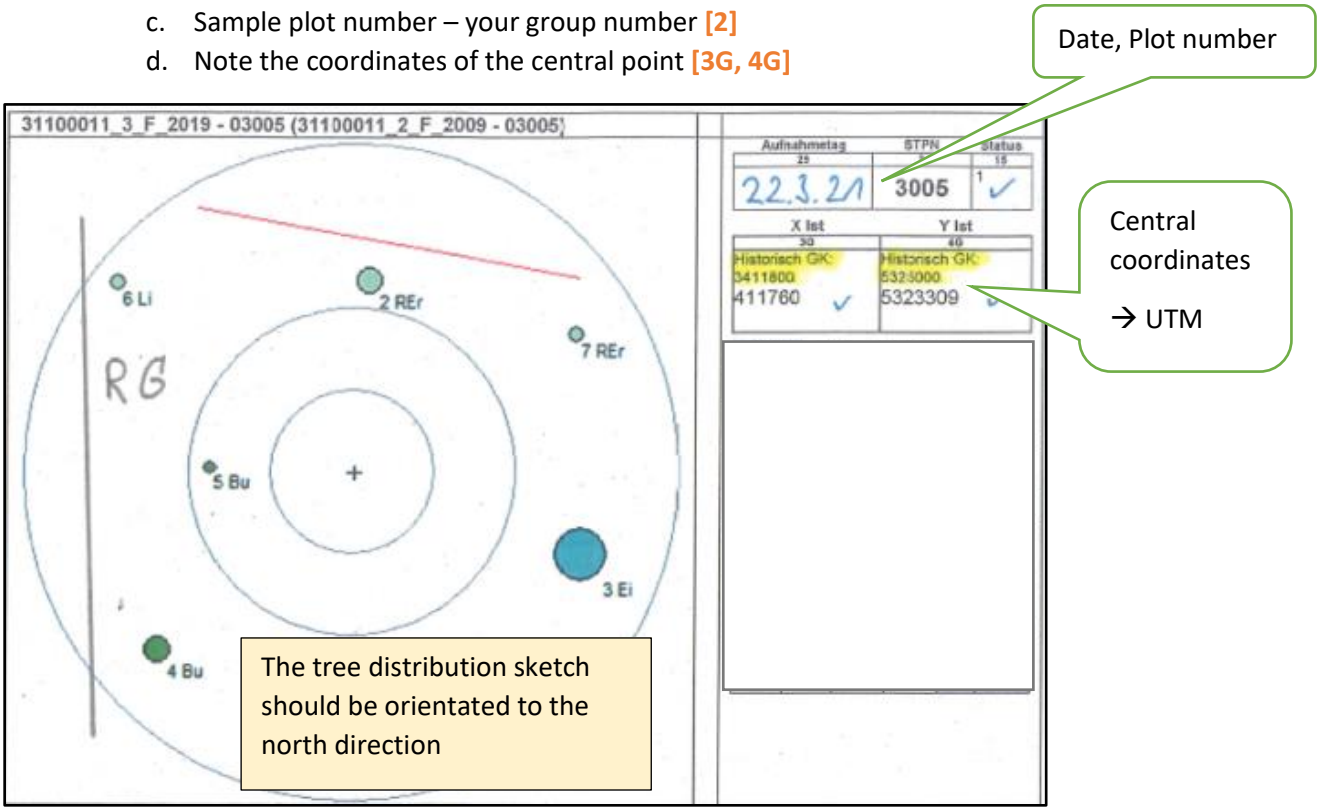


Figure 1: Example data collection sheet (in german) with tree distribution plan, date, plot number and coordinates

e. If you have a vertex available → Calibrate the Vertex (10m tape, → calibrate, see also vertex quickstart guide)
Hint: you can also use the vertex to measure horizonal distance using the DME function (see quickstart guide)

