

**SERVICE AGREEMENT
BETWEEN
CONSERVATION INTERNATIONAL FOUNDATION
AND
SOSTENIBILIDAD DE BOSQUES PARA EL DESARROLLO**

Service Agreement Number: 6008730

Project Title: Peru Enabling Conditions for Reduced-Impact Logging for Carbon

This Services Agreement (the 'Agreement') is made and entered into by and between Conservation International Foundation ('CI'), a nonprofit public benefit corporation organized under the laws of the State of California and Sostenibilidad de Bosques para el Desarrollo, a **corporation** ('Service Provider'). The Agreement comes into effect on the Agreement Start Date, (the 'Effective Date').

1. Services; Project Description. CI hereby engages Service Provider as an independent contractor, on a non-exclusive basis, to perform the activities and provide the deliverables set forth below and in Appendix 1 (the 'Services'), as may be modified from time to time:

The consultants will prepare a Peru-specific country module nested under the Voluntary Carbon Standard RIL-C methodology and conduct a field campaign to measure carbon emissions from logging operations across timber concessions in Peru. The field data collection will follow established but highly detailed and technically challenging protocols for 'Measuring Carbon Emissions from Logging Operations' that CI's scientists and collaborators have published. The data collected will be used to calibrate logging emissions sources, and potential to reduce emissions from different components of logging activity along the harvest chain based on applicable reduce-impact logging practices. The study will also highlight novel approaches and technology that can be adopted by the forestry sector that will lower carbon emissions associated with forestry practices.

During the Agreement Term (as defined in Section 2) of this Agreement, CI shall have the right to request reasonable changes to the scope of the Services. All changes shall be in writing and signed by authorized representatives of the parties. Service Provider shall receive technical direction from **Bronson Griscom** or his designee, as authorized in writing.

2. Term. The Agreement Start Date is **October 1, 2022**. The Agreement End Date is June 30, 2023 unless otherwise modified, or the Agreement is terminated in accordance with Section 6. Any extension of the Term requires a written amendment of this Agreement signed by authorized representatives of both Parties.
3. Fee for Services. In consideration of Service Provider's performance of the Services during the Term, CI shall pay Service Provider the Fee for Services as provided below:
 - a. Fixed Price Contract. A Fee for Services not to exceed **\$77,811.31** which is based on payment against deliverables as described in Section 4 and outlined in the deliverables schedule attached as Appendix 1. This Fixed Price Contract excludes withholding tax and/or VAT which shall be payable by Service Provider
 - i. Expenses:
The Fee for Services set forth above:

is inclusive of all expenses.
 - b. All activities and expenditures must occur during the Term to be reimbursable.

4. Payment Terms.

- a. Payment shall be made on receipt and acceptance of the deliverables in accordance following schedule:
- (1) \$15,562.26 upon completion and CI's acceptance of deliverable No. 1,
 - (2) \$15,562.26 upon completion and CI's acceptance deliverable No. 2,
 - (3) \$18,674.71 upon completion and CI's acceptance of deliverable No. 3,
 - (4) \$9,337.36 upon completion and CI's acceptance deliverable No. 4,
 - (5) \$9,337.36 upon completion and CI's acceptance of deliverable No. 5,
 - (6) \$9,337.36 upon completion and CI's acceptance of the final deliverable.

Service Provider shall provide invoices to CI containing name and address and deliverables (as defined in Appendix 1) completed and accepted, and payment instructions.

- a. Service Provider shall provide an IRS W-9 form for US entities, or an IRS W-8 form for non-US entities.

5. Acceptance of Deliverables; Time is of the Essence.

- a. Acceptance Criteria. Service Provider is expected to perform the Services and Deliverables in accordance with the acceptance criteria defined in Appendix 1, which may be revised and supplemented from time to time during the Term to accommodate successful performance of the Services ("Acceptance Criteria").
- b. Acceptance. In the event that a Deliverable meets CI's Acceptance Criteria, CI shall notify the Service Provider that such Deliverable has been accepted. In the event that a Deliverable does not meet CI's Acceptance Criteria, CI shall advise the Service Provider as to which aspects of the Deliverable require revision. Service Provider shall implement such revisions in accordance with CI's instructions and deliver the revised Deliverable to CI for review within **10** business days following receipt by Service Provider of the revision request. CI may request that this process be repeated as many times as necessary to meet the acceptance criteria. Time spent on necessary revisions to meet Acceptance Criteria may not be charged to CI, unless authorized in writing by CI. CI reserves the right to terminate this Agreement, in accordance with section 6 below, in the event that the Service Provider is unable to meet the Acceptance Criteria within the time period provided by CI or a reasonable period following notice that the deliverable has not met CI's Acceptance Criteria or if CI determines the deliverable is incapable of revision that will result in its acceptance of the deliverable.
- c. Time is of the Essence. Service Provider shall perform the Services in strict compliance with the Delivery Schedule set forth in Appendix 1. Time is of the essence with respect to all aspects of this Agreement and the subject matter hereof.

6. Termination. Either party may terminate this Agreement at any time upon ten (10) days prior written notice. In such event, Service Provider shall provide to CI all deliverables (including all embodiments thereof) completed or partially completed up to the effective date of termination to CI in a format and medium specified by CI, and CI shall pay a pro-rated fee for all Services provided by the Service Provider in good faith prior to the effective date of termination. Any payment effected by CI in excess of the pro-rated fee due on the effective date of termination shall be returned by the Service Provider immediately upon request by CI. If CI terminates this Agreement due to a material breach by Service Provider or due to the Service Provider's failure to perform any of the Services to CI's satisfaction, CI may withhold payment for any such unsatisfactory Services until such Services are performed to CI's satisfaction.

7. Indemnification. Service Provider hereby covenants and agrees to indemnify CI and to defend and hold CI harmless from and against any and all liabilities, damages, costs and expenses (including reasonable attorney's fees) arising out of or resulting from any claim, action or other proceeding (including any proceeding by any of Service Provider's employees, agents or contractors) related to or arising out of the performance of the Services under this Agreement.

8. Relationship of CI and Service Provider. Service Provider is not an employee, agent or assign of CI for any purposes whatsoever. Accordingly, Service Provider shall be solely responsible for all matters relating to the

employment of its personnel including, but not limited to, compliance with all applicable workers' compensation, unemployment compensation and social security laws and with all withholding and all other federal, state and local laws and regulations governing such matters. CI shall not provide Service Provider or its employees with any insurance or other benefits including, but not limited to, unemployment, medical, dental, worker's compensation and/or disability insurance.

9. Government Officials and Employees.

- a. Service Provider hereby certifies that no assistance, payments or anything of value (monetary or non-monetary) shall be made, promised, offered to or accepted by any government employee or official
 - i. in contravention of any U.S. or other applicable law or regulation including, but not limited to, the U.S. Foreign Corrupt Practices Act;
 - ii. without the express consent of the government for which the employee or official works; and
 - iii. that is not reasonable, *bona fide*, and directly related to the activities funded under this Agreement. It is Service Provider's responsibility to ensure compliance with this clause, and to maintain and provide at CI's request, documentation demonstrating such compliance.
- b. Service Provider hereby certifies that no payments or other form of assistance shall be made to or accepted by any government employee or official
 - i. to influence any official government act or decision;
 - ii. to induce any government employee or official to do or omit to do any act in violation of his or her lawful duty; or
 - iii. to obtain or retain business for, or direct business to any individual or entity.

10. Confidential Matters and Proprietary Information. During the course of this Agreement, either party may acquire confidential information or trade secrets of the other ("Confidential Information"). Each party agrees to keep all such Confidential Information in a secure place, and further agrees not to publish, communicate, divulge, use, or disclose, directly or indirectly, for his own benefit or for the benefit of another, either during or after performance of this Agreement, any of the Confidential Information, except as may be required by law or this Agreement. Upon termination or expiration of this Agreement, each party shall deliver all Confidential Information produced or acquired during the performance of this Agreement and all copies thereof to the other. This obligation of confidence shall not apply with respect to information that is (a) available to the receiving party from third parties on an unrestricted basis; (b) independently developed by the receiving party; or (c) disclosed by the other party to others on an unrestricted basis.

11. Intellectual Property

All work product created, prepared, procured, generated or produced by Service Provider under this Agreement and delivered to CI including, but not limited to, raw or processed data, articles, reports, drawings, computer data bases, and all other memoranda (collectively, "Works"), shall belong solely and exclusively to CI. All Works shall be deemed "works made for hire" within the meaning of U.S. copyright law, and CI shall be deemed the author of the Works. If for any reason, any Work is not deemed a "work made for hire," or all rights in and to any Work are deemed not to vest in CI, Service Provider hereby irrevocably assigns and transfers any rights it may retain in and to the Works to CI and waives all its rights, title and interest in and to the Works, including moral rights. Upon CI's request and at its expense, Service Provider agrees to cooperate with and assist CI in perfecting its rights in and to the Works, including executing appropriate documents.

