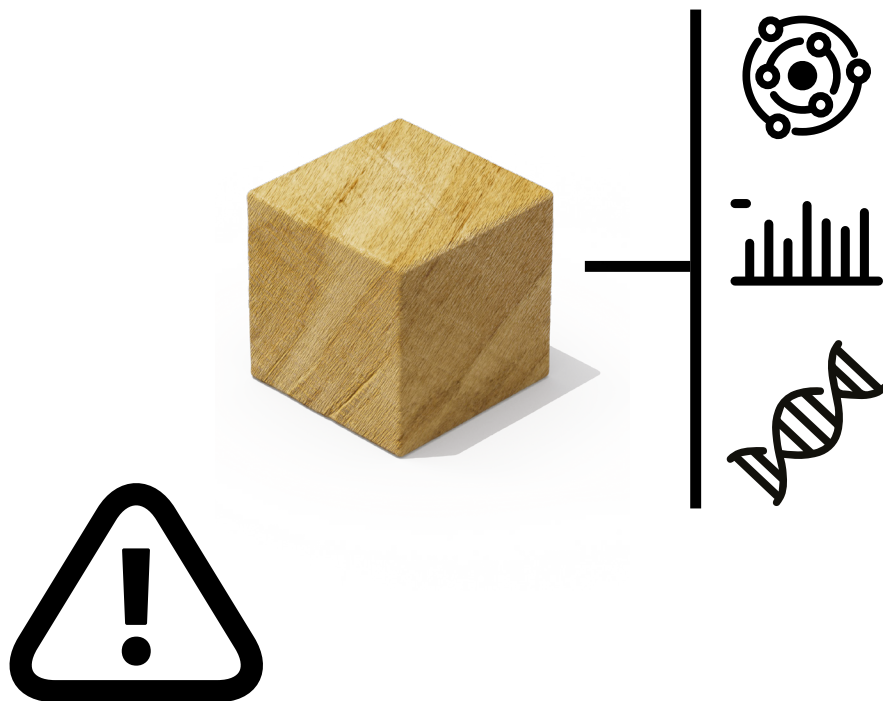




Collection guide for wood



IMPORTANT: It is vital that your collection follows these guidelines to ensure that your samples are admissible for chemical analysis.

Contents

Basic collection protocols for wood	4
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Preparation and equipment	6
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Basic collection protocols for wood

1. Do not sample without written permission.
2. Install & register the World Forest ID App before departure.
3. Ensure there are at least two phones with a registered App.
4. Keep GPS on and take backup power.
5. For each species, sample 3 trees per location, 25–50 km apart, at 3 or more locations 100–250 km apart.
6. Confirm species before sampling.
7. Avoid infected or damaged trees.
8. Target larger trees: Minimum 35 cm diameter.
9. Core samples: Minimum 1 x 15 cm, Minimum 3 cm heartwood.
10. Sawn blocks: Minimum 2 x 2 x 20 cm from center of tree.
11. Verification & core samples must come from same tree.
12. Label everything with correct Latin/scientific name.
13. Use matching QR codes for samples from same tree.
14. Sanitize outside of tools after each tree.
15. Follow all safety procedures.

Safety procedures



Preparation and equipment

Before departing on an expedition:

1. Confirm in which areas you are allowed to sample.
2. Know the Latin/scientific names of the trees to be sampled.
3. Confirm your role and responsibilities.
4. Understand all safety procedures and potential hazards.
5. Complete a kit check with your expedition leader.
6. Make sure all tools are sharp and functional.
7. Check contact details for the nearest medical facility.



Kit checklist

Print this page to help with your kit check

PAPERWORK / LABELING / PACKAGING

- ☐ Printed/signed collection approval form
- ☐ 2x smartphones with World Forest ID App
- ☐ Power bank for smartphones
- ☐ QR code sheets
- ☐ Sample packaging labels
- ☐ Sample envelopes/bags
- ☐ Clipboard
- ☐ Pens and paint markers
- ☐ Backpack for sample storage

HEALTH & SAFETY / PPE / CLOTHING

- ☐ First Aid kit
- ☐ Rubber or hiking boots
- ☐ Insect-protective clothing/repellent
- ☐ Emergency satellite messenger (e.g. Spot X)
- ☐ Hi-Viz vest
- ☐ Eye protection (for loud tools)
- ☐ Ear protection (if using chainsaw)
- ☐ Bleed control kit (if using chainsaw)
- ☐ Steel toe cap boots (if using chainsaw)
- ☐ Snakebite kit (where appropriate)
- ☐ Snake gaiters (where appropriate)
- ☐ Climbing helmet (where appropriate)
- ☐ Gloves (optional)
- ☐ Knee pads (optional)

NAVIGATION

- ☐ GPS app or device with backup power
- ☐ Printed map

TOOLS FOR WOOD SAMPLING

- ☐ Increment borer
(Min 1 cm diameter, Min 30 cm length)
- ☐ Core drill (Min 1.2 cm diameter)
- ☐ Hi-torque drill (if using core drill)
- ☐ Gas powered chainsaw
- ☐ Gas or spare batteries for tools
- ☐ Sanitizer: Isopropanol/Ethanol
- ☐ Candles to fill sample holes
- ☐ Silica gel sachets for drying

TOOLS FOR VERIFICATION SAMPLES

- ☐ Hand-held saw or pruning shears
- ☐ Telescopic pruners
- ☐ Slingshot & ammunition (rocks/nuts)
- ☐ Climbing equipment (harness/rope/
rope-descending device/helmet)

TOOL ACCESSORIES

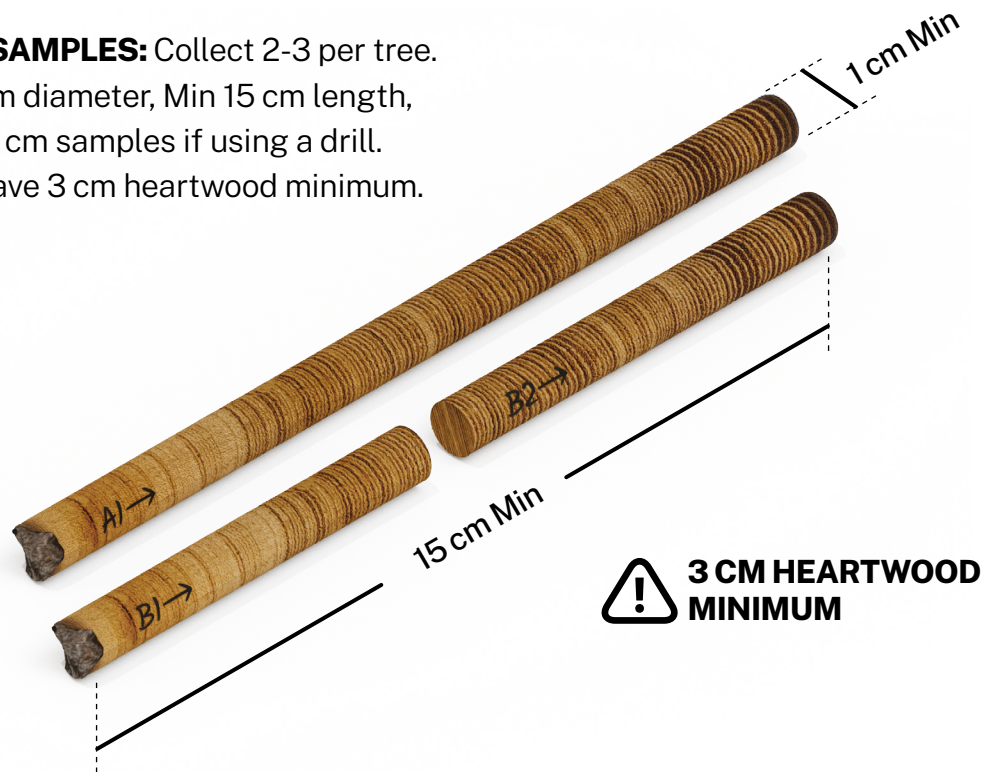
- ☐ Multi-tool (for tool maintenance)
- ☐ Hi-Viz tape/paint (to prevent tool loss)
- ☐ Spare hex wrench
- ☐ Spare drill chuck
- ☐ Spare spark plug (gas drill)
- ☐ Triangular file for tool sharpening

