



IUCN SSC PSG SGA/SSA¹ ARRC Task Force

Rio Tinto SIMFER Simandou Project: *ARRC Task Force comments on the chimpanzee monitoring & evaluation program*

September 16th 2025

The ARRC Task Force received on July 21st, 2025, a set of documents from Rio Tinto (RT) SIMFER regarding its Simandou project in Guinea. The following documents were prioritised and circulated to the ARRC Task Force panel for the project:

- **PRIMATE MONITORING**
 - *Offre technique_CEMED*
 - *Planning activités CEMED_2025_V2*
 - *CEMED-4_Protocol_Suivi_Chimpanzé_Faune mamalienne_Aviaire 2322025*
- **REPORTING**
 - *Rapport Mensuel_Simfer_CEMED_27042025 (An example of a monthly report from CEMED to RT SIMFER)*

We additionally requested feedback on the *BMEP (Rapport 16 RO)* and *monitoring indicators* which we received on August 2nd, 2025.

The ARRC Task Force panel for this project issued the following recommendations and comments:

GENERAL COMMENTS

- The consultant has proposed a series of established and conventional methodologies for chimpanzee monitoring. The technical descriptions suggest the team's familiarity with these standardized protocols, and adequate expertise for implementation. We have yet to see the results of data analysis and their interpretation to assess if the consultants possess the relevant expertise to inform management actions.
- The most significant gap in the proposal is the absence of clear connections between monitoring outputs and RT SIMFER's operational decision-making processes. The value and usefulness of any monitoring program depend fundamentally on assessing the effectiveness of mitigation measures and its capacity to inform and guide management actions, i.e. adaptive management. Without explicit articulation of how field data will translate into adaptive management responses, the entire monitoring effort risks becoming disconnected from its intended conservation objectives. We highly recommend defining specific objectives to inform management decisions, refining metrics for indicators, defining

¹ International Union for the Conservation of Nature (IUCN) Species Survival Commission (SSC) Primate Specialist Group (PSG) Section on Great Apes (SGA) and Section on Small Apes (SSA)

thresholds for when the project should take immediate action and response protocols—please kindly see below more specific recommendations in this regard.

- The proposal may underestimate site-specific operational challenges that could compromise the delivery of the project, such as limited local guide availability, challenges to get access to RT vehicles, the difficult terrain, and the relatively low encounter rate with chimpanzees and signs thereof. Although we encourage significant investment in genetic sampling and camera trapping which are proven robust methodologies, we also recommend collection of auxiliary data, including on threats. We feel that line transects (LTs) require substantial resources—in terms of time, personnel, and logistical support and may not be the best method for the Pic de Fon to generate abundance estimates (past LTs failed to yield a sufficient number of nests, i.e. minimum of 60-80 nests, to conduct a DISTANCE sampling analysis). LTs can be useful for a comparative perspective if the same LTs are used as in previous surveys (e.g. Sylvatrop's recent survey design and latest data collected on LTs). This could be done only every 3 years or so (could compare encounter rate of chimpanzee signs if nest records are too few).
- Much guidance is provided in the BMEP when it comes to defining indicators and state-pressure-response framework (Rapport 16 R0). However, please note that the BMEP is too generic to be practical and useful to guide on the ground implementation.

SPECIFIC COMMENTS

PRIMATE MONITORING

- Reconnaissance walks and Line transects:
 - We have concerns that the proposed line transect survey design will not enable accurate abundance estimates and/or trends for the chimpanzee population in Pic de Fon Classified Forest. Considering the low encounter rate with nests along LTs should there be an adjustment to the design, we recommend to 1) stratify the survey into low and high chimpanzee density strata and then distribute low and high survey effort across these strata, respectively, to yield better precision and power to detect trends, and 2) prioritize existing LTs to be able to compare data across years (including data from past surveys; be aware though of potential variation in detection probability across years and across teams collecting data).
 - *Nest decay study*: Although methodologically sound, this approach will demand considerable field investment with uncertain cost-benefit outcomes given local conditions. Securing site-specific nest decay rate is advised, but we highly recommend conducting a nest decay study in both dry and wet seasons (normally the nest decay study needs to start before the beginning of the surveys as some of the nests collected on transects will have been built before the start of the survey); please note that nest decay studies can last for many months, sometimes exceeding 1 year.
- Non-invasive genetic survey:
 - Please note that genetic analysis of from fresh fecal samples will also allow for monitoring of within- and between-group movements of individuals, not only gene flow.
 - Make sure that before washing chimpanzee feces for seed analysis and other content, a sample of all fresh feces collected is taken in-situ and adequately preserved and stored for genetic analysis. However, please note that we have doubt

as to the value of conducting such kind of dietary analysis-what purpose will such detailed level of analysis serve for the project? Information on diet can be gathered ad libitum whilst in the field and there should already be quite a bit knowledge when it comes to top food species used by chimpanzees.