Establish a plot to assess the regeneration→ trees with a DBH < 7 cm only

f. 2m radius, around the central point (vertex or tape measure)
g. Divide into 4 quadrants orientated to cardinal direction (see Figure 2)
h. In each quadrant (Q1 – 4), count the number of trees per height class [61-64 A-C] to the maximum value (1, 4 or 25 trees dependent on height class).
i. Estimate the percentage share between species **[70, 71-74 A-C]** to total 100% per height class

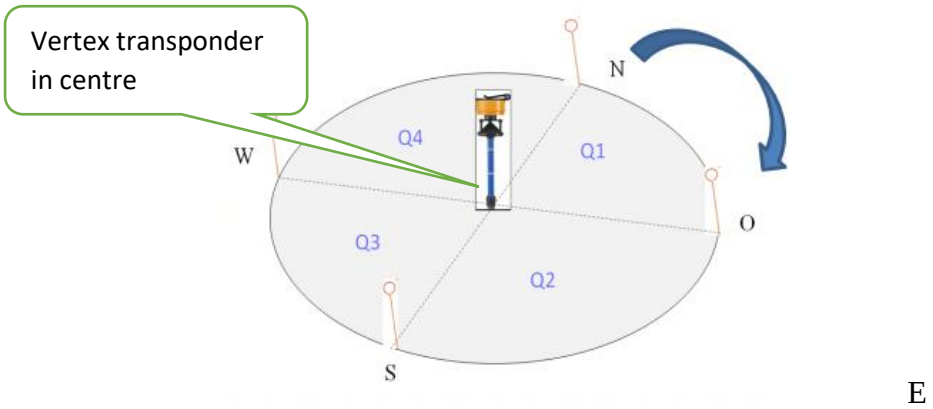


Figure 2: 2m radius Plot set-up showing 4 quadrants orientated on cardinal direction (LVF 2022) if vertex is available

Height Class

Max. Tree count per class

One row per species

Percentage estimation of coverage between tree species

Estimations should total 100%

	1. Quadrant N→O			2. Quadrant O→S			3. Quadrant S→W			4. Quadrant W→N			
Höhenstufe	>130 cm	51-130 cm	21-50 cm	>130 cm	51-130 cm	21-50 cm	>130 cm	51-130 cm	21-50 cm	>130 cm	51-130 cm	21-50 cm	
	1	4	25	1	4	25	1	4	25	1	4	25	
	61A	61B	61C	62A	62B	62C	63A	63B	63C	64A	64B	14C	Verbiss im Kreis
Anzahl (alle Baumarten)	1	4	7	–	–	18	1	3	–	1	4	10	
Baumart OZ 70	71A	71B	71C	72A	72B	72C	73A	73B	73C	74A	74B	74C	75
Fi	90	40	30			50	50	50			40	30	1
BAh	10	50	20					50			30	30	2
Ta		10	50			50	40				30	35	3
Sfi							10						–
Vb										100		5	3
Summe%	100	100	100	–	–	100	100	100	–	100	100	100	

Figure 3: Example data collection sheet for regeneration plot divided into 4 quadrants (LVF 2022)

2. Measurement of single trees over 1.3m in height and from 7cm DBH

Plot Radius	DBH < 7 cm	DBH 7 – 14.9 cm	DBH 15 – 29.9 cm	DBH > 30 cm
0 – 3 m	Exclude	Include	Include	Include
3 – 6 m	Exclude	Exclude	Include	Include
6 – 12 m	Exclude	Exclude	Exclude	Include