SPECIES IDENTIFICATION

- ☐ DBH tape or Biltmore stick
- ☐ Binoculars (optional)

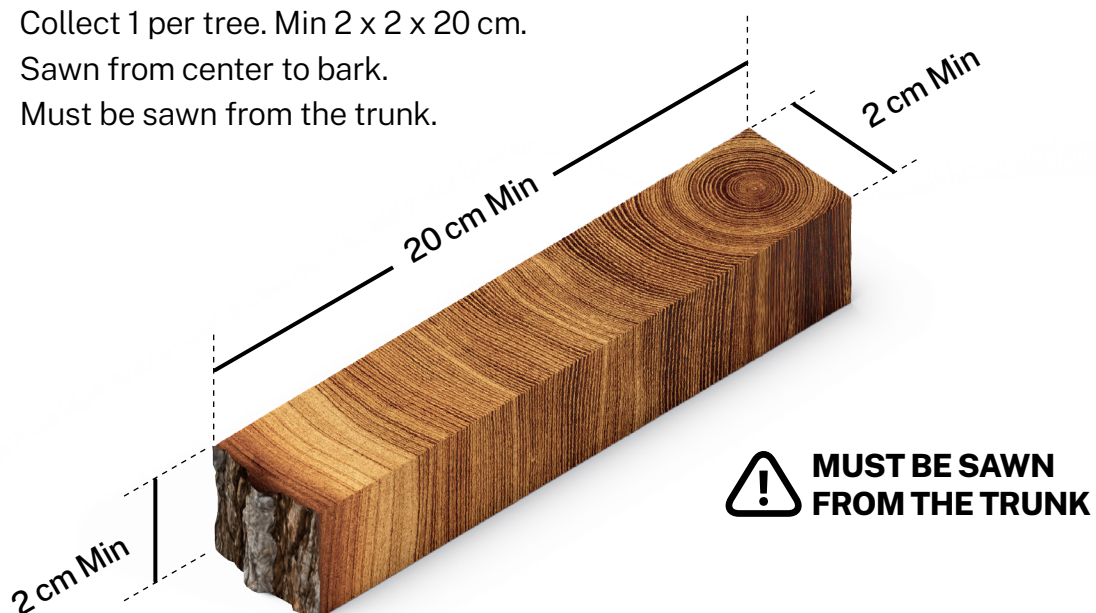
Sampling specifications

CORE SAMPLES: Collect 2-3 per tree.
Min 1 cm diameter, Min 15 cm length,
or 2 x 9 cm samples if using a drill.
Must have 3 cm heartwood minimum.



NOTE: We only require core samples
OR sawn blocks from each tree.

SAWN BLOCK SAMPLES:
Collect 1 per tree. Min 2 x 2 x 20 cm.
Sawn from center to bark.
Must be sawn from the trunk.



Sampling specifications

VERIFICATION SAMPLES:

Collect one set per species per expedition.

Can include: leaves, seeds, nuts, flowers, twigs.

Must come from tree not forest floor.

Check your expedition plan for exact specifications.



SAWDUST SAMPLES:

Collected when using a core drill.



SINGLE LEAF:

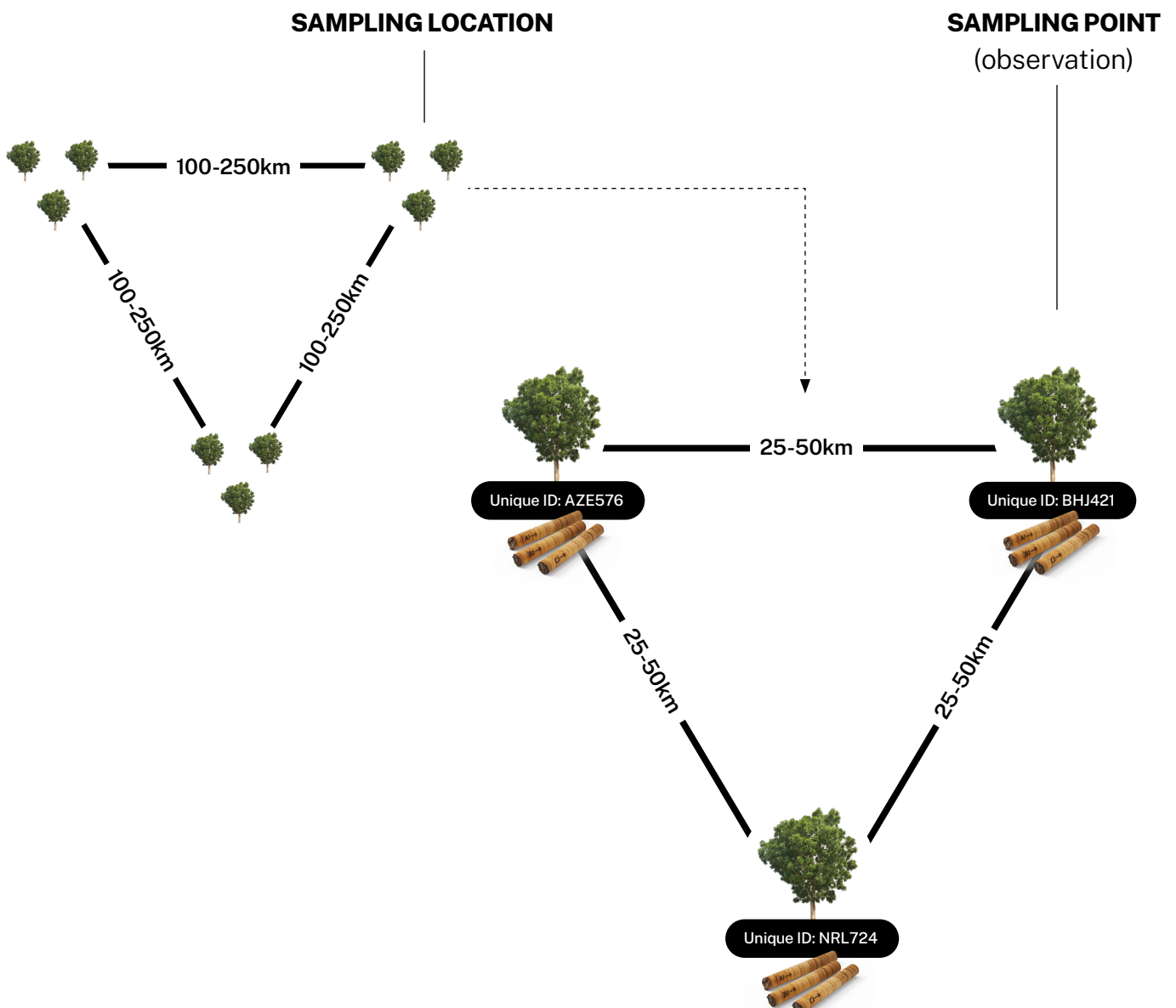
Collect one from each tree sampled.

Avoid forest floor leaves.