- Which laboratory will be conducting the genetic analysis? Has this laboratory been selected yet? We highly recommend that the laboratory is one that can have a relatively short turnover and has experience processing great ape samples.
- The protocol mentions that “*The collection of dung samples will be carried out using a quadrat method within the Pic de Fon Classified Forest*”: we highly recommend reliance on opportunistic sampling, with more intense recces in area where chimpanzees are reported by the local communities, workers, and from data collected through the monitoring program. The Sylvatrop interim report clearly documents the extreme difficulty of locating fresh chimpanzee fecal samples within RT PdF due to low population density. Therefore, there needs to be specific investment in collecting fresh feces for a sufficient number of feces can be collected. To that effect, we highly recommend that all teams (or one lead per team for consistency) who go to the forest are trained and equipped to collect fresh samples for genetic analysis, i.e., on recces, lines, on an ad libitum basis, to minimize the risk of missed opportunity in collecting fresh genetic samples. You could also train (and periodically retrain to ensure sample quality) ecoguards or others to collaborate in the collection of fecal samples for genetic analysis, hence increasing sample size. People in villages could also alert the field team whenever they hear chimpanzees at night so the field team has an idea of where to concentrate their efforts.
- If possible, we would recommend also collecting fecal samples and store them in RNA-later for pathogen analysis in addition to storing it on silica gel for genetic analysis. Pathogen analysis could provide an additional tool to monitor population health.
- Camera trapping:
The protocol mentions that “the installation of camera traps involves placing an infrared camera every 500 m along each 1 km transect (used for monitoring large and medium-sized mammals).”
 - Camera traps (CTs) should be distributed randomly and in a stratified fashion (same as line transects) if they will also be used to measure population size using occupancy methods or capture-recapture methods (depending on capture rates/sample sizes) to verify and complement line transect and genetic analysis results.
 - If there is room to modify the CT deployment design, we would recommend enhancing deployment into the core habitat with the remaining cameras being placed in adjacent habitat around the core areas to capture habitat use, seasonal movement and potential relocation of the home range due to the impact of the mining activities and maximized images of chimpanzees for individual identification.
 - It is important to choose the camera location within the grid cell(s) so that it is likely that chimpanzees will be captured, e.g., install camera on wildlife trail, near fruiting tree, natural bridge across a river; we do not recommend deploying the CTs along the LTs.
 - Camera traps should be deployed for at least 6 months every year and cross-seasonally ideally. If they are used to estimate population trends in combination with line transects, then they should operate for the entire duration of the project.

- The consultant should make use of the data bank of chimpanzees that have been identified by the project. Chimpanzee identification should be conducted by recognized chimpanzee experts and through cross-verification of IDs.
- Additional note: For the black and white colobus and Diana monkeys, will there be training for the arboreal installation of camera traps or does CEMED already have such kind of expertise? (alternatively, please see below for recommendation to use a thermal drone)
- Alternative survey methods:
 - Use of drones equipped with thermal cameras: this technology has improved significantly in recent years. With the appropriate expert and equipment, early morning flights when chimpanzees are likely to still be nesting could be conducted across the entire PdF or Oueleba only as a test trial to estimate chimpanzee abundance, e.g. <https://conservationdrones.org/> or <https://www.cambridge.org/core/journals/oryx/article/drones-for-conservation-new-techniques-to-monitor-muriquis/0251FC283131CE188BD3C0AD92E03991>. This will provide only a snapshot of their location but can help locate nesting sites for fecal collection and can yield relatively robust abundance estimates, although this can be constrained by canopy cover should chimpanzees nest below the canopy; these chimpanzees are unlikely to be captured by the thermal camera. To assess feasibility or generate an adjustment coefficient, maybe nest records should also estimate canopy cover above the nests, e.g. categorically with 0%; <25%; 26-50%; 51-75%; 76-100%-this may also vary seasonally. Such an assessment could help inform the added value and timing of using such technology for chimpanzees in PdF. This method could certainly assist with localizing areas of occurrence of the more arboreal black and white colobus and Diana monkeys, although it remains uncertain whether the species could be discerned via thermal images as they are quite similar in size and morphology, but this could help identify & confirm presence locations of primate in general. Nevertheless, it must be noted that there is a cost associated with the use of a drone and that experts are needed for piloting (pilot and co-pilot) and data analysis and interpretation.

MONITORING INDICATORS AND BMEP

- The panel highly recommends explicitly describing what data are needed for each monitoring indicator and what method will be used to gather these necessary metrics and ensure that such data are indeed appropriately collected and regularly analyzed and shared with the RT SIMFER biodiversity team to help inform management actions and decision-making.
- We recommend that appropriate indicators are developed following the state-pressure-response framework, with clear monitoring objectives and frequency, as well as who is responsible for data collection, analysis and interpretation. Alert thresholds also need to be defined that would trigger different sets of management responses depending on severity of the situation, e.g. chimpanzees have stopped frequenting an area previously frequently used; a chimpanzee carcass has been uncovered; staff report a road collision with a chimpanzee; data suggests an increase in artisanal mining activities in the PdF or hunting pressure. Each scenario requires rapid and feasible responses by the project and enhanced monitoring to ensure that the response is indeed adequately helping mitigate the situation. It is in the project's interest to anticipate and be proactive when it comes to adaptive management.