CI shall have the sole right to copyright the Works. Service Provider hereby grants to CI a nonexclusive, irrevocable royalty-free license to reproduce, translate, publish, use and dispose of, and to authorize others to so

do, all copyrighted or copyrightable material not first produced or prepared by Service Provider in the performance of this Agreement, but which is incorporated in the Works, provided that such license shall be only to the extent that the Service Provider now has, or prior to completion of the Agreement may acquire, the right to grant such license without becoming liable to pay compensation to others solely because of such grant. To the extent that the Works contain any material to which Service Provider does not have the right to grant such license, Service Provider will assume responsibility for obtaining all necessary rights for use, reproduction, translation, publication and disposition of that material by CI.

12. Security and Safety. Service Provider agrees that s/he has read, understands and shall comply with any applicable security guidance provided by CI, and acknowledges that s/he shall be solely responsible for Service Provider's own safety and physical property or equipment during the performance of this Agreement.
13. Travel. Service Provider shall be solely responsible for any travel arrangements, travel insurance, and all arrangements for visas, passports or immunizations. Service Provider shall adhere to all applicable international, national or local regulations and advisories governing travel, including safety, health and security measures in effect throughout the Term. Where applicable, any individual contractors employed or engaged by Service Provider, assigned with international travel under the terms of this Agreement or engaged in a high risk activity, agree to release and to waive any claim against CI as provided in Appendix 3, Release and Waiver.
14. Choice of Law; Arbitration. This Agreement shall be construed and enforced in accordance with the laws of the District of Columbia, USA, applicable to contracts fully executed and performed therein and without giving effect to its conflict of laws principles. Any controversy or claim arising out of or relating to this Agreement, or the breach thereof, shall be settled by arbitration before a single arbitrator in Washington, DC, under the rules of the American Arbitration Association in effect at the time of commencement of the arbitration, and the parties agree that judgment upon the award rendered by the arbitrator shall be final, binding and may be entered in any court having jurisdiction thereof.
15. Compliance with Law; CI Code of Ethics; Sexual Exploitation, Abuse and Harassment (SEAH).
 - a. Service Provider will perform the Services in compliance with (i) the U.S. Foreign Corrupt Practices Act and Office of Foreign Asset Control regulations, as well as (ii) all laws and regulations of the country in which the Services are performed (including, but not limited to, such relating to bribery, corruption, terrorism financing and equal employment opportunity, as well as all the generally accepted standards applicable to such work), as if such aforementioned laws and regulations directly reached the activities of the Service Provider. Further, Service Provider agrees to perform all Services and to conduct all activities related thereto in accordance with CI's Code of Ethics, a copy of which is attached hereto as Appendix 2 and incorporated by reference.
 - b. Service Provider shall not directly or indirectly condone, encourage, or tolerate participation, or engagement in any conduct substantially equivalent to Sexual Exploitation, Sexual Abuse, and Sexual Harassment (as defined in CI's Policy on Prevention of Sexual Exploitation, Sexual Abuse, and Sexual Harassment, available at <https://www.conservation.org/about/our-policies/prevention-of-sexual-exploitation-sexual-abuse-and-sexual-harassment>) in carrying out Services hereunder.
16. Service Provider's Anti-Terrorism Representation and Warranty. Service Provider is hereby notified that U.S. Executive Orders and U.S. law prohibit transactions with, and the provision of resources and support to, individuals and organizations associated with terrorism. Service Provider, therefore, represents and warrants that Service Provider has not provided, and will take all reasonable steps to ensure that Service Provider does not and will not knowingly provide, material support or resources to any individual or entity that commits, attempts to commit, advocates, facilitates, or participates in terrorist acts, or has committed, attempted to commit, facilitate, or participated in terrorist acts, and is compliant with all other applicable provisions of such U.S. Executive Orders and U.S. law.
16. Counterparts and Facsimile Signatures.

- a. Each party agrees that the other party may rely on a facsimile copy of the signature of a duly authorized signatory and that upon the exchange of such facsimile signatures, electronically or otherwise, this Agreement shall be binding between the parties whether or not hard copies of this Agreement are ever exchanged between them.
- b. This Agreement may be signed in one or more counterparts, each of which shall be deemed an original but all of which together shall constitute one and the same instrument even though all the parties are not signatories to the original or the same counterpart.
17. Severability. In the event that any one or more of the provisions contained herein shall, for any reason, be held to be invalid, illegal or unenforceable in any respect, such invalidity, illegality or unenforceability shall not affect any other provisions of this Agreement, but this Agreement shall be construed as if such invalid, illegal or unenforceable provisions had never been contained herein, unless the deletion of such provision or provisions would result in such a material change so as to cause completion of the transactions contemplated herein to be unreasonable.
18. No Third-Party Beneficiaries. Except as expressly set forth herein, neither party intends that this Agreement shall benefit or create any right or cause of action in or on behalf of any person or entity other than the Service Provider and CI.
19. Non-Assignment. This Agreement shall not be transferred or assigned by Service Provider without prior written consent of CI.
20. Waiver. Either party may specifically waive any rights under this Agreement by the other party, but no such waiver shall be deemed effective unless in writing, signed by the waiving party, and specifically designating the rights waived. No waiver shall constitute a continuing waiver of similar or other rights.
21. Entire Agreement; Amendments. This Agreement supersedes all prior oral or written agreements between the parties and constitutes the entire Agreement between the parties. Unless indicated otherwise herein, this Agreement may not be amended, supplemented, or modified in any respect except by written agreement signed by both parties.
22. Notices. Notice under this Agreement shall be deemed to have been sufficiently given either when served personally or when sent by first-class registered mail addressed to the parties at the addresses set forth below. CI shall not be liable for, nor shall Service Provider be liable to perform, services or expenses incurred after the receipt of notice or termination.

If to Service Provider:

Santiago Bermúdez Dobbertin
CP El Cerrillo, Baños del Inca, Cajamarca,
Cajamarca, Perú.

Phone: 51 977786151

Email: sbermudez@sosbosques.org

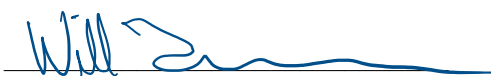
If to CI:

Attn: Alexa Mehos
Conservation International Foundation
2011 Crystal Drive, Suite 600
Arlington, VA 22202
Phone: 703.341.2400
Email : amehos@conservation.org

The authorized representatives of the parties hereto have caused this Agreement to be executed as of the date first written above.

Sostenibilidad de Bosques para el Desarrollo

Conservation International Foundation



Santiago Bermúdez Dobbertin
Gerente General

Will Turner
SVP, Center for Natural Climate Solutions

Date: September, 22th, 2022

Date: 11 October 2022

Appendix 1: Delivery Schedule

Appendix 2: Code of Ethics

Appendix 3: Release, Waiver of Liability and Consent to Medical Treatment

APPENDIX 1
DELIVERY SCHEDULE

#	Deliverable	Activities	Acceptance Criteria	Due Date	Payment Amount [USD]
1	Submission of complete workplan.	Pre-planning and logistics preparation ; securing permits to access concessions	Word document of the final field sampling protocol; excel file based on 'RIL_C_data_entry_template'. Review of report and resolution of any comments/questions.	15 October, 2022	\$15,562.26
2	Report on testing of protocol for Measuring Carbon Emissions from Logging Operations that includes any Peru-specific changes	Training to use field data collection protocol	Excel file with data entered into 'RIL_C_data_entry_template'.	28 October, 2022	\$15,562.26
3	Field data collected in next three concessions.	Field data collection and data entry.	Excel file with data entered into 'RIL_C_data_entry_template'.	Twelve days after data collection is complete (15 November 2023 at the latest)	\$18,674.71
4	Field data collected in next three concessions.	Field data collection and data entry.	Excel file with data entered into 'RIL_C_data_entry_template'.	Twelve days after data collection is complete (30 April 2023 at the latest)	\$9,337.36
5	Field data collected in next three concessions.	Field data collection and data entry.	Excel file with data entered into 'RIL_C_data_entry_template'.	Twelve days after data collection is complete (15 May 2023 at the latest)	\$9,337.36

#	Deliverable	Activities	Acceptance Criteria	Due Date	Payment Amount [USD]
6	Final Report and Database of Field Measurements .	Field data collection and data entry. Compilation of final report	Resolution of any queries associated with data entered into the 'RIL_C_data_entry_template' forms across all concessions	30-Jun-23	\$9,337.36
Total					\$77,811.31

Terms of Reference

Tabla de contenido

1. INTRODUCTION	10
2. SCOPE OF WORK	10
3. TIMELINE	10
4. METHODOLOGY	10
TNC Revised Protocol for Measuring Carbon Emissions from Logging Operations	10
Authors: Peter Ellis, Bronson Griscom, James Halperin, Francis Putz, Ruslandi, and Ethan Belair	10
Date: Last updated: January 2022.	10
Selection of concessions for sampling	10
Logistical Preparations	11
Field Equipment	11
Part 1. Scoping	12
Part 2. Haul Roads & Log Landings	14
Section A - GPS Data	14
Section B – Haul Road Width (primary and secondary)	14
Section C – Log Landing Dimensions	15
Part 3. Skid Trails	16
Section A – Skid Trail Mapping and Stump Count	16
Section B – Skid Trail Plots	17
Part 4. Harvest Tree Impacts	19
Section A – Harvest Tree Measurements	19
Section B – Collateral damage to residual stand	21

Part 5. Biomass of Unlogged Forest 1

5. BUDGET 2

6. TECHNICAL TEAM 4

7. COMPANY DATA..... 8

1. INTRODUCTION

Sostenibilidad de Bosques para el Desarrollo is a consulting and project management company specialized in sustainable development. It focuses on generating lasting economies through sustainable development projects, properly channeling the resources of the State, private companies and financial organizations.