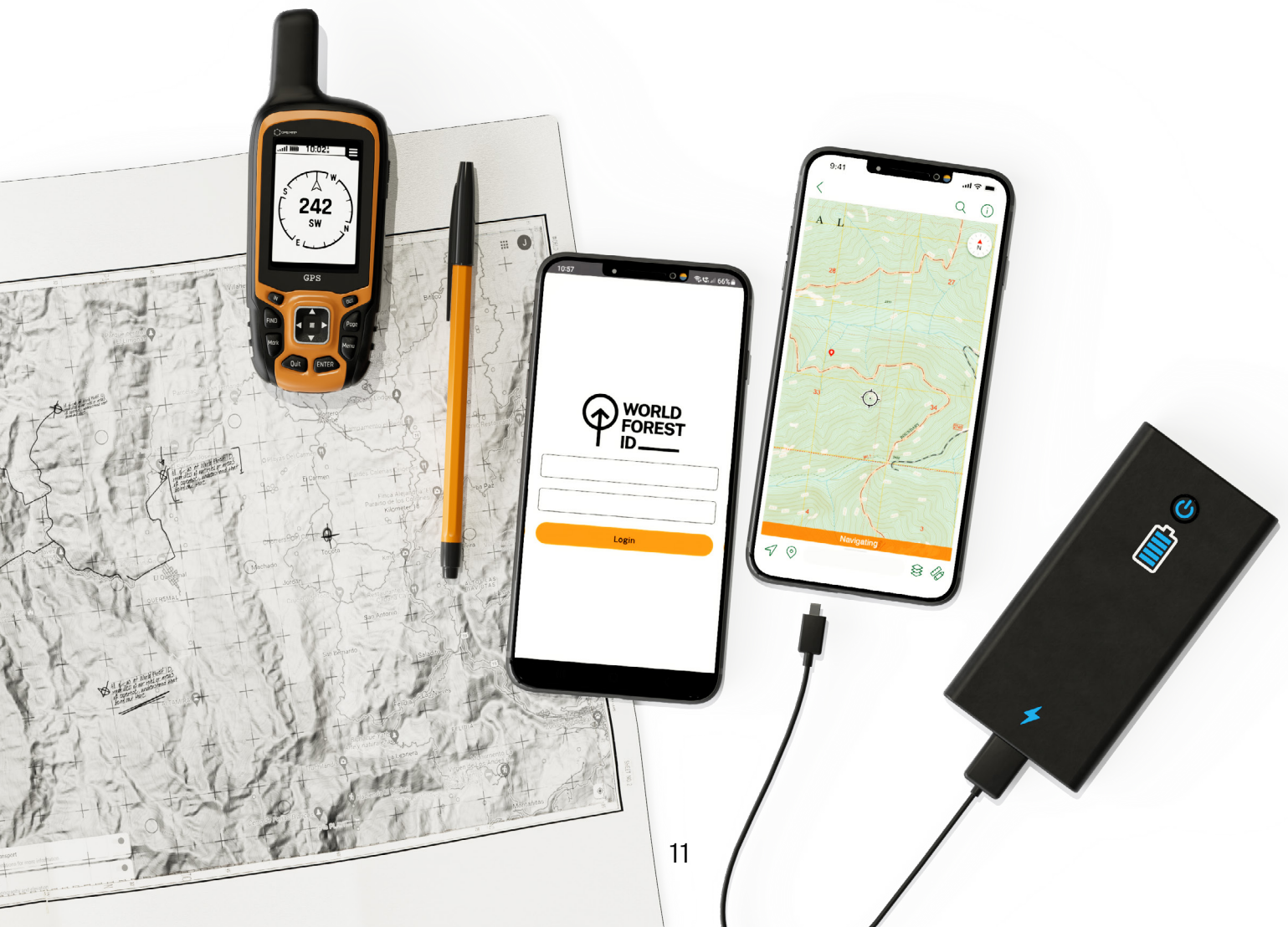
Sample mapping

1. To capture environmental variation across the landscape, identify at least three locations for each target species, with a minimum spacing of 100–250 km between them.
2. At each location, collect samples (observations) from three trees, spaced 25–50 km apart.
3. Collect three core samples from each tree.
4. Each tree (observation) must have a unique ID (QR code), and all samples must be clearly labeled.



Navigation

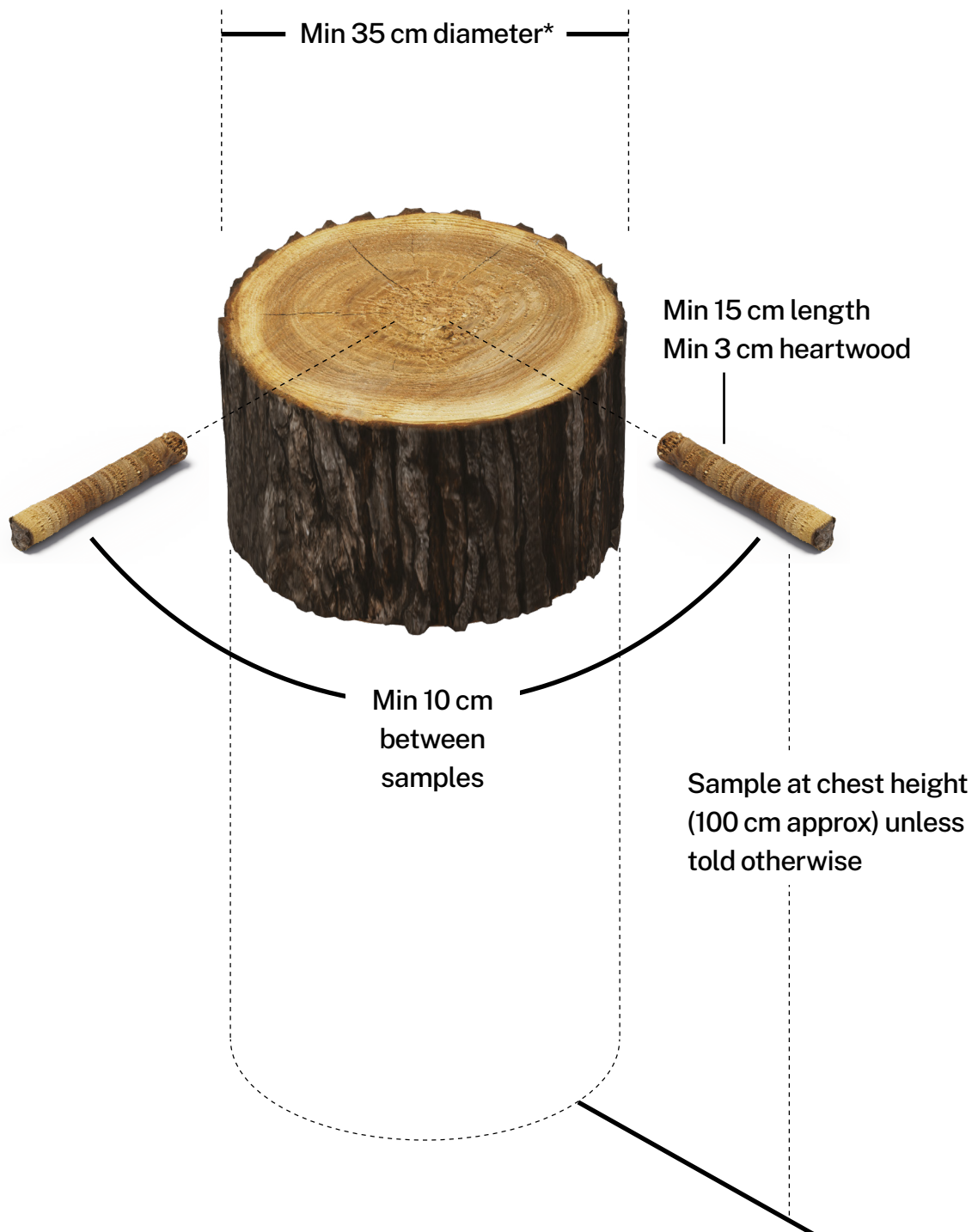
1. Use a standalone GPS device or smartphone app with offline maps for accurate navigation. Recommended apps:
 - *AllTrails*
 - *Avenza Maps*
 - *Gaia GPS*
 - *Locus Map*
 - *ViewRanger*
2. Keep the device powered on throughout the day to increase accuracy and have a power bank or extra batteries on hand.



Tree selection



**VERIFY TREE IDENTITY
BEFORE SAMPLING**



*Check with expedition plan for exceptions

Trees to avoid



Don't sample from plank/buttress roots.



Don't sample on dangerous, unstable or sloping ground.



Avoid powerlines and low hanging branches.

Avoid sampling from trees that show signs of:



Fungal fruiting bodies (mushrooms).



