HIGH CARBON STOCK APPROACH

HCSA PEER REVIEW REPORT

Company Name: Musim Mas

HCS Assessment Area: PT. Unggul Lestari

Published Date: 22 October 2018

Background information:

a) **Did a Registered Practitioner Organisation lead the HCS assessment? If not, has the organisation which led the assessment started the process of registration?**

Yes, PT. Aksenta is a Registered Practitioner Organization which lead the HCS assessment.

b) **Was the HCS Team Leader a Registered Practitioner?**

No, the HCS Team Leader is Pak Anwar Muzakkir, who is not a Registered Practitioner.

c) **Were at least two (2) HCS team members Registered Practitioners?**

No, this condition cannot be fulfilled because there was no such scheme yet when Aksenta was appointed to conduct the Carbon Stock Assessment in May 2015.

d) **Was the HCV assessment judged 'satisfactory' (highest rating) by the HCV Resource Network (HCVRN) Assessor Licensing Scheme (ALS)? (See https://www.hcvnetwork.org/als/public-summaries).**

The HCV report was completed prior to HCVRN ALS establishment (before January 2015).

Questions for peer reviewers

(Peer Review Panel: Alex Thorpe, Andiko)

1.   Peer Review Summary

1.1.   What are the major findings and recommendations from the peer review?

Finding:
Very limited discussion on findings of the FPIC process, land tenure and food security;

There is a lack of consistency through the report (both tables and maps) on what area is being analysed. Land cover assessment in landscape is required for connectivity assessment purposes but should be reported separately.

Satellite imagery used for land cover assessment is three years old.

Supporting data provided related to land cover, inventory and patch analysis is insufficient so reviewers had difficulty to check a number of items.

Reviewers Recommendation:
Need to provide more information regarding findings of the FPIC process; community decisions (agree or not agree about conservation plan and plantation operations).

Need additional discussion on land tenure and food security aspects; including who is the independent tenure expert, broad findings regarding food security analysis.

Provide more background information of surrounding area (conservation areas, land use zoning, demographic data).

Need to use more recent imagery to check the current condition of land cover before doing the patch analysis.

Analysis of land cover and patch analysis should refer to the pre-identified license area (as measured in GIS). Land cover assessment in landscape is required for connectivity assessment purposes but should be reported separately.

Provide additional supporting data (as noted for each item below).

Need to present a larger scale integrated conservation and land use plan map together with tables showing total conservation estate after overlaps of HCV and HCS are considered.

Company Responses:
1.   Need to provide more information regarding findings of the FPIC process; community decisions.
The description on the finding from the FPIC process has been included in the revised summary report.

2.   Need additional discussion on land tenure and food security aspects; including who is the independent tenure expert, broad findings regarding food security analysis.
The detail description regarding land tenure and food security are in Chapter 3.1. This chapter contains summary of community engagement, FPIC, participatory mapping and on subsection participatory mapping. Briefly the chapter describes the goals of this activity which is to identify community land that currently use or plan to use for long term agriculture and as such are important for community garden; Identification village boundary maps and of settlement; identification of landownership and also verification of land cover and land use map. The results entail: Land use and land use planning, village boundary map and land ownership information. The participatory mapping identifies areas that are important for food security. The activity also shows that food crops are commonly found around the settlement areas or planted on the yards of the house. Even though the activity does not calculate the minimum area for community garden but those areas have been identified in this participative mapping. This information will be taken into account in the development of PT UL's social management plan.

At the material time, related to HCSA toolkit, there is no requirement for review from other independent expert. Regardless, the company's general affairs team members who have several year experiences involved a process of identifying the legitimate land owners, mapping their lands and obtaining an SKT (land title) conducted the land tenure study. In addition, the report was vetted by internal expert team from senior management who has more than 15 years of experience in tenure study.

3.   Provide more background information of surrounding area (conservation areas, land use zoning, demographic data).
The background information of surrounding area has been included to the revised summary report. Included updated information are surrounding landscape, additional information on land use zoning and demographic data.

4.   Need to use more recent imagery to check the current condition of land cover before doing the patch analysis.

The assessment was conducted by Aksenta in 2015, PT UL only continuing the second phase of the HCSA which is patch analysis. We have verified the land cover using 2018 Sentinel image with 10 m resolution. We found that the land covers of both 2015 and 2018 in general are not much different between two imageries. The 2015 satellite image is used for the path analysis decision tree to maintain consistency with the assessment report. Besides that, PT UL has also conducted the Participatory mapping activity in 2018 where we do land cover and land use of the area in the villages around the concession of PT UL. This activity was conducted together with the local community and the result was used to correct and update the land classification before we do the patch analysis decision tree.