2. SCOPE OF WORK

Fully implement the protocol:

Field Methods: TNC Revised Protocol for Measuring Carbon Emissions from Logging Operations.

3. TIMELINE

This proposal is part of an execution horizon of 72 days, with 32 effective field days, for the application of the protocol in 21 logging concessions, 9 in October and November 2022 and 12 in May 2023.

4. METHODOLOGY

Protocol is from:

TNC Revised Protocol for Measuring Carbon Emissions from Logging Operations
Authors: Peter Ellis, Bronson Griscom, James Halperin, Francis Putz, Ruslandi, and Ethan Belair
Date: Last updated: January 2022.

Selection of concessions for sampling

Concessions should be selected for sampling across a cross section of variables that might alter harvesting practice or on the ground conditions. Expert consultation with concessionaires, government officials, or others familiar with the details of local forest harvesting

practice will be critical to selecting an optimal sample of concessions for measurement. A minimum of 8 concessions is suggested to obtain minimum standard of reliability of regional estimates. More samples is always preferred.

Generate a list of all active concessions in the region of interest. It is important that this list be as comprehensive as possible, to avoid any bias created by the exclusion of particular concessions. For each concession on the list, determine:

- National origin of concession ownership
- Predominant equipment used in logging, e.g. bulldozers vs skidders
- FSC Certification status
- Province concession is located in
- Approximate annual production (categorical, low, medium, high for a given region)
- Other variables of importance, especially those likely to impact harvesting practice

Create categories of similar concessions, e.g. FSC-certified concessions in Sangha district using bulldozers in skidding operations vs non-FSC concessions in Likouala using long-line winches for skidding. Randomly select concessions from across the breadth of categories until a sufficiently large sample has been obtained.

Logistical Preparations

A recommended field team is composed of, at minimum, 3 people, providing the following functions:

- Team lead, in charge of managing field team and ensuring quality control in implementation of field methods described here. Team lead may also function as data note taker. This individual should have extensive forest inventory training and experience, and be able to make on-site adjustments to field methods to ensure unbiased sampling if unexpected conditions are encountered. This individual must have a range of technical field skills including use of the following instruments: a tape measure for tree diameter measurements, a clinometer and/or hypsometer for slope and tree height measurements, a compass to follow bearings, a prism or angle gauge for variable radius plot inventory, a GPS unit for recording geospatial coordinates, and basic GIS skills for planning field work and organizing GPS data after field work.
- Measurer 1/tree identifier. This individual should also have experience identifying commercially valuable timber species. This individual should be capable of learning to use all of the instruments mentioned above.
- Measurer 2. This individual should be capable of learning to use all of the instruments mentioned above. This individual should also be skilled with use of a machete.

All field team staff should be in good physical condition, capable of all-day hiking across steep terrain. All field staff should be equipped with all-weather clothing, shoes for steep and muddy terrain, hydration, and sun protection. The field team lead should carry a first-aid kit.

Field Equipment

The following field measurement equipment is required (minimum number of items given in parentheses). Superior equipment may be substituted.

- Tree diameter tape – metric (3+)
- 50-meter or greater tape measure (1)
- Laser or sonic range finder (1)
- Clinometer (2)
- Compass (2)
- Prisms or angle wedge gauges for variable radius sampling (2)
 - Note: Angle gauges are available in a wide range of Basal Area Factors (BAFs), and selection of BAF may be adjusted for different forests. This protocol will use two different BAFs, a smaller BAF for selecting one sample of trees to count and a larger “big BAF” for selecting a second sample of trees to measure in detail. By design, all trees that are selected with the big BAF will also be selected with the count BAF. Ideally, the big BAF should sample, on

average, ~6 trees per plot and the smaller BAF should sample ~12 trees per plot. If field crews are consistently sampling too many or too few trees, they should contact the project lead to discuss a change in the protocol.

- Handheld GPS (1)
 - NOTE: We recommend a receiver that can access both GPS and GLONASS satellites and has the ability to average across several readings. We have found these units, when averaging minimum 100 waypoints, will record coordinates within acceptable ranges of accuracy. GPS data should be recorded using WGS 84 datum.
- Random number sheet: (1)
- Clip board (1)
- Pre-printed data sheets (one set of all pages for each site, plus extras)
- Rite-in-Rain pocket field notebook (1)
- Pencils for writing on write-in-rain paper (3)
- Permanent marker (2)
- Red wax tree marker (1)
- Roll of flagging tape (3)
- Extra AA Batteries for GPS, hypsometer (6)
- Machete (2)

Part 1. Scoping

Scoping is needed in order to select and characterize cutting blocks for field sampling, within the annual cutting area. Scoping takes place prior to actual field work, either when meeting with concession staff upon arrival to base camp, or before. Concessionaire maps are used. Scoping steps are as follows:

1. Before the day of data collection, acquire from the concessionaire the concession map with boundaries of the current year's cutting blocks. If extra paper maps are not available, use the camera to photograph relevant sections of the map for reference. When at all possible, GIS data for all of the current annual cutting blocks should be obtained in advance and loaded onto GPS units.
2. Randomly select 3 adjacent, recently closed cutting blocks for field measurements from among the current year's cutting blocks. From the 3 selected cutting blocks, randomly select one "focus sample". The focus sample is intended for sampling of all components, i.e. skid trails, harvest trees, log yards, collateral damage, and haul road measurements. The remaining 2 cutting blocks are intended only for haul road measurements, which require a large area for sampling.
 - NOTE: "Closed" cutting blocks are those where all logging has been completed, post-logging inspections have been completed (if any are expected), and skid trails have been closed (i.e., cross drains installed; if any are expected). For ease of identification of stumps and collateral damage, it is recommended that the focus sample block be closed ***no longer than 6 months previous***.
3. Delineate a 50-hectare "sub-sample" portion of the focus sample cutting block. To do this:
 - Select a rectangular section of the annual cutting block that is nearest to the direction of access. For example, if the haul road to access this block comes from the east, select the eastern-most 50-hectare rectangle as the subsample.
 - Whenever possible, ensure that this sub-sample block's boundaries coincide with the existing boundaries of the block and other easy to reference locations. This makes it easier to determine the subsample location while in the field.
 - Create the subsample polygon in GIS and upload boundaries to the GPS for easy reference in the field.
 - If no access to GIS is available, and there are no paper maps available that show cutting blocks, create 4 waypoints directly in the GPS unit that form a roughly 50 ha area.
 - i. For reference, a 50 ha subsample would be a 707m x 707m square.
 - Whatever method you use, document the 50-ha subsample for later use. This location and its exact area is **required** for all data processing after field work is complete.
4. Identify a random starting location in unlogged forest, for later use.

- Identify a haul road that passes through an adjacent cutting block that has not been logged since the last legal rotation, is expected to be logged within the next two years, and is a similar forest type to the sample blocks selected above..
 - Estimate the total length of those haul road sections to the nearest 0.1 kilometers.
 - Randomly select a point along this haul road length, using the random number sheet. For example:
 - i. If you estimate there are 5.2 km of haul roads in the adjacent unlogged parcels, select the first two random numbers from the sheet where the first digit is less than 5 and add a decimal to create a distance. If the random numbers are 3 and 6, your random location is 3.6 km along the haul road. Then cross those digits off the random number sheet.
 - This point will be used for sampling of “unlogged forest biomass.”
5. Characterize the current year's cutting blocks to be sampled, based on consultation with (i) concessionaire representatives, (ii) TNC field staff, and (iii) government and/or FSC representatives and records, with respect to:
- Logging History: Has the site previously been logged? Approximately when?
 - FSC Certified?
 - Implementing specific “reduced impact logging” (RIL) practices (i.e. as defined by TFF)?
 - Operations: Is concession using contour mapping, harvest tree mapping, haul road or skid trail mapping to guide their operations?
 - Operations: What skidding and felling equipment is used? Take special note of non-standard logging practices, such as “Mono-Cable Winch” (MCW) system for skidding.
 - Are trees checked for hollowness?
 - Are Lianas cut before harvest?
 - Wood Products extracted: record approximate product mix concession harvests.
 - Record ownership, including use of subcontractors.
 - Describe the prevailing slope and soils found on the concession.
 - Record any other relevant information regarding logging operations.

Part 2. Haul Roads & Log Landings

Measurements on haul roads and log landings can be made by a team of two, with a truck and driver. Thus, if more than one truck and driver are available, two teams can be mobilized to complete haul road & log landing measurements.