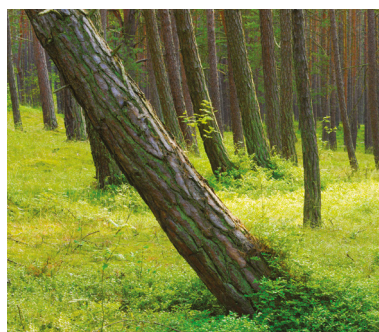
Insect damage (holes or excrement).



Abnormal growths on leaves, branches or trunk.



Cracks, splits or sunken areas.



Leaning or tilting which may indicate root damage.

Packaging and labeling

1. Place each sample in the correctly labeled packet
2. Ensure all samples from the same tree have a matching Unique ID (QR code)



ALL SAMPLES FROM THE SAME TREE MUST HAVE MATCHING UNIQUE IDs (QR CODES)

Printable labels

Use these labels to identify each sample with a QR code and key details. All designs follow standard Avery templates and can be printed with laser or inkjet printers. Label sheets are available from collections@worldforestid.org



PROFORMA LABEL

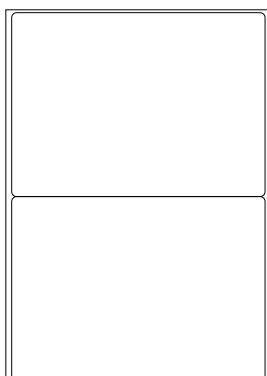
2 per A4 sheet

Avery code L7168

Size: 199.6 x 143.53 mm

PCL code PCL190137

Size: 190 x 137 mm



SAWDUST, VERIFICATION & SAWN BLOCK LABEL

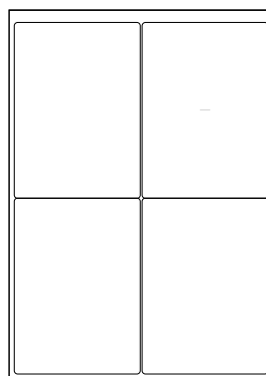
4 per A4 sheet

Avery code L4774

Size: 99.1 x 139 mm

PCL code PCL94140

Size: 94 x 140 mm



CORE SAMPLE LABEL

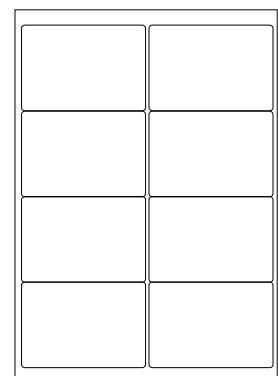
8 per A4 sheet

Avery code L7565

Size: 99.1 x 67.7 mm

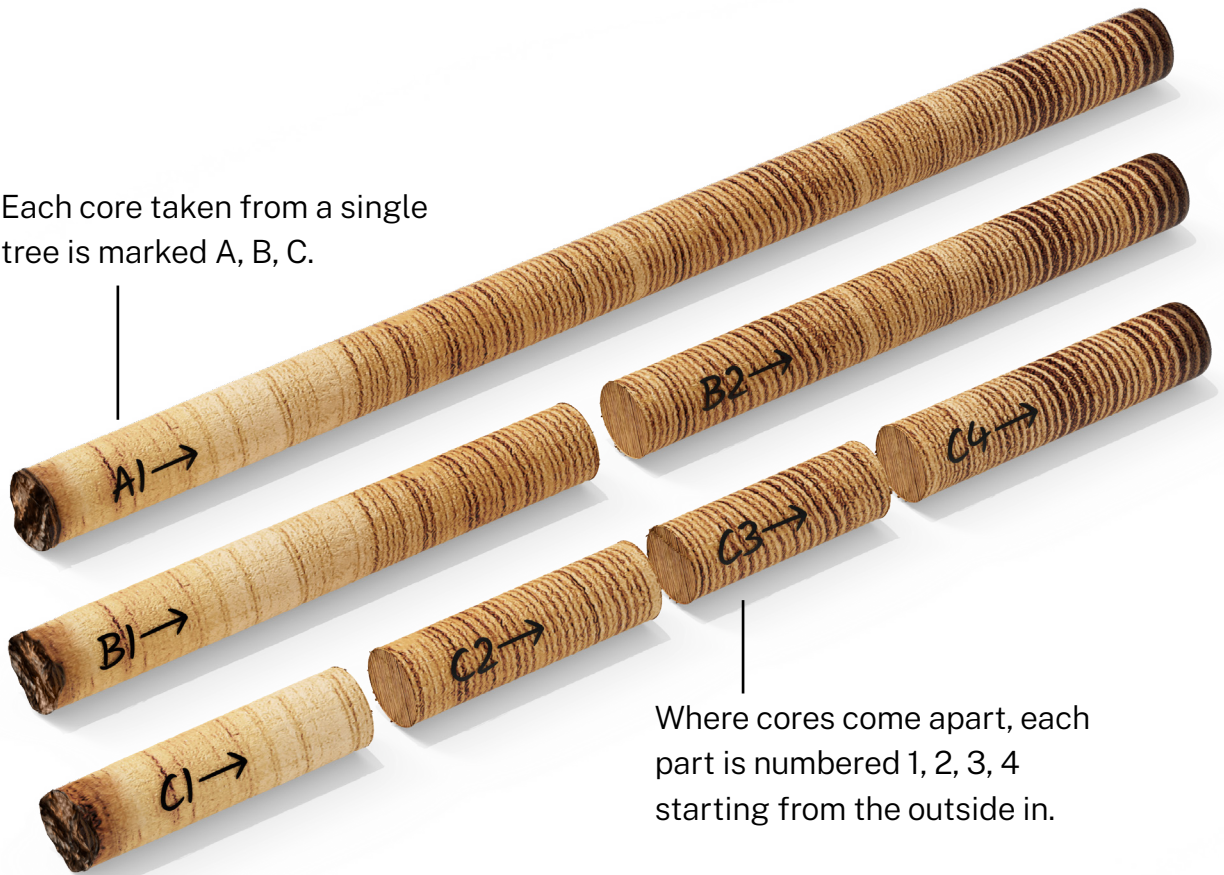
PCL code PCL9668

Size: 96 x 68 mm



How cores are marked up

Each core taken from a single tree is marked A, B, C.



Where cores come apart, each part is numbered 1, 2, 3, 4 starting from the outside in.

An arrow is used to indicate which end of the core faces the center of the tree.

 **DO NOT CUT CORES
KEEP THEM WHOLE.**

Core and its packaging need to be marked identically.



Completing the Proforma

WORLD FOREST ID

Tree Sample Proforma
Formulaire d'échantillon d'arbre / Proforma de muestra de árbol

QR CODE
VLAE907
World Forest ID
Amazon Hortobosc Collection
May 2023

WORLD FOREST ID

Tree Sample Proforma
Formulaire d'échantillon d'arbre / Proforma de muestra de árbol

Warning: All samples in this bag must be from the same tree. You must complete all fields.
Tous les échantillons de ce sac doivent être du même arbre. Vous devez remplir tous les champs.
Todas las muestras en esta bolsa deben Ser del mismo árbol. Debe completar todos los campos.

COMMON NAME OF SPECIES **BRAZILIAN MAHOGANY**

SCIENTIFIC NAME OF SPECIES **SWIETENIA MACROPHYLLA**

LATITUDE AND LONGITUDE OF TREE **-4.8321° S -65.3650° W**

DATE OF COLLECTION **17/05/23** **NUMBER OF UNUSED BARCODES** **2**

The Unique ID (QR code) must match that of all samples inside the envelope.

Label with correct Latin/scientific name.

Use App or GPS device for accurate location.