5.   Analysis of land cover and patch analysis should refer to the pre-identified license area (as measured in GIS). Land cover assessment in landscape is required for connectivity assessment purposes but should be reported separately.
The area being analysed consist of both the Area of Interest (AOI) in the concession of PT UL and 5 km landscape from concession boundary. Area of Interest (AOI) considered in the Carbon Stock Assessment (CSA) by Aksenta in 2015 was the balance unplanted areas that covers an area of 1,134.0 ha. All planted and existing set aside areas (HCV areas and riparian buffer zones) were excluded from the assessment. HCSA Toolkit recommended that at a very minimum, a zone of one kilometre beyond the concession borders is necessary to ensure forest cover in the landscape is taken into consideration.

Considering the recommendation, the second phase of analysis took into consideration the entire concession of PT UL to include the HCV areas and 5 km buffer as AOI. The 5 km is opted to cover the potential HCS area in larger landscape to cover areas that may have potential for village development program in the future.

6.   Supporting data provided related to land cover, inventory and patch analysis is insufficient
All requested data has been uploaded to HCSA SharePoint.

7.   Need to present a larger scale integrated conservation and land use plan map together with tables showing total conservation estate after overlaps of HCV and HCS are considered.
The tabulation of the total conservation (HCV & HCS) areas in PT UL has been included to the revised summary report.

Peer Reviewer's Comments in response to Company Responses:
The land cover shp file received still has several issues – see 4.3.
The patch analysis workings are still unclear – see 6.2.

1.2.   Did the HCS assessment team include or have adequate access to relevant expertise to undertake the HCS assessment?

Finding:
Yes.

Reviewers Recommendation:
None.

1.3.   What elements of the HCS Approach still need to be completed in order to create a final land use and conservation plan? Are there aspects which you feel need to be re-done?

Finding:
Apart from the technical aspects as noted above, the main element that needs to be completed is regarding community consent to the final land use plan.

Reviewers Recommendation:
Need to consult with communities with regard to proposed conservation plan.

Need to present a larger scale integrated conservation and land use plan map together with tables showing total conservation estate after overlaps of HCV and HCS are considered.

Company Responses:
1.   Need to consult with communities with regard to proposed conservation plan.
PT UL has conducted participatory mapping activities to map the areas that they want to conserve and develop. The result of this participatory mapping has been used to exclude all areas that owned by local communities who plan to develop their land in near future. By doing this, the proposed conservation areas will not hinder the land owner to access or develop their land. Since all the HCS areas identified inside the concession of PT UL are overlapped with HCV areas, the conservation plan will be integrated both the HCV & HCS management and monitoring plan after the HCSA report has been peer reviewed and finalized.

2.   Need to present a larger scale integrated conservation and land use plan map together with tables showing total conservation estate after overlaps of HCV and HCS are considered.

The tabulation of the total conservation (HCV & HCS) areas in PT UL has been included to the revised summary report.

Peer Reviewer's Comments in response to Company Responses:
No further comment.

## 2.	Social Issues

2.1.	Does the summary provided in Section 3.1 adequately represent and explain the community engagement, FPIC processes, and participatory mapping activities carried out?

Finding:
Yes. for summary, this is enough.

Reviewers Recommendation:
Need to underline little bit about Community Decision in FPIC process, agree or not agree about plantation operations. At least what are the community opinion about that.

Company Responses:
Additional information has been added to the revised summary report. The summary of stakeholders' consultation and engagement has also been uploaded to the SharePoint.

Peer Reviewer's Comments in response to Company Responses:
Issues resolved – no further comment.

2.2.	Has a tenure study been completed and has it been vetted by independent social experts?

Finding:
Yes. The summary report claims, **"**Land tenure studies have been undertaken by the management of PT UL during the FPIC and land acquisition process in 2007 until 2008 and continued at the time of operation. In December 2017, PT UL was also conducted a participatory mapping activities. But there is no explanation who is independent tenure expert who already review this report.

Reviewers Recommendation:
Please explain little bit about who is independent tenure expert.