NOTE: GPS naming conventions are suggested below as an efficient way to identify different types of waypoints, but field personnel are encouraged to adopt their own naming conventions, as long as they are consistent, efficient, documented, and easily interpreted.

Section A - GPS Data

1. **Point data: Record GPS waypoints** at the following locations in all three cutting blocks selected during “scoping”:
 - a) All junctions on haul road
 - Code in GPS with leading “J”
 - b) All points where haul roads cross boundaries of cutting blocks
 - Code in GPS with a leading “B”
 - c) Within focus block only - all skid trail junctions with haul roads
 - Code in GPS with Leading “S”
 - d) Centerpoint of all log landings
 - Code in GPS with Leading “L”
 - Log landings are any location where logs are temporarily stored for pickup by haul trucks AND some modification has been made to the dimensions of the road to accommodate the stored logs. Locations where a small number of logs have been left along the road margins, but where road dimensions are not modified, do not qualify as log landings.
2. **Line data and Mapping: Record GPS line data** (“Tracks”) for all sections of haul roads in the three cutting blocks selected.
 - a) Drive haul road sections if accessible. Walk haul road sections that have been closed to vehicle access.
 - b) As you collect GPS tracks for the haul roads, draw a basic sketch map of the road system based on your observations
 - Label all junctions (J), boundaries (B) and skid roads (S) encountered on the haul road system.
 - For each road section, record whether road is newly constructed for timber extraction during most recent permitting period (NEW), or previously constructed as part of an earlier harvest (OLD).
 - c) NOTE: if accurate and reliable geospatial location of all haul roads in the three cutting blocks can be obtained remotely, this step can be skipped in the field. Geospatial data could be from expert consultation of recent satellite imagery, or concession GIS databases, but care should be taken to ensure accuracy and completeness of data obtained from the concession.

Section B – Haul Road Width (primary and secondary)

Note: Begin this section when finished with all GPS data collection in Part 2, Section A.

1. Determine first measurement point
 - a. Stand at a cutting block boundary (starting with the focus block), facing into the block.
 - b. Select a random number between 0 and 200 using the random number sheet.
 - i. Select the first three digits on the sheet which, in order, are less than 200. Then cross those digits off the sheet.
 - c. Measure that distance in meters from the cutting block boundary to the point of first measurement.

2. Measure the first point.
 - a. **Record GPS location**, coding with a leading “R”.
 - i. Document on datasheet.
 - b. Measure and record the following haul road widths using a rangefinder or the measuring tape. Record measurements to the nearest 0.1 m.
 - i. **Active road surface**: compacted road surface on which trucks move.
 - ii. **Entire road corridor**: width measured from the nearest standing tree trunk (> 5 cm dbh) on either side of road. This measures full extent to which trees have been “felled” defined as uprooted, cut with chainsaw, or snapped below the tree crown.
3. Proceed along all haul roads at 200-meter intervals from the first point, recording GPS waypoints and two width measurements at each location.
4. Once **20 measurements of haul road width** have been completed, this section is complete. If less than 20 width measurements have been collected once all haul roads in three cutting blocks have been sampled, randomly select one of the haul road intersections with a cutting block boundary and continue haul road measurements into an adjacent cutting block until 20 measurements have been collected.
 - a. To randomly select, number each of the intersections on the map, then select a random digit from the random number sheet. Go to the intersection that corresponds to the selected random number. Then cross the selected digit off from the random number sheet.

Section C – Log Landing Dimensions

Note: Perform these measurements simultaneously with Part 2, Section B (Haul roads)

1. Determine which log landings to measure.
 - a. Choose heads or tails of a coin and flip the coin. If the side of the coin chosen is successful, then begin at the first log landing that is encountered. If it is not successfully chosen, begin measurements at the second log landing encountered.
 - b. Proceed along the rest of the haul road system, measuring every 2nd log landing.
2. For each selected landing, collect either digital or analog measurements of area:
 - a. **Analog**: measure the following dimensions using the rangefinder, recording measurements to the nearest 0.1 m.
 - i. **Width** at mid-point of landing, from edge of active road surface to closest standing tree trunk at edge of disturbed vegetation, i.e. closest tree that has not been uprooted, cut with chainsaw, or snapped below the tree crown due to landing construction.
 - ii. **Length** at mid-point of width measurement.
 - b. **Digital**: Measure and record the **area** of the log yard to the nearest 1 square meter using the GPS unit or other digital device, as available.
3. Additionally, for each log landing record:
 - a. **New/Old**: was this landing cleared for the most recent harvest or was it used previously?
 - b. **Shape**: Classify the log landing as either half-ellipse or rectangle. If the log landing does not approximate either of these shapes, draw the shape of the log landing and measure dimensions as needed to estimate area.
4. This section is complete once **15 log landings** have been measured. If fewer than 15 log landings have been measured, begin measuring the skipped log landings from the final point at which a log landing was skipped.

Part 3. Skid Trails

Measurements on skid trails should be conducted by a team of at least 3 (one recorder, two measurers). We recommend, completing Section A, B, and C (in that order) for a given skid trail before moving on to the next skid trail. If a larger team is available, then one sub-team may perform Section A while another sub-team begins section B. Note: it is of the utmost importance that *all skid trails in the sub-sample block must be completely GPSed*.

Section A – Skid Trail Mapping and Stump Count

1. GPS Data

- a. **Note GPS waypoint starting point** at the head of the skid trail system. This point should have been mapped in section 2A above, and should be coded with a preceding “S”.
- b. Walk along centerline of all skid trails in the 25 (or 50) hectare sub-sample block with GPS and acquire GPS track, including all minor spurs, within the selected skid trail network.
- c. **Collect GPS waypoint** at all skid trail
 - Intersections, code in GPS with a leading “I”
 - End points, code in GPS with leading “E”)
- d. For long-line winch systems, GPS waypoints should be collected for all anchor points (locations where winch device is positioned or strapped to a tree, coded with a leading “W”). For every anchor point (“W”), randomly select one winch skid line (not including relay skid lines to other anchor points) and GPS the location of one winch end point (“WE”), defined as a harvest tree stump as the farthest extent of a winch skid line.
- e. Sketch a map of the skid trail network, marking all collected waypoints. Include elements like streams, sections with parallel skid trails, etc. (see Figure 2). For winch systems, differentiate between sections where dozer skid trails occur vs. winch skidding.

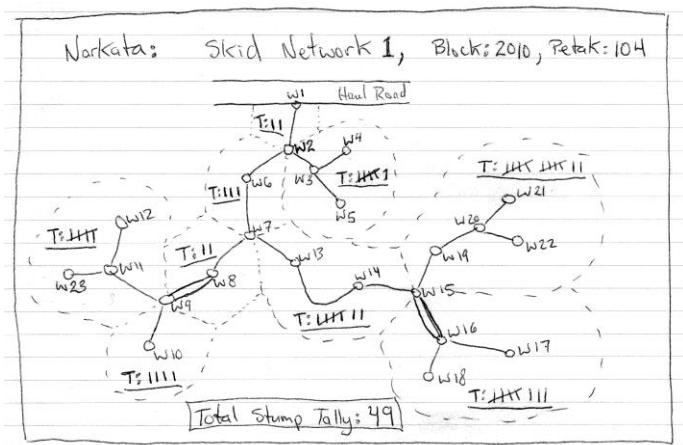


Figure 2. Example of skid trail network field diagram.

2. **Record the number of tree stumps** along the skid trail that were cut with a chainsaw during the current year, i.e. intended for commercial harvest. This includes stumps of trees that were felled, but logs were left in the forest (stump belongs to skid trail that it is closest to). Record counts on skid trail map.
 - a. With the recorder remaining in the centerline of the skid trail with the GPS unit, two people should search for stumps - one person for each side of the skid trail.
 - Search thoroughly for stumps hidden beneath vegetation or slash.
 - Stumps are usually within 50 meters of the skid trails (long-line winch systems: 150 meters from anchor trees).

- Any evidence that stumps are further out should be investigated.
 - b. If long-line winch systems are involved - make two separate tallies: one for trees skidded only by dozer, one for trees skidded by MCW.
 - c. If available, use maps of harvest tree positions to aid in identifying stumps.
3. Repeat skid trail mapping and stump count for all skid trail networks in the sub-sample block.