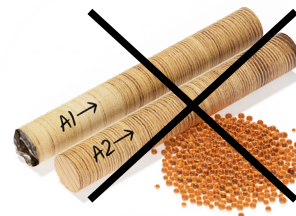
**ALL SAMPLES IN THIS ENVELOPE
MUST COME FROM THE SAME TREE**

Preventing mould with silica

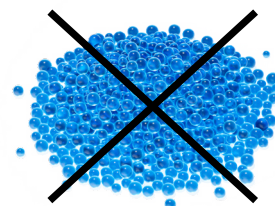
To prevent mould, use silica gel sachets in each sample envelope, especially in humid conditions. Place sachets in both the small inner and larger outer sample envelopes. Do not allow loose silica to touch the core directly, use breathable pouches. For further information see our [Wood Drying Guide](#).



SILICA BEADS MUST NOT COME INTO DIRECT CONTACT WITH SAMPLES

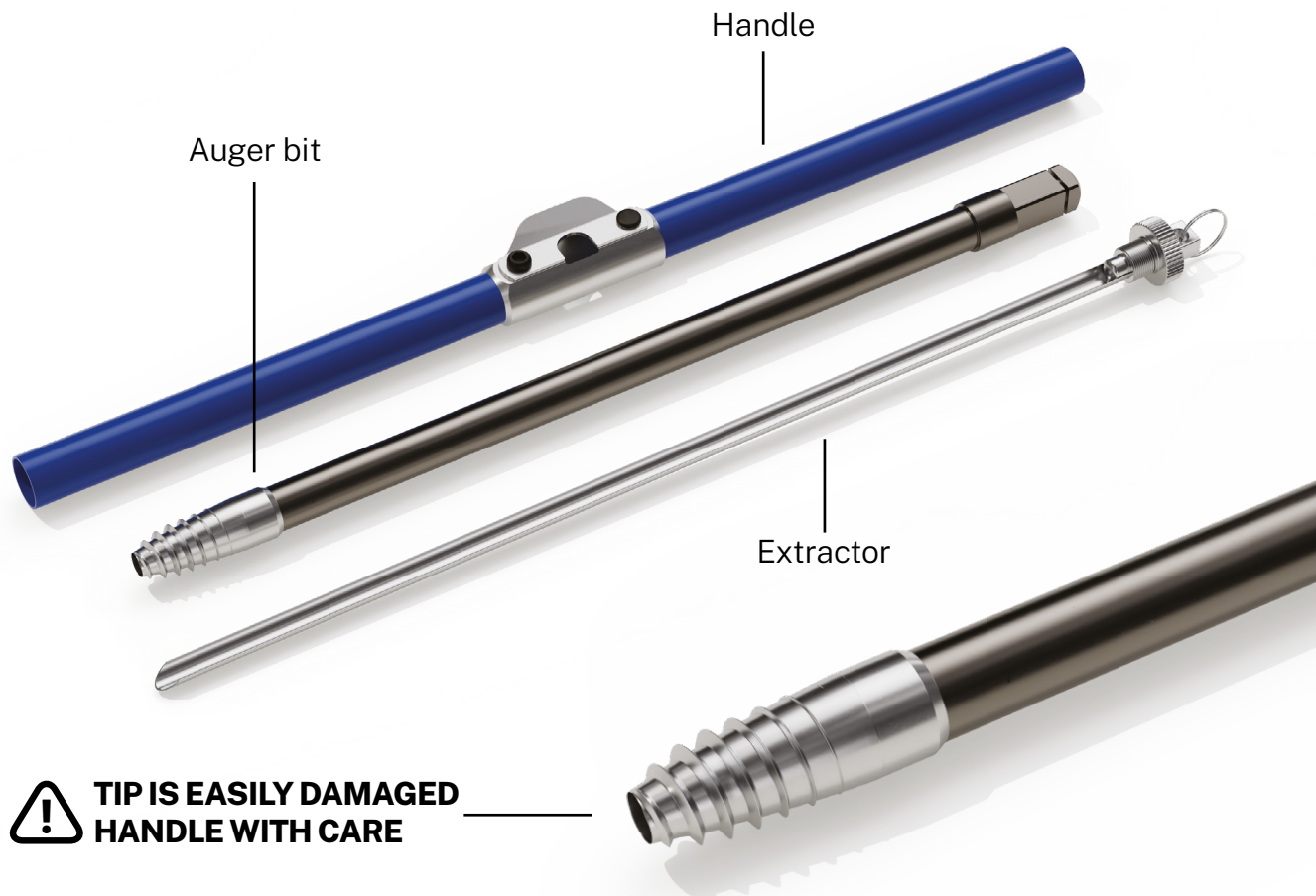


DO NOT USE BLUE SILICA BEADS THAT CONTAIN COBALT AS THEY ARE TOXIC



Increment borer sampling

TOOLS: Haglof increment borer, 1 cm x 30 cm.



1. Unscrew the extractor and store safely.

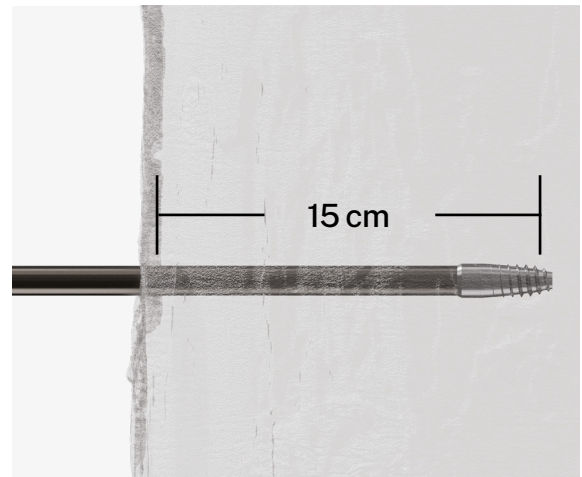
2. Secure Auger bit into handle.



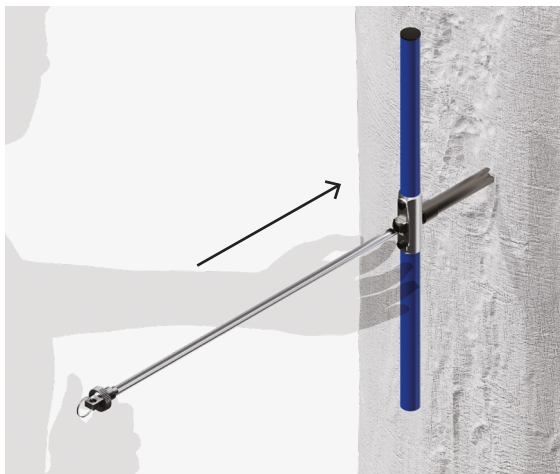
3. Gently twist the borer into the tree for the first 2-3 cm.



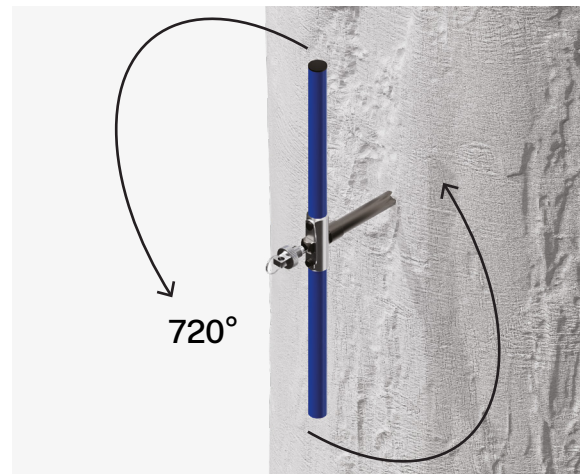
4. Then use both hands until the extractor reaches 15 cm.



5. Insert extractor and wiggle gently left to right.



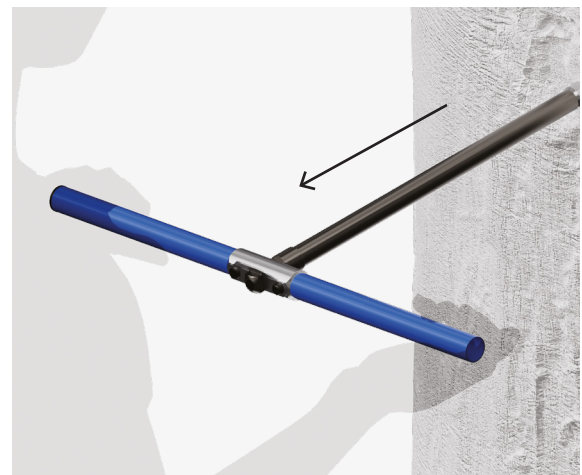
6. Rotate handle 720° anticlockwise to detach core.



