

HIGH CARBON STOCK APPROACH

HCSA PEER REVIEW REPORT

Company Name: Bumitama
HCS Assessment Area: PT Agriplus
23 September 2020

Dear peer reviewers:

Thank you for agreeing to review this HCS study. As you know, we are asking you to do a desk review of the material provided and to highlight any concerns you have about the land cover classification, land-use planning, or consultation processes. We have invited you as an expert in your field, and hope that you will bring your own experience and knowledge to this review to help the company improve its study. We are not asking you to provide a pass/fail decision, just to give your honest opinion and suggestions for changes to the company's plans or activities to ensure that the HCS Approach methodology is implemented correctly. Please refer to the latest [HCSA Toolkit](#) as reference.

Some of the issues raised in the review may be complicated and long-standing, especially those related to land tenure and historical conflict with communities. It is not within the scope of the review for you to do hours of research and determine who is at fault, or to examine stakeholder activities outside of the particular concession or plantation which is the subject of the review. Rather we ask that you call attention to topics that need further research or more information from the company, to improve community relations in the future or to reassure external stakeholders that the intent of the HCS Approach is being followed.

Background information to be provided by the HCSA Secretariat:

- 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. A Registered Practitioner Organisation leads the HCS assessment.

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

Yes. Bias Berlio Pradayatma from Aksenta is a Registered Practitioner.

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

Yes. There are 3 Registered Practitioner.

- 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>).

Yes. The HCV assessment judged as 'satisfactory'.

Questions for peer reviewers

(Peer Review Panel: Jules Crawshaw)

1. Peer Review Summary (2 hours, Lead Reviewer)

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

Finding: Summary di 3.1

In general the HCS assessment was well done. The following main elements are lacking

- The report lacks detail about the methods employed in the preparation phase (e.g. No Social Baseline Study (SIA), Land Tenure Assessment and Land Tenure and Use Study).
- There is no information provided about the Due Diligence that was undertaken by the assessor– particularly (1) commitment to environmental and social safeguards, (2) moratorium on any land clearing or land preparation (3) company demonstrates their legal right over a specifically defined site and (4) company has initiated the FPIC process.
- Forest Areas and HCV areas external to the concession are not taken into account in the ICLUP

Reviewers Recommendation:

Details of the due diligence needs to be provided.

The other recommendations are made below and therefore not repeated here.

The Reviewer accepts the points made by the company that this report was done with version 1 of the Toolkit (although the report is dated Oct 2017).

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

Finding:

The assessment team includes an HCS registered practitioner (Bias B Pradyatma) however the GIS expert (Priyo D Utomo) must be a registered practitioner also.

Reviewers Recommendation:

Details of the full team are now provided, which includes 2 registered practitioners.

- 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:

There are elements that will have to be re done. Mostly this involves fulfilling the social requirements particularly at the preparation and the due diligence steps. Additionally, if all the concession is going to be sold to the company there should be analysis and discussion of potential food security issues that will occur in the area (Social Requirement 5).

Reviewers Recommendation:

Recommendations are made below and therefore not repeated here.

2. Social Issues (4 hours)

- 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:

The community engagement that is discussed includes:

- Identification of affected communities (Desa Tanggerang, Desa Riam Batu Gading and Desa Belaban)
- Identification of land ownership throughout the concession. Following resubmission it is explained “telah memperoleh lahan hasil GRTT seluas 4.249,46 ha,”. It is stated that at the time of the FPIC process “Seluruh lahan di dalam lokasi kajian telah dikelola oleh masyarakat.” Yet this contradicts with Gambar 4.2, which labels significant areas as being “Abandoned Community Land”.
- Socialisation of the company’s development plane (along with the positives and negatives of oil palm development).
- Agreement by the community to sell land to the company.
- Preparation of a Social Impact Assessment
- Development of a land use map (Gambar 4.2 – main HCS report)

No mention is made of the reports that are required by HCS in the preparation stage of the assessment. These are Social Background Study and the Land Tenure and Use Study (SR1) and the Land Tenure Assessment (SR3).

Regarding FPIC, there is no mention of the following requirements being completed :

- a) The company must have made it clear that they shall respect community decisions and that FPIC includes the right to say ‘no’ to proposals. (Lihat

laporan FPIC). It is stated in the FPIC Report “Pada saat melakukan sosialisasi, perusahaan memberikan kebebasan untuk menentukan pilihan apakah warga masyarakat akan melepaskan lahan mereka atau tidak.” The reviewer requires evidence in the form of minutes of meetings / company policy.

b) The community will have chosen how they will be represented in their dealing with the company and with other stakeholders such as government representatives. (Lihat Laporan FPIC). There is mention of this in section 4.2.4 of the main HCS report.

c) The community will have decided how they should be consulted and whether and how they want to enter into agreements. Note that this must ensure that all sections of the community to have a voice and be included in wider discussions, including women, youth (those between the ages of 15 and 24) and vulnerable groups.

d) The company must reach an agreement with communities regarding the mechanisms through which interactions will take place beyond the establishment and negotiation stages, including grievances and conflict resolution. (Laporan FPIC) There is mention of this in section 4.2.4 of the main HCS report.

e) The company must agree with communities and follow a policy for sharing information with local communities and other stakeholders, which includes providing them adequate information on environmental, social, financial and legal matters relevant to the following requirements, in appropriate languages and formats.

f) The company must have informed the community about the integrated assessment and have the communities’ permission for the assessment to proceed.