Section B – Skid Trail Plots

1. Determine starting point for first plot.
 - a. Stand at head of skid trail (first point where one could measure width of skid trail as distinct from haul road)
 - b. Select a random number between 0 and 100, using the random number sheet.
 - a. Select first two digits from sheet, use those for your random number. Then cross those digits off from the sheet.
 - c. Using tape or rangefinder, measure this distance in meters, down skid trail (measuring distance along the slope) to location of the first plot.
 - d. Locate subsequent plots at 100 m intervals (slope distance).
2. Establish Skid Trail Plot
 - a. Put a stake in the center of the skid trail where the plot begins.
 - b. Measure 10 meters (slope distance) along the skid road and mark the end of the plot.
 - NOTE: Do not correct for slope. Horizontal length of each skid trail plots will be calculated later using plot slope measurements.
3. Take the following measurements for each skid trail plot:
 - a. **Slope of skid trail:** from the first stake, use clinometer or rangefinder to measure percent slope along the skid trail.
 - b. **Slope of land:** At first stake, use rangefinder/clinometer to measure percent slope of land directly upslope and downslope. Average two measurements and record as slope of land.
 - Note: this measurement is the same as skid trail slope if the skid trail is oriented directly down the slope.
 - c. **Width of skid trail:** Measure (to nearest 0.1 m), width of skid trail at upper and lower stakes. Width is determined as distance from closest undamaged, standing tree on each side of the skid trail.
 - d. **Damaged trees:** Record all trees that were damaged by skidding operations between the upper and lower stakes. Measure diameter at breast height (dbh) of all trees ≥ 20 cm dbh (or as close to dbh as possible). Record dbh to the nearest 0.5 cm. Record damage code for each tree (must have at least one damage code per tree, record as many codes as appropriate):
 - G: completely pushed over, to the ground, either uprooted or snapped below 1.3 meters height.
 - S: snapped above 1.3 meters and below first major branch
 - C: $\frac{1}{2}$ or more of tree canopy removed or killed.
 - B: ≥ 100 cm² of bark damaged (scraped off).
 - L: leaning $\geq 10^\circ$ from vertical due to impacts from skidding operations (do not include trees leaning due to natural causes).
 - **NOTE:** A damaged tree is considered “in” the skid plot if the mid-point of the stump is between the upper and lower stakes. For uprooted trees, it is the current location of the tree that matters, i.e. if the tree is in the plot, measure it. If the stump/base of the tree is

not visible, the lowest visible portion of the trunk is used to determine if the tree is “in” the plot.

4. Continue along the skid trail, measuring plots at 100-meter intervals.
 - a. When junctions are reached in the skid trail network, randomly select a fork and follow that fork to continue measuring.
 - To randomize, select a digit from the random number sheet. If it is odd, go left at the fork. If it is even, go right. Cross that digit off the random number sheet.
 - b. When terminus points are reached, return to prior fork in system and continue measuring new plots, preserving the distance remainder reached at terminus (e.g. if reached 25 meters out of 100 at terminus point, count 75 more meters from fork).
 - c. Continue with skid trail plots until at least 15 plots have been completed. If skid trail network is fully sampled and less than 15 plots are completed, continue skid trail plots in the adjacent skid trail network of the same cutting block until 15 skid trail plots are completed. Thus, a total of at least **15 skid trail plots** should be sampled per concession, within the selected cutting block.

Part 4. Harvest Tree Impacts

Harvest tree measurements should be started after skid trails have been completely mapped. This section of the protocol will collect data on the size and log utilization of **15-20** harvested trees, and the collateral damage associated with felling those trees. “Harvest trees” include all trees felled with the intention of harvesting, including those trees for which no trunk section was actually removed from the forest. “Harvest trees” do NOT include those trees that were **only** felled in order to access another tree, build a skid road, etc.

1. Determine first harvest tree gap to sample.
 - a. Randomly select a number between from 1 to 3 (20% sample intensity).
 - i. Select the first digit between 1 and 3 on the random number sheet. Then cross that digit off the sheet.
 - b. Select a logical starting point for sampling harvest tree stumps, e.g. the first place the skid trails diverge from the haul roads.
 - c. From this starting point proceed along the skid trail, counting the stumps of all commercially harvested trees until arriving at the randomly selected number. This stump is the first sample.
2. After the first harvest tree is sampled (instructions below), select every fifth stump for sampling.
 - a. If a selected stump is part of a “multiple-tree gap”, where you cannot distinguish between the collateral damage due to one harvest tree vs. another nearby harvest tree, then sample all harvest trees in that gap before resuming sampling of every fifth tree. Thus, you will sample every fifth gap, which is potentially more than every fifth stump.
3. When encountering skid trail junctions, proceed first down the shorter skid trail. After reaching the end of the skid trail, return to the junction and continue counting, carrying over remainder of tree count from last skid trail fork.
4. Continue until the skid network is fully sampled.
 - a. If fewer than 15 harvest trees have been sampled, continue sampling harvest trees in the adjacent skid trail network, until at least 15 have been sampled.
 - b. If 15 harvest trees are sampled before the entire skid network has been sampled, continue sampling every 5th stump up to a maximum of 20 sampled harvest trees.
 - c. If 20 harvest trees are sampled, the remainder of the skid network may be left unsampled.
 - d. Thus, a total of **15-20 harvest trees** should be sampled per concession, within selected cutting block.

Section A – Harvest Tree Measurements

Before beginning data collection, inspect all portions of the felled tree. If it appears that any section of the tree that is still present has been moved since felling, either by the logging crew, sliding down hill, etc., *do not record* the felled tree and move on to the next potential felling gap for sampling.

For each felled harvest tree sample, including each harvest tree within multiple-tree gaps and trees where all logs have been abandoned, collect the following data:

1. **Waypoint**: Acquire a GPS waypoint at the stump of each harvest tree sampled. When recording GPS coordinates, use the “average location” function to collect at least 100 waypoints at the stump.
 - Record waypoint identification number on the data sheet.
2. **Slope**: Standing at stump, measure slope upslope and down slope with rangefinder or clinometer.
3. **Azimuth**: Standing at stump, record direction of tree felling, using magnetic north, measured in degrees.
4. **Tree ID number**: If identified by tree inventory tag, record tree ID number.

5. **Species:** Record species of tree if known. Scientific / Latin names are preferred. When Latin name is unknown, record the local name. If unknown, record “UNK”.
6. **Stump dimensions:** record the height, diameter(s) and hollow of the stump.
 - Measure stump height on up-slope side of the stump to the nearest 1 cm.
 - Measure stump diameter(s) at the top of the stump, i.e. the point where the tree was cut, to the nearest 0.1 cm.
 - If stump diameter is measured with a calipers, standard measuring tape, etc., measure at the widest point on the stump and the point perpendicular to the widest point, then average the two measurements together.
 - If stump diameter is measured with a diameter tape, a single measurement may be taken.
 - **NOTE:** if tree was cut above buttress, simply measure stump diameter at the top of the stump. If tree was cut below the buttress, if the butt log is available, measure stump diameter above the buttress. If the butt log is not available, measure at the top of the stump.
 - See Supplementary Figures 1 and 2 for stump measurement details.
 - Diameter of hollow. If stump is hollow, measure the diameter of the hollow section to the nearest 0.1 cm using a standard measuring tape.
 - If hollow is not circular, measure at the widest point of the hollow and the point perpendicular to the widest point and average the two measurements together.
7. **Diameter at breast height (dbh):** At the point that would have been 1.3 meters aboveground, measure diameter of the stump or log to the nearest 0.1 cm using a diameter tape.
 - If the top of the stump is higher than 1.3 m, measure dbh at the appropriate location on the stump.
 - If the top of the stump is lower than 1.3 m and the butt log is present, measure dbh at the appropriate location on the butt log.
 - If the top of the stump is lower than 1.3 m and the butt log is absent, record the stump diameter as dbh.
 - Avoid measuring in locations that have a large wound, bulge, or branch. See Supplementary Figure 3 for detailed instructions on where to measure unusual trees.
8. **Total Tree Height.** Measure total distance from stump base to top of crown, to the nearest 0.1 m.
 - **Remember:** If there is any indication that the tree sections that are still present were moved after felling, do not record the felled tree and move on to the next potential felling gap for sampling.
9. **Log section dimensions.** For each separate section/log of the felled tree collect the measurements below. Start with the stump, then move in order up the tree, recording each section of the tree, whether it is present or absent (see Supplementary Figure 4 and 6). For each section, record:
 - Whether each log is present or absent, i.e. whether it was left in the woods or skidded out.
 - If all log sections remaining appear to account for the entire tree, mark that no log sections were extracted from forest.
 - Top and Bottom Diameter of the log, to the nearest 0.1 cm.
 - If diameter is measured with calipers, measure at the widest point and the point perpendicular to the widest point and average the two measurements together.
 - If diameter is measured with a diameter tape, a single measurement may be taken, recording the same measurement for both stump diameter 1 and 2.
 - **NOTE:** For adjacent logs, the top diameter of the lower log should roughly equal the base diameter for the upper log (see Supplementary Figure 5)

- **NOTE:** If a log has already been skidded out of the forest, estimate its diameter based on the stump or logs which would have been in adjacent portions of the tree, which are still present (see Supplementary Figure 7).
- **NOTE:** Avoid measuring diameters at wounds, bulges, or branches. If a defect is at the end of the log, offset measurement a short distance to where the defect is not present (see Supplementary Figure 8).
- **NOTE:** If the diameter of one section is significantly different from the adjacent section due to a split or branch (see Supplementary Figure 9), note this on the data sheet and continue measuring the largest section of the log after the split.
- Length of the log, to the nearest 0.1 m.
 - Note that for extracted log sections, length can be estimated as the distance on the ground between other, present log sections.
- Condition of log: hollow, waste, and/or cracked log.
 - If the log is hollow, measure at the widest point of the hollow and the point perpendicular to the widest point and average the two measurements together.
 - For logs that are completely hollow, measure at the top end of the log.
 - If the log is marked as present, but meets general local standards for commercial timber, mark the log as “waste.”
 - If the log is not utilizable primarily because it was cracked during felling, mark the log as “cracked”.
- **NOTE:** if uncertain, consider all logs commercial timber if they are:
 - From 0.3 m aboveground or immediately above the buttress (whichever is closer to the ground) to the point where the log is smaller than the minimum merchantable cutting diameter.
 - Free from large branches or defects.
 - Greater than 4 m in length.