Company Responses:

At that time, related HCSA toolkit, there is no requirement for review from other independent expert. Regardless, the general affairs teams who have several year experiences involved a process of identifying the legitimate land owners, mapping their lands and obtaining an SKT (land title) conducted the land tenure study, and the report was vetted by internal expert team who has more than 15 years of experience in tenure study.

Peer Reviewer's Comments in response to Company Responses:
Issues resolved – no further comment.

2.3.   Is there a participatory land use map and does it contain the key components of community land use including the minimum requirement of 0.5 ha per person for future garden areas?

Finding:
There is no directly information talking about minimum 0,5 ha. The report only explains about "Generally, the community has more than one plot of land with an average ownership of between 2 to 10 ha." Map only has explanation about the overlapping area among community and company. We should use self the analysis and interpretation about that.

The HCS report notes that HCV 5 & 6 identification is indicative only.

Reviewers Recommendation:
Need decision from HCS secretariat about the deep data in the map for this summary report and for future.

Company Responses:
The comment for HCS secretariat is noted. In any case, there is an explanation regarding the ability of the local communities to fulfil their needs for food and those areas have been identified in this participative mapping. The participatory mapping also identifies areas where food crops are cultivated and grown in the concession and in the respective villages. The activity also shows that food crops are commonly found around the settlement areas or planted on the yard of the house. Even though the activity does not calculate the minimum area for community garden but those areas have been identified in this participative mapping. This information will be taken into account in the development of PT UL's social management plan.

Peer Reviewer's Comments in response to Company Responses:
Issues resolved – no further comment.

2.4.   Is there a record of consultation with affected communities and FPIC processes on the proposed development, the HCS Approach and issues/concerns they raised? Did the community nominate their own representatives?

Finding:
Only general information in summary report.

Reviewers Recommendation:
Good to capture little bit in revise of summary report.

Company Responses:
Additional summary on the consultation with the local communities has been uploaded to HCSA SharePoint.

Peer Reviewer's Comments in response to Company Responses:
Issues resolved – no further comment.

2.5.   Were their views addressed and reflected in the plans and implementation of the plantation? Is there specific reference to the customary owners being made aware that they can say no to the development and they have the right to independent legal representation with regard to their agreements before they sign (to meet the 'prior informed' test)?

Finding:
Only general information in summary report.

Reviewers Recommendation:
Good to capture little bit in revise of summary report.

Company Responses:
Additional information has been added to the revised summary report. The summary of stakeholders' consultation and engagement has also been uploaded to the sharepoint.

Peer Reviewer's Comments in response to Company Responses:
Issues resolved – no further comment.

2.6.   What recommendations do you have for any improvements regarding community consultation and negotiation of Free, Prior and Informed Consent?

Finding and Reviewers Recommendation:
Explanation about how to get the community representations and the output of FPIC (agree or not agree).

Company Responses:
Additional information has been added to the revised summary report. The summary of stakeholders' consultation and engagement has also been uploaded to the SharePoint.

Peer Reviewer's Comments in response to Company Responses:
Issues resolved – no further comment.

3. Ecological and Conservation Values

3.1. Does the summary provided in Section 4.1 of the Summary Report adequately represent the findings of the HCV study?

Finding:
HCV findings are presented in the HCV report but are heavily summarised. All text on PM, SIA & HCV all heavy on method and light on findings. Needed to go to HCV report for any detail.

Reviewers Recommendation:
Provide more background information of surrounding area (conservation areas, land use zoning, demographic data).
Provide more detail on results of analysis and description of HCVs present.

Company Responses:
The background information of surrounding area has been discussed in Chapter 1.3 Description of surrounding landscape. Additional information on land use zoning and demographic data has been included to the revised summary report.

Brief description on each HCV has been included on the revised summary report.

Peer Reviewer's Comments in response to Company Responses:
Sufficient detail on surrounding area has been added to the report (Section 1.3).
Sufficient detail on HCV has been added to the report (Section 4.1).

3.2.   If the HCV assessment was not judged satisfactory (highest rating) by the ALS scheme of the HCVRN (as noted in the introductory information from the HCS Secretariat – please see page one of this document), please do a cursory review of the HCV report as it relates to HCVs 1-4. Do you have any general comments on the quality of the site description, the analysis of the landscape and national or regional context, or the methods used to undertake the HCV study? Were the determinations of the absence/presence and extent of HCVs 1-4 well-justified? Are the HCV management and monitoring maps accurate?