- **Indicator 1:** Determining chimpanzee density **with sufficient precision** to document significant population trends will be challenging. We recommend following recommendations above to improve survey and monitoring design using genetic sampling, line transects and camera trap deployment to improve precision and power to detect trends.
- **Indicator 2:** Camera trapping will indeed be valuable, but it is unsure if the consultant will develop its own database of individual chimpanzee identification system or if RT SIMFER is able to share results and raw data from previous surveys with CEMED. To facilitate the identification process, we recommend the consultant to contact teams that develop AI-based facial recognition systems for apes. A rigorous protocol for chimpanzee ID and process for validating IDs will be required. Simply counting adult females and other individuals without individual recognition capabilities is likely to yield inaccurate results.
- **Indicator 3:** Assessing this indicator should occur each time images are retrieved from camera traps, not just annually. In addition, staff or else may encounter chimpanzee carcasses; so there need to be a mechanism in place for reporting asap such encounters-again all staff need to be sensitized as to how to behave when encountering the carcass of dead mammal and who to report to such incidents (ARRC Task Force Infographics on [Great Ape Disease Risk Mitigation for Industrial Development Projects](#))
- **Indicator 4:** Several priorities emerge here:
 - Cataloging major food resources to monitor their availability, potential loss of food availability and productivity
 - Estimating group ranges based on sightings and recorded fresh signs to document potential shifts in ranging patterns; chimpanzee capture rate from different fixed camera trap locations can also be used to monitor ranging, although not 100% reliable as the chimpanzees may use the area but simply avoid passing in front of the CT; that is another reason why CT locations need to be deployed to maximize chimpanzee capture rather than along LTs.
 - Analyzing & monitoring tree species used for nesting, which may indicate chimpanzee response in terms of habitat use to mining activities
- **Indicator 5:** The likelihood of encountering people with chimpanzee, black and white colobus or Diana monkey meat for sale or consumption is extremely low. Will any data collected by Pic de Fon (PdF) staff from the Centre Forestier de N'Zérékoré also be shared to complement these data?
- **Indicator 6:** *'Encounter rate of anthropogenic signs and activities; number of monitoring equipment destroyed.'* Recommend dividing by type of anthropogenic pressure, e.g. logging, artisanal mining, livestock, as each threat will require different measures in response. It will also be necessary to specify sampling and spatial effort and encounter rate, i.e. signs per km. As for *'equipment destroyed'*, do you mean camera traps? Will PdF ecoguards be trained in using SMART and will their data also be used? However, there may be overlaps in areas frequented by CEMED team and ecoguard which would run the risk of duplicating records?
- **Indicator 7:** *'Number of community-based initiatives put in place to prevent conflicts.'* That is not a good metric as it is not the number of initiatives that matter but rather their effectiveness. This is where it is critical to gather baseline data on negative interactions so as to monitor evolution and evaluate the effectiveness of the implemented actions.
- **Indicator 8:**
 - *'Increase in abnormal movements of chimpanzees to areas of mining activities':* what represents 'abnormal movements', this needs to be defined to be quantified? Considering that baseline data on chimpanzees in the Oueleba are not as complete as they should be, *'abnormal movements'* may be hard to define as chimpanzees

may simply be venturing in areas they used to use, so this could not be considered as an abnormal movement.

- *'Number of interactions with employees'*: you need to define what an 'interaction' is, else again this will be operationally difficult to quantify. You could compile records reported by staff of all chimpanzee sightings, their location and distance from human, chimpanzee behaviour when encountered, in and around construction site, this would be a form of citizen science and of monitoring trends over time. You would need to ensure that employees consistently report temporal and spatial information on sightings and that they know who to report these to.
- *'Number of chimpanzees killed by the machines'*- but there could be cases of injury not necessarily killing and why only machines? This needs to be considered too with efficient reporting mechanisms put in place. Employees may, however, be reluctant to report such incidents, especially if the driver responsible may be sanctioned; how can you ensure that reporting will effectively be done?

REPORTING

- This document reports on processes but there is no information about raw results and how the proposed plan for the year to come is going to be adapted to the field conditions. Such Activity Reports should also give some basic information about the recent findings, such as number of observations, some maps showing where these observations were carried out etc. and relate the findings to the management of the mining activities

The panel is also eager to secure updates on the implementation of the construction of large underpasses habitat restoration efforts (and potential dispersal corridors) with fast growing native species that are also food for chimpanzees, as these are critical minimization measures for chimpanzees and other species. The monitoring of these measures should also rely on clear methodology, metrics and indicators with regular reporting.

If you have any questions, please do not hesitate to contact us.

Best regards,

ARRC Task Force panel for this project