7. Remove the extractor and core carefully.



8. Immediately unscrew borer from tree to avoid it getting stuck.



9. Mark 'A1' on core & pack with arrow pointing towards center of tree.



10. Log with World Forest ID App and repeat for following cores (B, C).



11. Clean only outside of borer with Isopropanol/Ethanol after use.



Core drill sampling

TOOLS

DeWalt DCD1007B electric drill or
STIHL BT 45 gas wood drill

Plug cutter with
1.2 cm x 9 cm capacity

Drill extender



Long reach pliers

Long flat screwdriver



**WEAR EYE PROTECTION
& PPE WHEN REQUESTED**

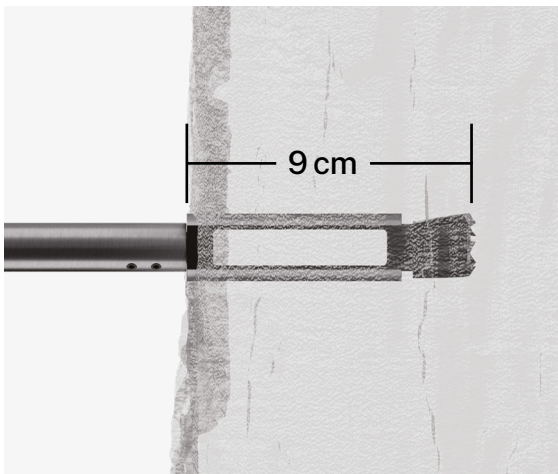
1. Place a clean plastic collection sheet under the target area.



2. Start drill slowly, hold securely and level.



3. Drill to 9 cm, remove while the drill is rotating at low speed.



4. Use a long screwdriver to dislodge the core.



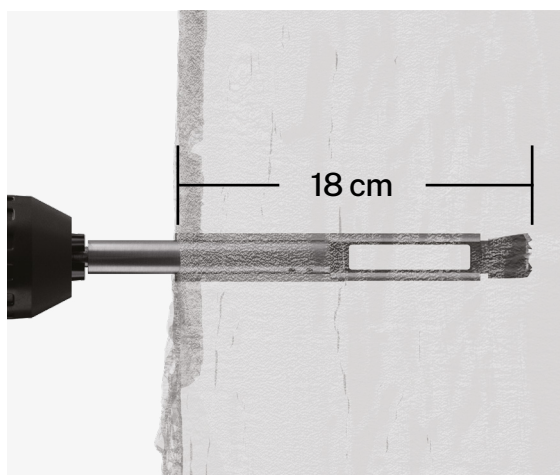
5. Use pliers to carefully remove the core.



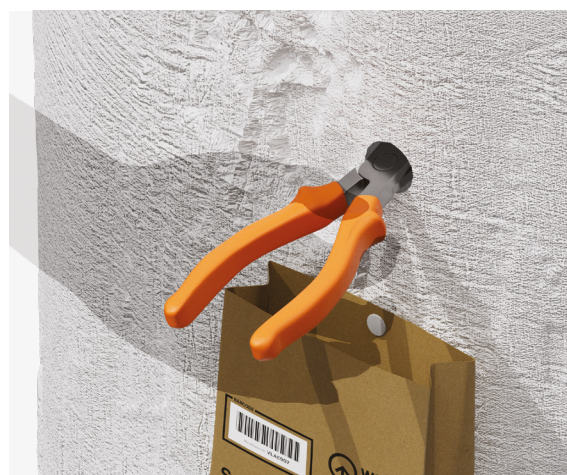
6. Mark 'A1' on core & pack with arrow pointing towards center of tree.



7. Drill again to 18 cm to obtain a second sample.



8. Remove the second core with long nosed pliers.



9. Mark 'A2' on core & pack with arrow pointing towards center of tree.



10. Log each core part in the App and repeat for following cores (B, C).



9. Empty sawdust shavings into the sawdust collection bag



12. Clean only outside of drill bit with Isopropanol/Ethanol.



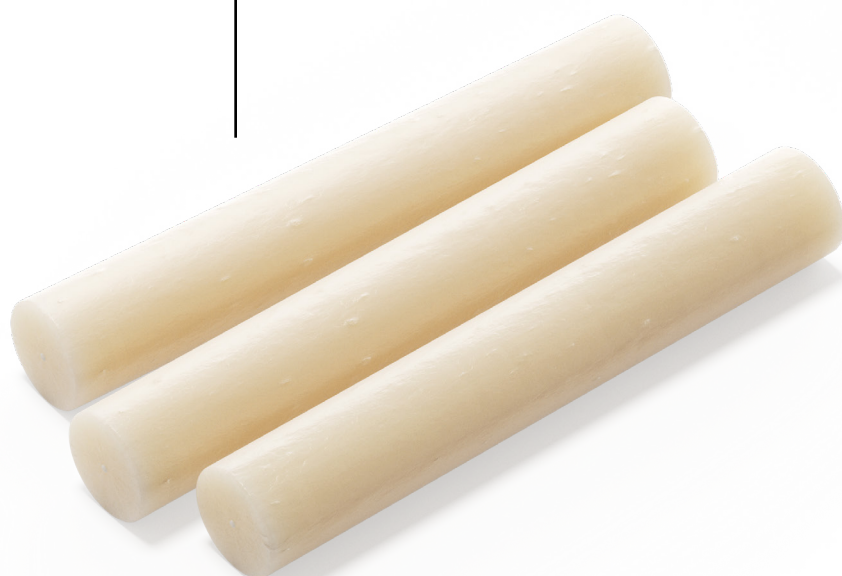
Plugging core holes

To protect the tree from pests or decay, your expedition plan may require you to plug sample holes with wax. Do this immediately after sampling and ensure the wax forms a snug seal.



CANDLES

Use plain, unscented wax candles. Beeswax, soy, or paraffin are all acceptable. Avoid synthetic sealants, glues, or plastic.



Sawn block sampling

Tools: gas powered chainsaw/full PPE.

 **ONLY USE A CHAINSAW WITH PERMISSION
AND ENSURE YOU ARE USING FULL PPE**

Steel
toe caps



Helmet & eye/ear
protection



Heavy-duty
gloves



Protective
legwear

1. Choose a tree without drying cracks.



2. Clear the area of debris/obstacles. Keep a safe distance from others.



3. Keep the chainsaw close to the ground when cutting.



4. Make two lateral and one vertical cut to create a block from the center.



5. Use an axe or hammer & chisel to trim the end if needed.



6. Package & QR code the block, then log the sample in the App.



Collecting leaves or verification samples

VERIFICATION SAMPLES:

Collect one set per species per expedition.

Can include: leaves, seeds, nuts, flowers, twigs.

Must come from tree not forest floor.

A SINGLE LEAF:

Collect one from each sampled tree.*

Avoid forest floor leaves.