Finding:
The HCV report was completed in 2009 so prior to HCVRN ALS establishment (January 2015). Even at that time 50% of the study area was already planted. The landscape analysis and HCV identification appears to have been carried out satisfactorily.

Reviewers Recommendation:
None.

3.3.   Please review Section 9.2 of the Summary Report. Was the methodology used for the Pre-RBA and the Rapid Biodiversity Assessments (if any) satisfactory? Did the RBA(s) reveal any significant biodiversity values that should have been captured in either the HCV assessment but were not, or warrant protection?

Finding:
Patch analysis was carried out on areas both within the license area and forested areas within the 5km buffer. All patches that based on patch analysis procedure needed Pre-RBA/RBA are located outside the license area (in buffer area), and the report says they are "allocated to conservation". The pre-RBA/RBA methodology is not explained at all, but as the polygons are outside the license boundary, under the toolkit there was no need to do them anyway.

Reviewers Recommendation:
None.

3.4.   Are the forest conservation management and monitoring activities outlined in Section 10.3 adequate? Do they take into account forests and protected areas outside the concession?

Finding:
Yes.

Reviewers Recommendation:
None.

## 4.	Image Analysis

4.1.	Please review Section 6.1 of the Summary Report. Was the Area of Interest correctly identified?

Finding:

HCS Report says "Area of Interest (AOI) considered in the Carbon Stock Assessment (CSA) by Aksenta in 2015 was the balance unplanted areas that covers an area of 1,134.0 ha. All planted and existing set aside areas (HCV areas and riparian buffer zones) were excluded from the assessment." However, in the subsequent text land cover analysis is done at concession and landscape level. No tables refer to the 1134 ha area and no shp received to delineate this area (or for the concessions boundary or HCV boundary!!).

Reviewers Recommendation:

Needs consistency throughout the report on what area is being analysed.

Company Responses:

The land cover classification done by Aksenta only covering the balance unplanted area inside the concession, this is provided in Figure 11. Whereas the second phase of HCS Assessment done by PT UL includes the land cover classification to cover the entire concession and the additional surrounding landscape (5 km beyond the concession of PT UL), this is provided in Figure 12. The shapefile covering the entire concession has been submitted earlier. We also have included the information about the land cover classification for the 1134 ha in revised summary report under section 6.5 Map of initial vegetation classes, with legend.

Peer Reviewer's Comments in response to Company Responses:

The concession boundary shp has been received. It is now clear that the patch analysis was carried out using the land cover assessment prepared by UL (Table 6).

4.2.   Please review Section 6.2 of the Summary Report. Were the images used of adequate quality, including resolution and date?

Finding:
No.

1.   Based on Toolkit HCSA-2 (2017) Image resolution used should for landcover classification should be minimal 10 m resolution. Images with 30m resolution are only supposed to be used as a backup. In addition, images should be recent (less than 12months old unless there is nothing available).

2.   Images used in this assessment are Landsat 8 OLI/TIRS satellite image path row 119/061 date of acquisition 30 January 2015. The image used was Landsat 8 OLI-TIRS Satellite Image with 30m resolution. There was no cloud or haze on the defined AOI (zero cloud cover).   Image quality is good but data already quite old.

3.   Land cover assessment and the carbon inventory were carried out in 2015 but participatory mapping and patch analysis was carried out in 2018.

Reviewers Recommendation:
Need to use more recent imagery to check the current condition of land cover before doing the patch analysis. This imagery should preferably be higher resolution if available.

Company Responses:
Additional map with 2018 Sentinel image has been added to the revised summary report.

Peer Reviewer's Comments in response to Company Responses:
Additional image map added to the report and image file uploaded. Unfortunately, the image file uploaded appears to be corrupt. Assessor reports only very minor change to land cover since 2015 so they suggest it is ok to use 2015 stratification. Peer reviewer accepts this reasoning.

4.3.   Please do a quality check using the images provided in 6.3. Was the initial vegetation classification done properly? Do the land cover areas in the tables in Section 6 look reasonable? Are there any obvious errors in classification?

Finding:
In general, the land cover classification looks reasonable, but a few inconsistencies were found between Cultivated Land-YRF, FOR-YRF, and Scrub-YRF (see shapefile sent back).