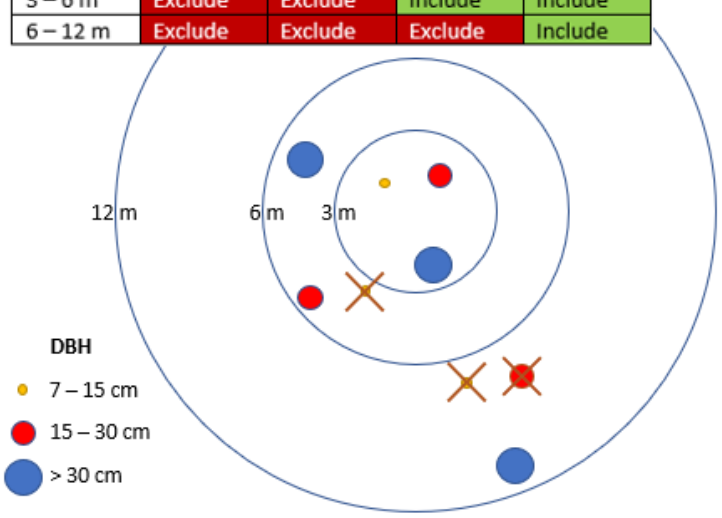


Figure 4: Single tree DBH measurement (over 1.3m in total height) in relation to sample radius

a. In a **radius of 0 – 3 m** measure all trees with a DBH greater than 7cm, record all measured values on the data collection sheet (see e.g. Figure 5):

   i. Mark with a consecutive number on the stem with chalk/crayon **[40]**
   ii. Identify tree species **[41]**
   iii. Measure azimuth/bearing of tree position from plot centre **[42]**
   iv. Measure distance from plot centre to tree **[43]**
   v. Plot the tree's position and label on the tree distribution chart
   vi. Measure DBH **[44]**
   vii. If DBH was **NOT** measured at 1.3m then give height of measurement **[45]**
   viii. Measure tree height **[46]**

b. In a **radius 3 – 6 m** measure all trees with a DBH greater than 15cm (see Figure 4)
   Repeat steps i to xiii

c. In a **radius 6 – 12 m** measure all trees with a DBH greater than 30cm (see Figure 4)
   Repeat steps i to xiii

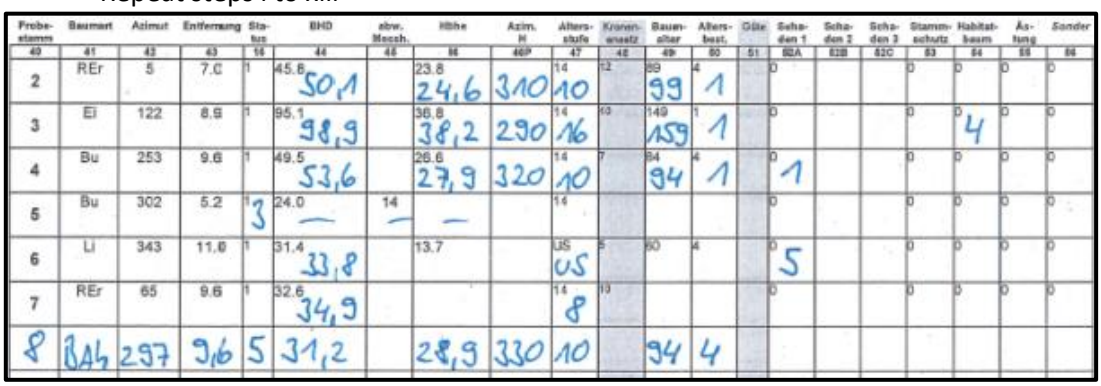


Figure 5: Example data collection sheet (in German) for single tree measurements (LVF 2022)

3. Angle count survey

a. Conduct a minimum of 3 angle count surveys (winkelzahlprobe) using a **dendrometer** or **wedge/cruising prism around your sample plot**.
   i. Use a counting factor of 1 or 2 (remember to multiply the number of trees counted by the counting factor to give a basal area per hectare).
   ii. Values are given in m^2/ha
   iii. Each angle count survey centre point should be at least 20m from the others

	Survey 1	**Survey 2**	**Survey 3**	**Survey 4**	**Survey 5**	**Average**
m2/ha						

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