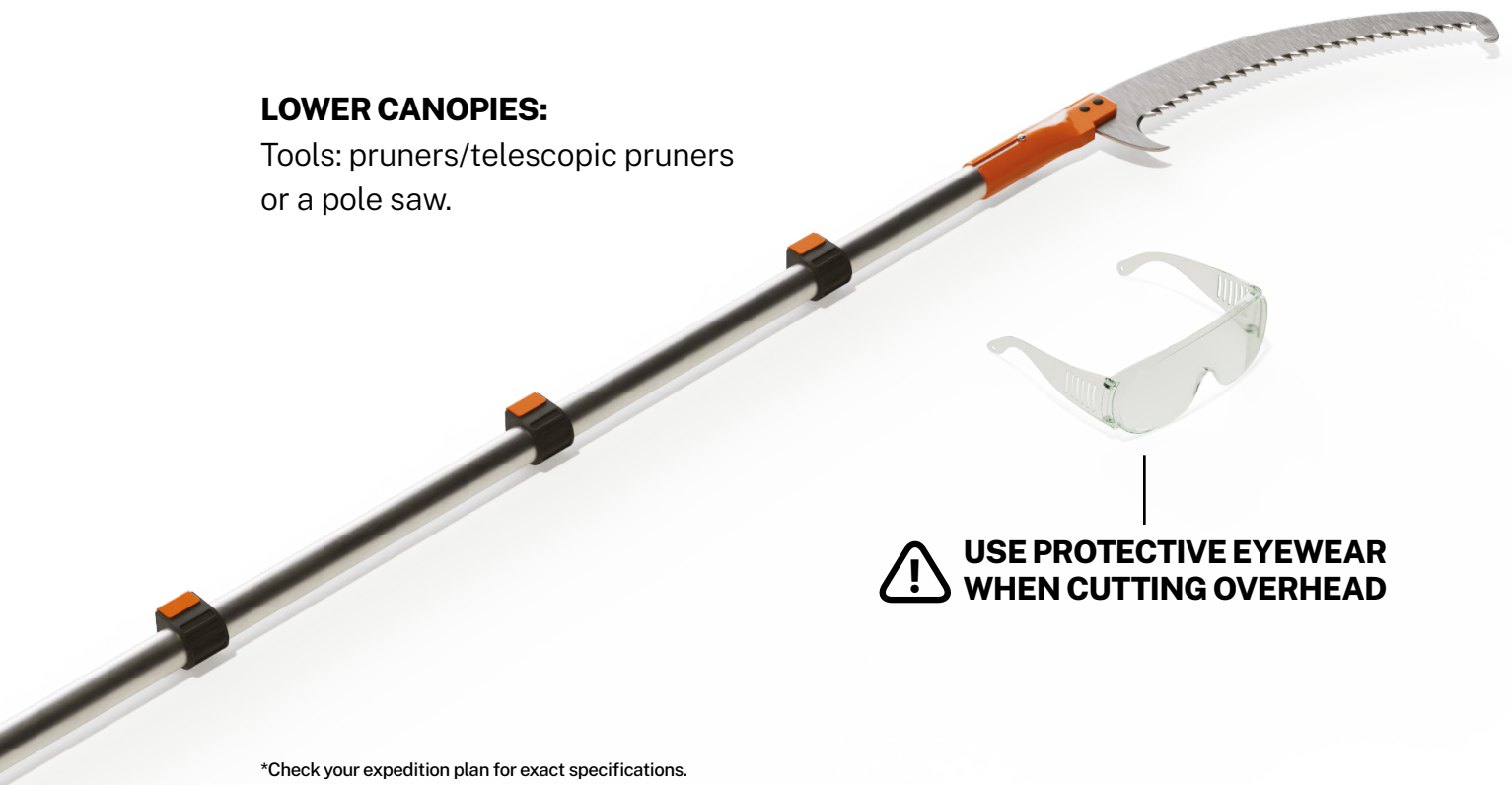


 **VERIFICATION SAMPLES MUST COME FROM SAME TREE AS CORE SAMPLES**



LOWER CANOPIES:

Tools: pruners/telescopic pruners or a pole saw.

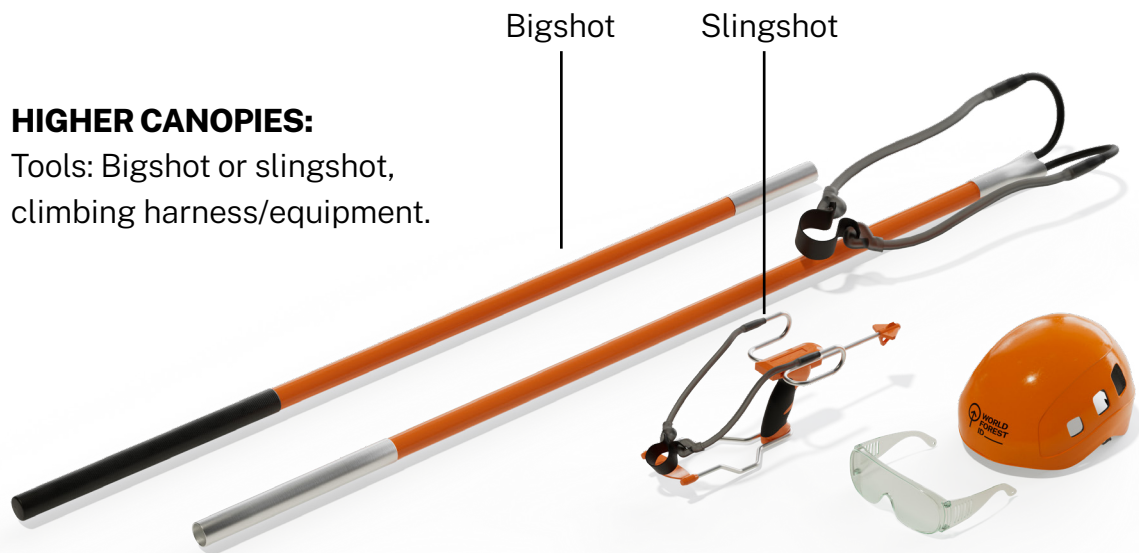


 **USE PROTECTIVE EYEWEAR WHEN CUTTING OVERHEAD**

*Check your expedition plan for exact specifications.

HIGHER CANOPIES:

Tools: Bigshot or slingshot, climbing harness/equipment.



**KEEP A SAFE DISTANCE FROM OTHERS
WHEN USING A BIGSHOT OR SLINGSHOT**



No people within 75m



**DO NOT CLIMB WITHOUT PERMISSION
FROM YOUR EXPEDITION LEADER**



ONLY CLIMB IF YOU HAVE:

Proper training.

Assessed risks & inspected equipment.

A full-body harness & PPE.

Implemented a fall arrest system.

A stable work position.

Chosen secure anchor points.

Established an emergency plan.

Collections App usage ^[i]



IMPORTANT: Ensure you register for, update, and open the World Forest ID App prior to the expedition. Have the App installed on at least two smartphones. Download the app following the instructions at <https://learn.worldforestid.org/downloading-the-collections-app/>

The screenshot shows the top part of the app interface. At the top, there's a status bar with the time 1:43 and battery level 41%. Below that, a header bar contains 'TEST - World Forest ID - ...' and a 'Logout' button. A dropdown menu labeled 'Collection' is open, showing a list of options. Below the dropdown are two yellow buttons: 'New Observation' and 'Record Absence'.

Select collection

The screenshot shows the app interface with three dropdown menus. The 'Collection' menu is set to 'Amazon Hardwoods Collection'. The 'Protocol' menu is set to 'Wood'. The 'Locality Description' menu is open, showing a list of options. Below the dropdowns are two yellow buttons: 'New Observation' and 'Record Absence'. Below the buttons, the text 'No Observations Recorded' is displayed.