We could not check the area figures as the land cover shp file provided is for the whole landscape (including 5km buffer), and no shp for concession boundary provided.

Land cover stratification shown in Figure 10 and Figure 11 don't match. What is the difference between the two?

Reviewers Recommendation:
Check results using new imagery ((as discussed in 4.2).
Submit a complete dataset of land cover and boundary shp files to enable checking.
Check and revise (if needed) the minor errors identified.
Ensure consistency throughout the report on what area is being analysed.

Company Responses:
1.   Check results using new imagery (as discussed in 4.2).
The assessment was conducted by Aksenta in 2015, PT UL only continuing the second phase of the HCSA which is patch analysis. We have verified the land cover using 2018 Sentinel image with 10 m resolution. We found that the land covers of both 2015 and 2018 in general are not much different between two imageries. The 2015 satellite image is used for the path analysis decision tree to maintained consistency with assessment report. Besides that, PT UL has also conducted the Participatory mapping activity in 2018 where we do land cover and land use of the area in the villages around the concession of PT UL. This activity was conducted together with the local community and the result was used to correct and update the land classification before we do the patch analysis decision tree.

1.   Submit a complete dataset of land cover and boundary shp files to enable checking.
Additional shp has been uploaded to HCSA SharePoint.

2.   Check and revise (if needed) the minor errors identified.

We have not received the revised shp file sent by the reviewer.

3.   Ensure consistency throughout the report on what area is being analysed.
Please refer to point 1.1.

<u>**Peer Reviewer's Comments in response to Company Responses:**</u>
The land cover shp file received still has several issues. Firstly, the total area is different from that reported (14,585 ha). Secondly, there are numerous overlapping land cover class polygons – the sum of all the polygons is 15,039 ha. Area of individual strata therefore are not the same as that set out Table 6 (Section 6.6). This may also lead to errors in the patch analysis.

<u>**Final Company Responses:**</u>
The overlapping was caused by software errors in the union process between oil palm polygons. However, the overlapping does not change the total potential HCS areas. The overlapping only increases the total area for oil palm, which contributed to the difference in the total areas reported but do not affect the result of patch analysis.

5.   Forest Inventory

5.1.   Please review Sections 7.1 and 7.2 of the Summary Report. Were the sample plots selected, set up, and measured properly? Please check the inventory plot layout for adequacy.

Finding:
Inventory was carried out in 2015 not following the standard HCS individual plot design but nevertheless the plot design is suitable for calculating above ground carbon stock.

Report indicates plot locations were selected randomly.

Total of 47 sampling plots described, including 24 plots in scrub, 11 plots in cultivated land, 2 plots in forest and 10 plots in YRF. The number of forest plots is insufficient for statistical analysis but as the forest area is very small (<100 ha) so it is somehow understandable.

Forest and YRF plot measurements were carried out by PT UL not by the assessor. Assessor said the methodology used is the same for all.

Shp file for plot points not provided, which makes checking a bit difficult.

Reviewers Recommendation:
Provide a list of plots, the carbon stock of each plot, and shp of plot locations to enable checking.

Company Responses:
The list of plots and each carbon stock has been uploaded to HCSA SharePoint.
Shp of plot location has been uploaded to HCSA SharePoint.

Peer Reviewer's Comments in response to Company Responses:
Carbon/ha per plot calculation in excel format received. Shp file of plot locations received but the file does not have the plot number, carbon stock per ha or strata, making it difficult to check.

In general plot distribution appears satisfactory.

5.2.   Please review Section 7.3 of the Summary Report. Was the forest inventory team qualified?

Finding:
As noted in the report, the carbon inventory was undertaken in 2015 prior to toolkit release; " The HCSA procedure that was first introduced in December 2015 required that the HSC assessment team be led by HCSA Registered Practitioner from Registered Practitioner Organization and at least two people from the HCS team are Registered Practitioner. This condition cannot be fulfilled because there was no such scheme yet when Aksenta was appointed to conduct the CSA in May 2015. Nevertheless, all the team members have the required skill and experience in Carbon Stock Assessment."

Reviewers Recommendation:
Reviewer agrees that the team members are skilled but still the toolkit requirements have not been met.
The peer reviewer leaves this decision to HCSA.