Section B – Collateral damage to residual stand

For each tree ≥ 10 cm dbh that was damaged by the felling of sampled harvest tree(s), record the following information:

1. **Diameter at breast height (dbh):** Measure diameter of the stump or log to the nearest 0.1 cm, at the point that would have been 1.3 meters aboveground, using a diameter tape.
2. **Damage code.** Record the appropriate damage code for each tree.
 - Record a single damage code for each tree. If multiple damage codes apply to a tree, record the code that is highest on the following list:
 - G: on Ground; completely pushed over, uprooted, or snapped below 1.3m height
 - S: Snapped; stem snapped above 1.3 m height
 - C: damaged Canopy; half or more of tree canopy damaged/killed
 - B: damaged Bark; ≥ 100 cm² (10 x 10 cm) of bark damage due to impact of skidding equipment
 - L: Leaning; tree leaning $\geq 10^\circ$ from vertical due to impact of skidding equipment
 - Note: do not include trees leaning due to natural causes.
 - Example: if a tree is on ground (G), with significant canopy damage (C), and bark damage (B), record only G on the data sheet.
3. **Species:** Record species of tree if known. Scientific / Latin names are preferred. When Latin name is unknown, record the local name. If unknown, record “UNK”.

4. **Commercial/Non-Commercial.** Record whether the tree is of a commercially valuable species or not.
- NOTE: Commercial tree species are those that are currently being harvested within a given concession. If possible, consult with concession workers to determine which species are currently being harvested.

Part 5. Biomass of Unlogged Forest

Go to the point selected on haul road adjacent to unlogged cutting block (see Part 1.3 above), and proceed with the following steps:

Determine the compass direction of a transect line that is perpendicular to the nearest ridge line.

Select a random starting point.

- a. Select the first two digits that are between 0 and 50 from the random number sheet.
- b. Add 100 to that number.
- c. Proceed that distance in meters along the transect compass bearing.

Put a stake in the ground at the location reached to mark the first biomass plot location

Record a GPS waypoint, coding waypoint with a leading “B”.

- d. Record biomass plot number, Latitude and Longitude on the datasheet.

Measure % slope in the uphill and downhill direction from plot center. Average the two measurements together and record as Slope of Land.

Verify the Basal Area Factors (BAFs) to be used for the biomass sampling and record the BAF on the datasheet.

- e. The standard approach is to use a 2 BAF for the small BAF and a 4 BAF for the large BAF.
- f. Ideally, this will select ~12 trees with the small BAF and ~12 trees with the large BAF.
- g. If sampling consistently returns more or fewer sample trees, the BAFs used may be adjusted in consultation with the project manager.
- h. The same two BAFs must be used at all biomass plots for a given site.

Start facing due north and proceed in a clockwise direction, using the large BAF angle gauge to identify all trees ≥ 10 cm (not including lianas) which are “in”. For each “in” tree, measure/record:

- i. **Diameter** to nearest 0.1 cm. If a buttress exists, record diameter above the buttress.
 - i. Refer to the Supplementary Figures for additional details on unusual tree diameters.
- j. **Species**: Record species of tree if known. Scientific / Latin names are preferred. When Latin name is unknown, record the local name. If unknown, record “UNK”.
- k. **Commercial/Non-Commercial**. Record whether the tree is of a commercially valuable species or not.
 - i. NOTE: Commercial tree species are those that are currently being harvested within a given concession. If possible, consult with concession workers to determine which species are currently being harvested.
- l. **Total tree height**. For only the first tree selected, measure height from the base of the tree to the highest living portion of the tree.
 - i. Record height to the nearest 0.1 m.
 - ii. If the tree is leaning more than 5° from vertical, make sure to measure height from a location where you can view the tree perpendicular to the direction of the lean.

Record the number of trees identified as “In” using the smaller BAF angle gauge.

- m. Thoroughly search the area around plot center, to ensure the person using the angle gauge can see all stems that might possibly be “in”. It is easy to miss trees due to thick vegetation, but this non-detection must be avoided at all costs. This is the most important measurement collected in the entire protocol.
- n. **NOTE**: if it is difficult to visually determine whether a given tree is “in” or “out”, use the limiting distance tables to positively determine whether the tree should be sampled.
 - i. Measure the dbh of the questionable tree to the nearest 1 cm.

- ii. Lookup the limiting distance for that dbh in the limiting distance table for the appropriate BAF.
- iii. Measure the horizontal distance from the center of the tree to plot center, to the nearest 0.1 m.
- iv. If the limiting distance $\geq$ measured distance: the tree is “in”, measure it. If the limiting distance $<$ measured distance: the tree is “out”, don’t measure it.

Document the plot with digital photos.

- o. First, take a photo of the datasheet, to help identify plot photos later.

- p. Then take a photo at roughly breast height facing north, then south.

Proceed 100 meters in the transect direction to the next point, and repeat measurements.

Once the boundary of the cutting block is reached (or if you reach the edge of a recently logged area), proceed 100 meters deeper into the unlogged cutting block parallel to compass direction of ridge line, and begin a new transect, heading back towards ridge line.

Complete at least **15 biomass plots** within each concession.

- q. ¹In a circular plot of 5 meters radius from each of the 15 or more plot centers, record:
 - i. Tally of the number of liana stems in each of the following diameter size classes:
 - 1. 2.0 to 3.9 cm dbh
 - 2. 4.0 to 5.9 cm dbh
 - 3. 6.0 to 7.9 cm dbh
 - 4. 8.0 to 9.9 cm dbh
 - 5. $\geq$ 10 cm dbh
 - ii. Tally of the total number of paca stems (climbing bamboo: *Guadua weberbaueri* and *Guadua sarcocarpa*).

5. BUDGET

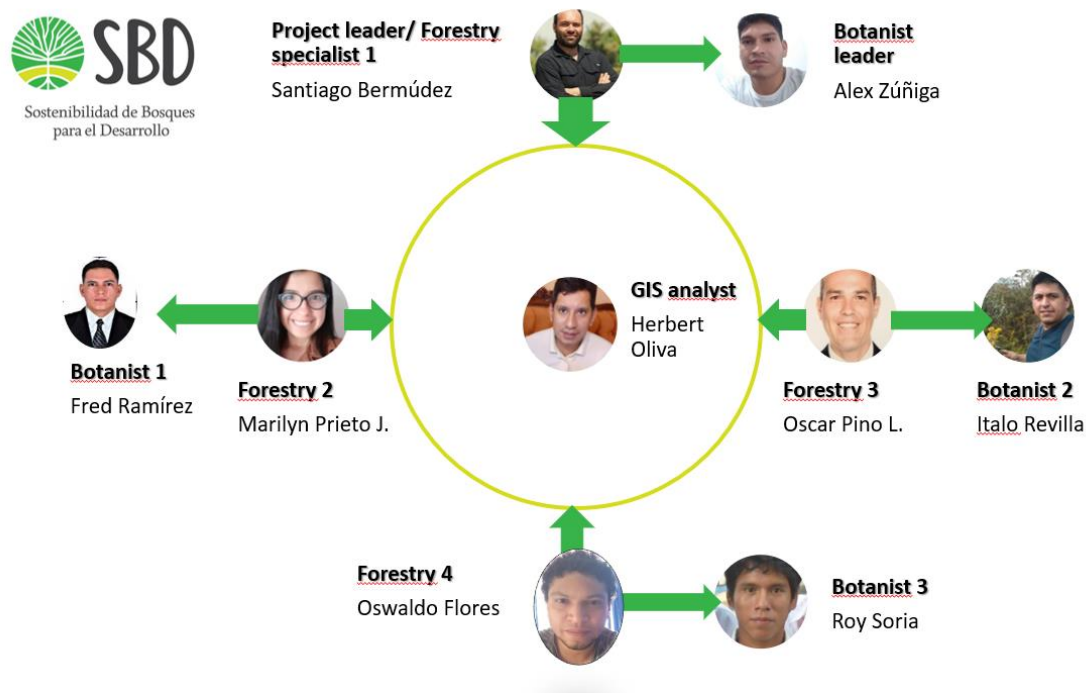
The budget is seventy-seven thousand eight hundred and eleven with 30/100 USD without taxes.

¹ Added: Liana evaluation protocol by Bronsom Griscom.