If you are collecting wood and other commodities, select protocol. Protocol box will be hidden if you are only collecting one commodity type

Select the type of area you are collecting in

Click 'New Observation'

Collections App usage ^[ii]

New Observation

Id Barcode Scanner

Species ▼

Comment

Locality Description Plantation ▼

Certificate Number

Lat:54.043227, Long:-2.790953 Get

Samples 0 New

Photos 0 Open

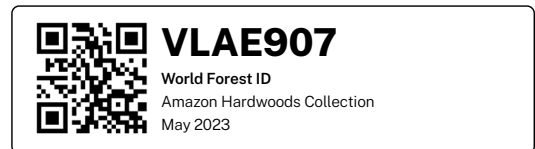
Diameter 0

Samples

Save

Cancel

Scan QR code with Barcode Scanner



Select the species from the dropdown menu

Enter any additional information about the condition of the tree and the area

Enter the certification number if available

If location is not automatically shown click 'Get'

Click 'New' to add a new sample (See next page)

Click 'Open' to add photos of the tree, bark, surrounding area, & QRcode



Collections App usage ^[iii]

1:45 41%
← New Sample
Id
Sample Type
Collection Method
Comment
Number of Samples 0
Photos 0 Open
Save
Cancel

Select the Sample type from the dropdown menu

Select the collection method from the dropdown menu

Enter any additional information about the sample

Enter number of samples

Click 'Open' to take photographs of the samples



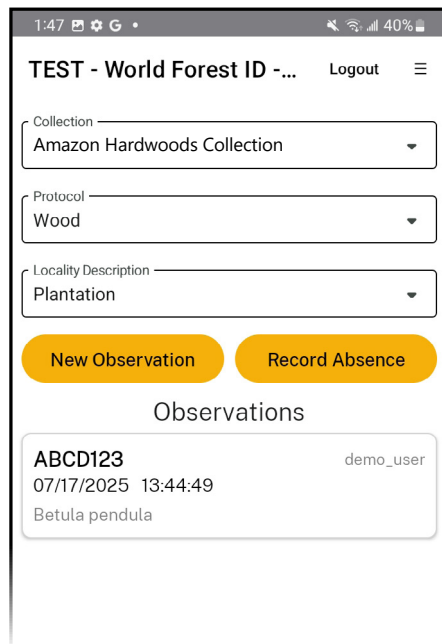
Click 'Save'. Repeat the "add sample" process for each sample type e.g. core, leave, etc

1:45 41%
Certificate Number
Lat:54.043227, Long:-2.790953 Get
Samples 1 New
Photos 0 Open
Diameter 0
Samples
ABCD123-1
Save

You will see each sample listed at the bottom of the 'New Observation' page. To edit a sample, select it from the list and edit the fields as required

When you have added all your samples, click 'Save' on the 'New observation' window

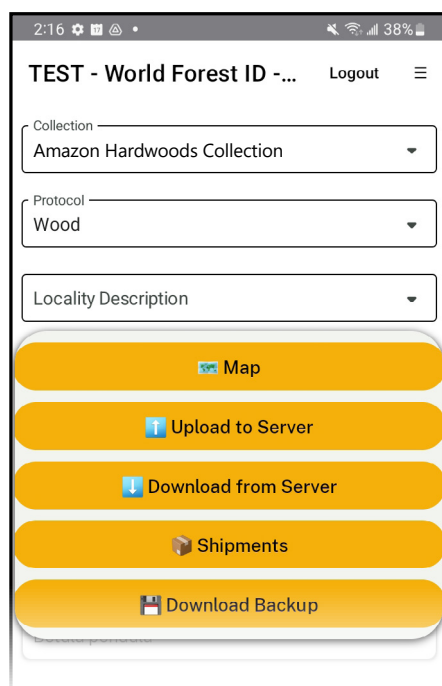
Collections App usage ^[iv]



After saving an observation, it is listed at the bottom of the page. You can click on the observation to edit it if required



**ONLY UPLOAD OBSERVATIONS
WHEN CONNECTED TO WI-FI**



UPLOADING YOUR OBSERVATION

Once you're connected to a Wi-Fi network, click the menu icon in the top right

Click 'Upload to Server' to push the data to the database

Collections App usage ^[v]

TEST - World Forest ID -... Logout

Collection
Demo Collection

Protocol
Wood

Locality Description
Plantation

New Observation Record Absence

Observations

ABCD123 demo_user
07/17/2025 13:44:49

RECORDING AN ABSENCE

If you wish to record the absence of a suitable tree to sample, click 'Record Absence'

← New Absence

Species
Betula pendula

Comment

Save

Cancel

Enter the species and any comments about the surrounding area

Click 'Save' and push the data to the database as shown on the previous page

TEST - World Forest ID -... Logout

Collection
Demo Collection

Protocol
Wood

Locality Description
Plantation

New Observation Record Absence

Observations

07/17/2025 13:47:33 demo_user
Betula pendula

ABCD123 demo_user
07/17/2025 13:44:49

Absences are marked in RED in the observations list

Recommended tools



STIHL BT 45 WOOD DRILL — SKU: STBT43142000013
Petrol-powered drill with high torque (approx. 60 Nm),
Two-speed gearbox for control in dense material.



STIHL DRILL CHUCK WITH KEY — SKU: ST-43146804001
When used with the STIHL BT 45, the keyed chuck found
to be more effective than SDS for sampling.



DEWALT DCD1007B DRILL — SKU: DCD1007B
High-torque cordless drill (~150–180 Nm), ideal for large-bore
plug cutting and high-demand applications.



POWERSTACK 20V 5.0AH — SKU: DCBP520
High-discharge Li-ion pack designed for
torque-heavy applications.



CMT PLUG CUTTER — SKU: 529.127.31
Minor/Plug diameter: 1/2 inch (12.7 mm)
Cutting diameter: 61/64 inch (24.2 mm)
Shank: 1/2 inch (12.7 mm).



FULTON DRILL EXTENSION — SKU: 2205
Length: 10" (254 mm), Shank: 1/2 inch round
Description: Heavy-duty steel extension for 1/2 inch
bits. Provides an additional 8.5 inch drilling depth.
Compatible with keyed drill chucks.

Glossary

BUTTRESS ROOT (PLANK ROOT): Large, flared roots extending from the base of some trees, often called plank roots due to their shape. These must never be sampled. Always collect samples from the main trunk, not the buttress roots.

CHEMICAL ANALYSIS: Laboratory testing of wood to detect chemical patterns that vary across landscapes. World Forest ID uses two main methods: Stable Isotope Ratio Analysis (SIRA) and Multi Element Analysis (MEA). The data helps train a spatial model used to evaluate whether traded wood products match their declared origin.

CORE SAMPLE: A cylindrical piece of wood extracted from a living tree using a borer. Each tree should yield three cores, each ideally at least 1 cm in diameter and 15 cm long, with a minimum of 3 cm of heartwood.

EXPEDITION PLAN: A document specific to each expedition, outlining what species to collect, how far apart sample locations should be, which sample types to include, and any variations from standard protocol.

HEARTWOOD: The dense, inner part of the tree trunk, usually darker in colour. Heartwood is older, non-living tissue that holds more stable chemical signatures. Samples must include at least 3 cm of heartwood.

LATIN/SCIENTIFIC NAME: The formal name of a species, made up of its genus and species. For example, *Swietenia macrophylla* (genus: *Swietenia*, species: *macrophylla*). The required level of identification, genus or full species, will be specified in the expedition plan.

OBSERVATION / SAMPLING POINT:

One individual tree from which all samples (core, sawdust, verification) are taken. All samples from a single tree must share the same unique ID.

PRINTED COLLECTION APPROVAL FORM:

A signed document from the landowner or forest manager giving formal permission to collect samples. This must be completed before sampling begins.

SAMPLE LOCATION: A group of three sampling points (trees), spaced 25–50 km apart. Each expedition must include at least three such locations for each species, spaced 100–250 km apart.

SAWN BLOCK SAMPLE: A solid wood block cut from the trunk of a felled tree, running from the center to the bark. Blocks are typically collected from trees that are already felled. Minimum size: 2 × 2 × 20 cm.

SILICA GEL: A desiccant used to prevent mould by absorbing moisture from the sample envelope. Only use silica gel that has been pre-dried and sealed. Loose silica must be placed in a breathable sachet and must not touch the sample directly. Do not use blue silica beads, as they may contain toxic cobalt chloride.

UNIQUE ID (QR CODE): The identifier assigned to each sampled tree. All samples from a single tree must share the same QR code. Each sample must be labelled clearly using the correct matching ID.

VERIFICATION SAMPLES: Leaves, fruit, nuts, or flowers collected from the same tree as the core sample. These help confirm the species identity and may be used for DNA analysis.

Our PDF guides

WOOD

Collection guide for wood

Drying guide for wood

SOY

Collection guide for soy

COCOA

Collection guide for cocoa

Drying guide for cocoa

GENERAL

Dispatch guide for Australia

Dispatch guide for Belgium



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