Company Responses:
The high carbon stock assessment in PT UL was conducted before the HCSA toolkit and other HCSA secretariat requirements were determined. The HCSA procedure that was first introduced in December 2015 required that the HSC assessment team be led by HCSA Registered Practitioner from Registered Practitioner Organization and at least two people from the HCS team are Registered Practitioner. This condition cannot be fulfilled because there was no such scheme yet when Aksenta was appointed to conduct the CSA in May 2015. Although, Aksenta was not a HCSA Registered Practitioner Organization at the time of assessment as this registration did not exist, however at the time this report is written, PT Aksenta is already listed as a Registered Practitioner Organization. Nevertheless, all the team members have the required skill and experience in Carbon Stock Assessment.

Peer Reviewer's Comments in response to Company Responses:
Accepted.

5.3.   Please review Section 7.4 of the Summary Report. Was the allometric chosen adequate?

Finding:
The report references the following report for allometric selection "Guidelines for the Use of Allometric Models for Biomass Assessment and Indonesia Forest Carbon Stock (Center for Conservation and Rehabilitation Research and Development, Forest Research and Development Agency, Ministry of Forestry, 2012, Regulation of the Head of Forestry Research and Development Agency No.P.01 / VIII-P3KR / 2012)".

The allometric equation used Is a very basic diameter only based equation. No justification is provided on why this particular equation was selected.

Reviewers Recommendation:
Need to justify the allometric selected, including where the base dataset is from, why it is suitable for the study area, and why it is better than other more commonly used equations.

Company Responses:
The description about allometric and justification describe in revised summary report under Section 7.7.

Peer Reviewer's Comments in response to Company Responses:
Accepted.

5.4.　　Please review Sections 7.5, 7.6, 7.7 and 7.8 of the Summary Report, and do a cursory review of the forestry data and statistical analysis. Are there any obvious errors in the raw forestry data? Are there any flags where a result does not seem consistent with your rough interpretation of the land cover image? Do the final carbon classes seem accurate given what is known about other forests in the region?

Finding:
Inventory data provided is only the raw plot data – no carbon stock calculation in excel form has been provided, so it's difficult to make detailed checking. The carbon stock estimates for scrub, YRF and forest (45, 65 & 86 ton/ha respectively) appear to be closely grouped together. No assessment of statistical difference has been made. In particular the scrub carbon stock seems high.

Reviewers Recommendation:
1. Need to provide complete carbon stock calculation and statistical analysis in excel format as per toolkit (Annova and Scheffe test).
2. Need to include a plot table showing plot number, strata, and carbon stock, together with the waypoint number so plot can be traced on shp file of plot locations.

Company Responses:
1.　　　Need to provide complete carbon stock calculation and statistical analysis in excel format as per toolkit (Annova and Scheffe test).
The individual carbon data for each plot has been uploaded to HCSA SharePoint.
Annova test has been added to the summary report.

2.　　　Need to include a plot table showing plot number, strata, and carbon stock, together with the waypoint number so plot can be traced on shp file of plot locations.
The list of plots and each carbon stock has been uploaded to HCSA SharePoint.

Peer Reviewer's Comments in response to Company Responses:
Statistical analysis has been added (Section 7.7).

Carbon per ha calculation workings per plot have been provided in excel format. However, this is only semi processed data – the final carbon stock tables in the report (Section 7.8 Table 8) are not found in the file so calculation of final results cannot be checked.

Nevertheless, based on the peer reviewer's experience, carbon stock estimates appear to be broadly realistic.

6. Land use planning

6.1.   Please review Section 8.1 of the Summary Report. Was the initial vegetation classification map adequately calibrated and adjusted to take into account forest inventory results?

Finding:
No individual plot carbon data provided so not possible to do check.
Also see comments in 4.3.

Reviewers Recommendation:
The land cover shp (and relevant area tables) should include the license area boundary so it is possible to check strata area inside and outside the license area. Same for the patch analysis shp and area tables.

Need to submit shp of inventory plot points, preferably also with carbon stock/ha in the data table.

Company Responses:
The individual carbon data for each plot can be accessed in HCS SharePoint.
The list of plots and each carbon stock has been uploaded to HCSA SharePoint.

Peer Reviewer's Comments in response to Company Responses:
Shp file of plot locations received but the file does not have the plot number, carbon stock per ha or strata, making it difficult to check.

Given the limited forest area and the fact that only two plots were measured in the forest strata, it is unlikely that any calibration will be possible based on inventory data.