PROJECT EXPENSES			Stage 1		Stage 2		Stage 3		TOTAL	
			Before field		Field work		Office work			
TEAM	Q	Day rate (USD)	Days	(USD)	Days	(USD)	Days	(USD)	Days	(USD)
Project leader SBD	1	180	10	1,800	32.0	5,760	7.0	1,260	49.0	8,820
Forestry 2	1	120	10	1,200	32.0	3,840	7.0	840	49.0	5,880
Forestry 3	1	120	0	0	32.0	3,840	3.0	360	35.0	4,200
Forestry 4	1	120	0	0	32.0	3,840	3.0	360	35.0	4,200
Botanist 1	1	90	10	900	32.0	2,880	3.0	270	45.0	4,050
Botanist 2	1	90	0	0	32.0	2,880	3.0	270	35.0	3,150
Botanist 3	1	90	0	0	32.0	2,880	3.0	270	35.0	3,150
Botanist 4	1	90	0	0	32.0	2,880	3.0	270	35.0	3,150
Assistant	8	30	0	0	32.0	7,680	0.0	0	32.0	7,680
GIS	1	120	10	1,200	0.0	0	10.0	1,200	20.0	2,400
TOTAL TEAM				5,100		36,480		5,100		46,680
OPERATIONAL EXPENSES	Unit	Day rate (USD)	Q	(USD)	Q	(USD)	Q	(USD)	Q	(USD)
Flight ticket	Pax	200	0	0	8	1600			8.0	1,600
Movement between places	Pax	100	0	0	40	4000			40.0	4,000
Lodging and meals	Pax/day	40	0	0	272	10880			272.0	10,880
SCTR (Risk work insurance)	Pax	60	0	0	8	480			8.0	480
HSE equipment	Pax	100			8	800			8.0	800
TOTAL OPERATIONAL EXPENSES				0		16960		0		17,760
Sub Total				5,100.00		53,440.00		5,100.00		64,440.00
Administrative expenses 5%				255.00		2,672.00		255.00		3,222.00
Gross margin 15%				803.25		8,416.80		803.25		10,149.30
Total without Taxes (USD)				6,158.25		64,528.80		6,158.25		77,811.30

Does not include measuring equipment.

6. TECHNICAL TEAM



Santiago Bermúdez Dobbertin

Forestry Engineer, Universidad Nacional Agraria La Molina. Specialized in formulation and management of sustainable projects, forest plantations, social responsibility, forest management, environment, agroforestry and forest inventories. Experience in geographic information systems -GIS, sustainable forest management standards under FSC, projects and methodologies for estimating carbon stock and emission, VCS, HCS and HCV, as well as sustainability reports according to GRI. With experience in field work, multidisciplinary teams, high leadership capacity, indigenous and peasant community relations; organization of groups and human resources, organization for the production and facilitation of participatory workshops.

Herbert Olivas Taco (GIS)

Geographic Engineer from the National University of San Marcos. In addition to have completed a Diploma in Geographic Information Systems and Modeling Territorial and specialization studies in Territorial Planning, Politics - Management and Environmental Governance, GIS in Disaster Risk Management, Cadastre Municipal, Mining Exploration, Environmental Impact Studies, among others. Likewise, has a Diploma in Project Formulation and Evaluation at ESAN and Disaster Risk Evaluator published by CENEPRED, with more than 15 years of professional experience I have worked as Head - Project Coordinator Geomatics and Environmental at PROESMIN SAC, Specialist in Systems of Geographic Information (GIS) and Remote Sensing in SERNANP, Ministry of Housing, Construction and Sanitation, Ministry of the Interior, DEVIDA, Ministry of Environment, National Water Authority, among others. zoning specialist participatory territory of communal forests, Sustainable Development Plans, Physical-legal sanitation of urban and rural properties at the level of construction work assessment for the energy sector, hydrocarbons and infrastructure projects, topographic and geodetic surveys. Ability to tolerate pressure, proactive, outgoing and creative.

Marilyn Prieto Julca (Forestry 1)

Forestry Engineer with studies of Master in Forests and Forestry Resource management. Experience in preparation and execution of projects forestry, ecological restoration, REDD+ projects, productive and development; building capacities for producers, community leaders, technical and university personnel and agricultural cooperatives; public and private entities. In stock monitoring, carbon flux in natural forests, forestry plantations; agroforestry systems; carbon footprint; environmental management, river basin management and risk prevention. In the installation of forestry nurseries, with native and exotic species, plantations, management, exploitation and transformation, and forestry inventories. Management of Geographic Information Systems, topographic equipment, GPS receiver. Technical English and driver's license. With experience in interdisciplinary teamwork, personnel management, field work in high Andean, coastal and jungle areas; in highly dynamic and pressure environments.

Oscar Pino Luna (Forestry 2)

Forestry Engineer by the Universidad Nacional Agraria La Molina, with experience in eroded ecosystems' ecological restoration, forest inventories, project management, environmental studies, solid waste management, and timberland forest products' quality control. Also holding specializations in "Quality Management and Environmental Audit" and "Forest and Wild Fauna Use and Conservation Supervision".

Wide experience in remote location fieldwork, high adaptability to different work conditions and multidisciplinary team leadership capacities. Human resource management and coordination capacities as well as the ability to create proper conditions for team working. In addition, knowledge and experience in different normative and technical instruments, security and occupational health, quality management, and environmental management standards (OHSAS 18001:2007, ISO 9001:2015 & ISO 14001:2004); and in FSC and PEFC Chain of Custody seal certification and normativity (FSC-STD-40-004 V3-1) (PEFC ST 2002:2020).

Oswaldo Flores Martinez (Forestry 3)

Forestry professional with experience in the evaluation and assessment of diverse ecosystems of Peru. Competencies in forest inventories, prevention, resolution of conflicts and social responsibility. Likewise, experience in managing multidisciplinary teams and intercultural, high sense of commitment, analysis and pro activity in search of the outlined objectives.

Alex Zuñiga Huaman (Botanist leader)

Forestry Engineer graduated from the Universidad Nacional Agraria de la Selva, Tingo María, UNAS, Huánuco, with a competent and excellent academic background with raised moral values and with a high degree of commitment and entrusted responsibility, with knowledge in forest inventories, classification taxonomic, botanical and dendrological identification of In Situ and herbarium samples, forest monitoring, forestry, forest restoration studies, forest management and forest plantation management, flora rescue according to CITES. Focused on dendrology and botanical identification in the Coast, Sierra and jungle of Peru since 2015, with 7 years of experience in monitoring studies, wood traceability, forest zoning, plant classification, forestry specialist at ATFFStingo María. Participated in the Forest Zoning study of the Huánuco region. I participate as a dendrologist, independent consultant in the collection of field and cabinet information for the NGO EARTHWORM FOUNDATION since 2018 in the province of Tocache, Juanjui,

Padre Abad, Coronel Portillo and Puerto Inca, conducting studies of High Carbon Reserves HCS. Work carried out as a specialist in botanical identification in the YANA ELE 2010X2 project. Rescue and relocation of flora in critical areas of the project.

Fred Ramirez Guerra (Botanist 1)

Professional qualified and collegiate with Reg. CIP. 251953. Leadership and teamwork skills. With experience in research work developed in native communities, related to the silviculture of forests and plantations with native species in agroforestry systems, recovery of degraded soils, botany and forest ecology.

Consultant in identification of forest species in the field and office (herbarium); doing floristic inventories as a botanical specialist/dendrologist, in the departments of Ucayali, Loreto, San Martin and Huánuco. Certified by the Ministry of Labor and Employment Promotion as evaluator in the labor competency standard of Identification of Forest Species.

Italo Revilla (Botanist 2)

Biologist graduated from the National University of San Agustín, experience in Botany and Interaction Ecology. Botanical Specialist, current curator and researcher of the Herbarium HSP -IMOD, has more than 8 years of experience in plant monitoring, inventory and classification studies. Participated in the National Inventory of Forests of Peru and project of diagnosis and evaluation of plants. With studies of Botany of Tropical Forests of Peru and Costa Rica. Taxonomist who has been studying the Genus *Gynoxys* (Asteraceae) present throughout the Andes Mountains. Interests in the coastal, Andean and montane flora of Peru.

Roy Soria (Botanist 3)

Graduated from the Faculty of Biological Sciences, Professional School of Biological Sciences (UNAP); Professional Title of Biologist, Ability and experience in teamwork, with attitudes and fundamental values that facilitate interpersonal relationships, mastery of issues environmental issues and sensitivity in the conservation and protection of Amazonian ecosystems.

Extensive experience in biological inventories in the Amazon, with an emphasis on flora and vegetation complemented with experience in handling botanical samples deposited in Herbariums, excellent physical condition for field work and with ease of adaptation in the

environments find me Management of Office Computer Programs, in addition to Knowledge in management of, tourism management, management of fauna evaluation teams, Responsible and Capacity Enough to adapt to a good job performance.

7. COMPANY DATA

Sostenibilidad de Bosques para el Desarrollo y Cambio Climático EIRL

Cuenta corriente dólares: 600-3003747308

Cci:003-600-003003747308-46



Santiago Bermúdez Dobbertin

Gerente General

CIP:241107

RUC: 20604568006

www.sbd.org.pe



APPENDIX 2

ETHICS STANDARDS

Conservation International's reputation derives from our commitment to our core values: Integrity, Respect, Courage, Optimism, and Passion and Teamwork. CI's Code of Ethics (the "Code") provides guidance to CI employees, service providers, experts, interns, and volunteers in living CI's core values, and outlines minimum standards for ethical conduct to which all parties must adhere.