6.2.   Please review Section 9 of the Summary Report. Was participatory mapping data used in step one to identify community lands that should be enclaved? Were patches merged correctly? Was the core area correctly identified? Was the connectivity analysis done correctly?

Finding:
The report states that community land has been excluded. However, PM results are not documented and there are no tables quantifying PM results. PM was done in 2018 when the area was already > 90% planted so there is no real prior consent.

Patch analysis was carried out on an area total 16,986.48 ha and includes areas in a 5km buffer around the concession. A total of 146 patches are identified (Table 9). The basis for this area is unclear. The patch analysis should only cover areas inside the concession, but taking into account connectivity to areas outside.

Shp files of patch analysis workings are incomplete – (no info of patch number, core areas or recommendation for land use included in shp file), so not possible to check workings.

Reviewers Recommendation:
Need to submit detailed workings on patch analysis; shp of concession area boundary, patch analysis process, core area, risk assessment etc.
Need to limit patch analysis to areas inside the concession, but taking into account connectivity to forest areas outside, and calculating patch size and core including connected areas outside.

Company Responses:
The detailed patch analysis workings have been uploaded to HCSA SharePoint included step 1 and 2.

The patch analysis was focused on the potential HCS areas inside the concession and taking into account the connectivity to forest areas outside the concession. At the same time, patch analysis also conducted to identify the potential HCS areas around the concession of PT UL. The information about potential HCS areas outside the concession can be useful for smallholder.

Peer Reviewer's Comments in response to Company Responses:
Table 10 in the report shows a list of patches with ID numbers, core area and recommendations, but it doesn't separate areas inside and outside the concession.

The Potential HCS Forest area in Table 6 (Section 6.6) is 1,237 ha. Shp file of patch analysis only includes the patches finally recommended for conservation i.e. 764.98 ha (Table 11 Section 9.2). The justification for recommendation for development of the residual area is not clear – these patches are not included in the shp file, so the peer reviewer can't comment.

Final Company Responses:
For Table 10, we follow the HCSA summary report template. Furthermore, we already have the summary of HCS areas inside and outside the concession on the text in Section 9.2.

The residual areas eliminated during the Step 1 of the patch analysis were based on the outcome of the ground truthing and participatory mapping. The process of elimination did not reflect on Table 11 because Table 11 only summarizes the process from Step 3. The patches are not included in the shp file because they already eliminated in Step 1 of the patch analysis.

6.3.   Please review Section 9 of the Summary Report, and select a few sample patches to test that the Decision Tree was used correctly. Were the patches correctly identified as High, Medium, or Low Priority? Was the Patch Analysis done according to the HCS Approach Decision Tree?

Finding:
Unsure. Need full patch analysis workings to reach conclusion on this.

Reviewers Recommendation:
Need to submit detailed workings on patch analysis as mentioned above in 6.2.

Company Responses:
The detailed patch analysis workings have been uploaded to HCSA SharePoint.

Peer Reviewer's Comments in response to Company Responses:
See comment in 6.2 above.

Company Response
See response in 6.2 above.

6.4.   Please review Sections 10.1 and 10.2 of the Summary Report. Were the final integrated conservation and land use planning steps completed to maximize the ecological and social viability of the conservation areas (HCV, HCS, peatland, riparian zones, customary forest, etc)? Were the results of the final ground verification (if any) adequately incorporated into the land use plan and final HCS map?

Finding:
HCV areas are not mapped on Fig 16, but no integrated land use plan or tables are presented showing total conservation estate after overlaps of HCV and HCS are considered.
The need for integrated HCV/HCS management is mentioned in Sections 10.3 and 10.4.
It is not mentioned that any final ground verification was undertaken.

Reviewers Recommendation:
Need to present a larger scale integrated conservation and land use plan map together with tables showing total conservation estate after overlaps of HCV and HCS are considered.
Need to identify major risks to HCS areas, and recommendations for management.

Company Responses:
▪   Map presented in figure 17 has already included the HCV areas, indicated by light blue colour. After the review has been completed, we will prepare no go map for the management and socialize with them.
▪   The tabulation of the total conservation areas in PT UL has been included to the revised summary report.
▪   Major risks to HCS areas have been included to the revised summary report.

Peer Reviewer's Comments in response to Company Responses:
Table 11 and Figure 17 describe the conservation plan.