Any violations of the Code of Ethics should be reported to CI via its Ethics Hotline at www.ci.ethicspoint.com.

CI relies on the personal integrity, good judgment and common sense of all third parties acting on behalf, or providing services to the organization, to deal with issues not expressly addressed by the Code or as noted below.

Integrity:

- Act in good faith, responsibly, with due care, competence and diligence and maintain the highest professional standards at all times.
- Comply with all contractual terms as well as all applicable laws, rules and regulations, domestic and international, in every country where Services are carried out.
- Provide true representation of all Services performed.
- Never engage in any of the following acts: falsification of business document or receipts, theft, embezzlement, diversion of funds, bribery, or fraud.

Transparency:

- Avoid conflicts of interest and not allow independent judgment to be compromised.
- Not accept gifts or favors from sub-contractors, suppliers or other 3rd parties that would negatively impact the provision of Services to CI.

Accountability:

- Disclose to CI, at the earliest opportunity, any information you have or become aware of, that may result in a real or perceived conflict of interest or impropriety.
- Implement activities, provide Services, and manage staff and operations in a professionally sound manner, with knowledge and wisdom with the goal of a successful outcome per the terms of this Agreement.

Confidentiality:

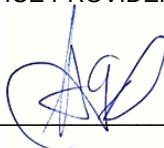
- Not disclose confidential or sensitive information obtained during the course of your work with CI.
- Protect confidential relationships between CI and other 3rd parties.

Mutual Respect and Collaboration:

- Engage with indigenous peoples and local communities in which CI works in a positive and constructive manner that respects the culture, laws, and practices of those communities, with due regard for the right of free, prior and informed consent.

I hereby acknowledge receipt of CI's Code of Ethics and certify agreement and compliance therewith.

FOR SERVICE PROVIDER:

By:  _____

Title: GERENTE GENERAL

APPENDIX 3

Instructions: Service Provider shall adhere to all applicable international, national or local regulations and advisories governing travel, including safety, health and security measures in effect throughout the Agreement Term. This Appendix 3 serves as a notice of risk as well as a release and waiver of liability where international travel or a high risk activity under the terms of this Agreement is planned or required.

Each individual contractor employed or engaged by Service Provider assigned with international travel under the terms of this Agreement must complete the information requested, sign and return to CI. A Consent to Medical Treatment is provided for below.

RELEASE, WAIVER OF LIABILITY

Coronavirus, COVID-19 Warning & Disclaimer

Coronavirus, COVID-19 are **extremely contagious** viruses that spread easily through person-to-person contact. Authorities recommend social distancing, face coverings and hand sanitation as a means to prevent the spread of the virus. **Coronavirus, COVID-19 can lead to severe illness, personal injury, permanent disability, and death.**

Participating in Conservation International programs or accessing Conservation International facilities could increase the risk of contracting Coronavirus, COVID-19. Conservation International in no way warrants that Coronavirus, COVID-19 infection will not occur through participation in Conservation International programs or accessing Conservation International facilities.

CDC and other governmental guidelines are continually being updated regarding individuals who may be more susceptible to contracting viruses or who may suffer more severe consequences as a result of having a virus. I understand that I and/or other members of my family may have underlying conditions that place us at a higher risk of serious consequences from contracting virus and I willingly consent and agree to participate with full knowledge and understanding of this increased risk.

Initial _____

I, [Santiago Bermúdez Dobbertin], have voluntarily agreed to participate in [program name, destination, trip dates], which may include training courses, workshops, field trips, day trips, field work, or any other activities associated with Conservation International Foundation's (CI) projects, activities, or programs (the "Program").

1. I understand and acknowledge that I am not an agent or employee of CI, that I have no authority to bind CI, or make representations on CI's behalf. I voluntarily agree to enter into this Release, Waiver of Liability and Consent to Medical Treatment to govern the terms of my participation in the Program.
2. I understand and acknowledge and accept that my participation in the Program may involve risks and dangers that could result in damage to or loss of personal property, personal injury or loss of life. These risks include, but are not limited to, travel to, within and from rustic and/or remote areas, under rugged conditions, by plane, helicopter, truck, bus, passenger vehicle, boat and other modes of transportation; a lack of adequate or immediately available medical care; forces of nature, unpredictable weather, dangerous wildlife; unstable political conditions and armed conflicts; unsanitary conditions; disease; scuba diving; tree climbing; and dangers that no amount of care, caution or experience can eliminate.

3. Having read and understood the terms of this Release and Waiver of Liability and in consideration of my participation in the Program I for myself, my spouse, family, heirs, executors, administrators, and legal representatives HEREBY UNCONDITIONALLY AND FULLY RELEASE, WAIVE AND FOREVER DISCHARGE Conservation International Foundation, its officers, directors, agents, affiliates, employees, and members (collectively, "Releasees"), from any and every claim, liability, suit, debt, controversy, or dispute (including attorneys' fees and costs), of whatever kind or nature, either in law or in equity, related to, resulting directly or indirectly from, or in any way connected with my participation in the Program, whether due to the fault or negligence of Releasees, circumstances beyond Releasees' control, or otherwise. I understand and agree that Releasees have not expressly or impliedly assumed any duty or obligation toward me or associated with my participation in the Program.
4. I EXPRESSLY AND VOLUNTARILY ASSUME ALL RISK growing out of, incidental to, related to, resulting directly or indirectly from, or in any way connected with my participation in the Program whether due to the fault or negligence of Releasees, circumstances beyond Releasees' control, or otherwise, and including, but not limited to, my own activities before, during, and/or after the Program.
5. I further release Releasees and all other officials or professional personnel from any claim, liability, suit, debt, controversy, or dispute (including attorneys' fees and costs), of whatever kind or nature, either in law or in equity, on account of first aid, medical treatment or other health-related services rendered to me during my participation in the Program, and I shall assume full responsibility for payment of any such aid, medical treatment or other services so rendered.
6. I agree to indemnify Releasees from any loss, liability, damage or cost, including attorneys' fees and costs, they may incur growing out of, incidental to, related to, resulting directly or indirectly from, or in any way connected with my participation in the Program.
7. I understand and agree that, except as otherwise agreed to by CI in writing, the Releasees do not provide, carry, or maintain medical insurance and insurance coverage for claims related to bodily injury, loss of life, property damage, and/or economic damage to cover my participation in the Program. I am expected and encouraged to obtain my own health, medical, travel, disability, or other insurance coverage to insure against the risks and dangers assumed by me.
8. This Release and Waiver of Liability contains the entire agreement between the parties regarding the subjects referenced herein; all prior oral and written communications regarding the subjects referenced in this Release and Waiver of Liability are merged herein.
9. This Release and Waiver of Liability may not be modified or changed orally, but only by an agreement in writing signed by the parties hereto.
10. The performance, construction and enforcement of this Release and Waiver of Liability shall be governed by the laws of the District of Columbia without regard to the principles of conflicts of laws. I agree that any dispute, controversy or claim arising out of or relating to this Release and Waiver shall be settled by confidential arbitration before one arbitrator and administered by the International Centre for Dispute Resolution ("ICDR"), a division of the American Arbitration Association ("AAA"), in accordance with its International Arbitration Rules, as at present in force. The arbitrator will be chosen by ICDR/AAA.
11. In case any provision (or any part of any provision) contained in this Release and Waiver of Liability shall for any reason be held to be invalid, illegal or unenforceable in any respect, such invalidity, illegality or unenforceability shall not affect any other provision (or remaining part of the affected provision) of this Release and Waiver of Liability, which shall be construed as if such invalid, illegal or unenforceable provision (or part thereof) had never been contained herein but only to the extent it is invalid, illegal or enforceable.

12. I have been fully and completely advised of potential dangers incident to participation in the Program. I have carefully read the foregoing Release and Waiver of Liability, am fully aware of the legal consequences of signing it, and have signed it of my own free will.

Signature:  Date: September 22th, 2022.

Printed Name: Sostenibilidad de Bosques para el desarrollo y cambio climático EIRL

Consent for Emergency Medical Treatment

I, **[Santiago Bermúdez Dobbertin]** and **SBD**, hereby grant Conservation International ("CI") permission to authorize medical treatment on my behalf, including, but not limited to, administration of antibiotics, anesthesia and other medications, transfusions or blood products, life-saving and other necessary surgical procedures, and hospitalization, in the event that I am unable, for any reason, to authorize or approve of such treatment on my own behalf. I further agree to indemnify and hold CI harmless for any or all actions growing out of, incidental to, relating to, resulting directly or indirectly from, or arising out of any such emergency medical treatment. I agree that CI does not have any duty, obligation or responsibility to authorize or seek medical treatment on my behalf. The Release and Waiver of Liability that I have executed related to my participation in the Program is incorporated by reference herein.

Signature:  Date: September 22th, 2022.

Printed Name: Sostenibilidad de Bosques para el desarrollo y cambio climático EIRL