Regarding participatory mapping a land use map has been prepared but there is no base map information on the map as required (see Appendix 3 of the Implementation Guide)

Reviewers Recommendation:

It is not clear how much land acquisition has taken place. If there is still GRTT to be completed, much of the preparation stage FPIC work will be relevant and must be undertaken. After resubmission it is stated that “Hasil dari pemetaan partisipatif yaitu seluruh lahan di dalam areal kajian telah dikelola oleh masyarakat.” Yet this conflicts with information “Dari rangkaian negosiasi disepakati yang dilakukan oleh PT AGP hingga kajian ini dilakukan, PT AGP telah membebaskan lahan untuk kebun inti seluas 4,249.46 ha.”:

Additional information has been added to map 4.12. This is a good map and should be added to the summary report.

The issue remains about how the conservation and community land use areas within the concession are being managed by both the community and the company. The FPIC report seems to be completely about the land acquisition process. There is no mention of the HCV or HCS and setting aside lands for

conservation and community management and monitoring.

Any informal agreements that have been made for the management of these areas must be formalised. Additionally, all the HCSA FPIC requirements (a – f above) should be formalised (it appears that a lot of these processes took place but there are no **written** agreements provided that formalise these processes).

Company Response:

All reviewers recommendation related to GRTT statement, map, and FPIC statement according to HCV and HCS management have been added on the Public Summary Report. Please refer to:

- Summary of community engagement, FPIC, participatory mapping, paragraph 10.
- Figure 2: PM Result
- Section **“Hasil verifikasi atas pemenuhan prinsip FPIC”** and Section **“Rekomendasi”**

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

Finding:

It is stated in the summary report: “Berdasarkan hasil identifikasi, terdapat kepemilikan lahan oleh masyarakat dari ketiga desa tersebut di seluruh lahan di dalam lokasi kajian. Namun demikian, tidak semua pemillik lahan memiliki Surat Keterangan Tanah (SKT) atas lahan yang dikelolanya. Kepemilikan lahan juga dapat diidentifikasi melalui keberadaan tanaman karet dan pohon buah.” SR 3 states “Before developers can start acquiring land, they must understand who already has rights to which land as owners and users, including those with statutory rights, those with customary rights and those with informal rights.” It appears this element of the Land Tenure Assessment has been completed. However there are elements that are not mentioned in the Summary report e.g. “to understand how they own, control and manage their lands, based on literature, government data sets, participatory mapping and interviews with community representatives, men and women. The assessment should clarify, in particular, which institutions have authority over lands, and who controls how lands are acquired, inherited and transferred.”

SR1 requires a Land Tenure and Use Study which “requires field research, which is conducted in a participatory and inclusive manner with affected communities and other local stakeholders. This study covers land tenure and rights issues in detail, including in relation to inheritance and transfer, and identifies potential or actual areas of conflict. The study also assesses existing community practices in relation to livelihoods and conservation, including the usage patterns of areas to be proposed for conservation, whether use is economic, social or cultural.”

There is no discussion of either the Land Tenure Assessment or Land Tenure and Use Study being completed. This is a requirement of the HCSA.

Details of the Land Tenure Study are now covered in section 4.2.5 of the full HCS Report. It is very focussed on the process of land acquisition and doesn't really cover the requirements of the two studies, as detailed in the social requirements. Though the reviewer accepts the report was undertaken when the second version of the TK had just been released.

Reviewers Recommendation:

The reviewer does not know whether the land acquisition process has been completed. If this process is still underway the Land Tenure Assessment as well as the Land Tenure and Use Study must be completed before further GRTT takes place.

Company Response:

On the Full Report of HCS, it has been explained that the process of identifying land rights and land use is still being carried out by the company.

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:

Gambar 4.2 in the main HCS report shows the participatory land use map. This identifies Active Community Land, Abandoned Community Land and Oil Palm. The map however lacks the details that are suggested by HCSA:

- Prominent geographical features such as rivers, roads, towns, villages and hills or other elevated features.
- The location of the proposed development area.
- Legal boundaries of areas under different forms of ownership, if accurate locational data are available on this.
- Place names may be included on the base map, but only if they are accurate and up to date. Even then, facilitators should be aware that they may not be the names that are used by local people and that extra time may be needed to elicit local names."

Whilst these features are only suggested by HCSA, Gambar 4.2 has none of this information on it. There should be *some* locational details provided.

There are no calculations provided to ensure the minimum requirement of 0.5 ha per person for future garden areas.

The following statement has been added : "Jika menggunakan alokasi ketahanan pangan adalah 0.5 ha per orang, maka lahan yang harus dialokasikan untuk ketahanan pangan 3 desa tersebut yaitu 3,052 ha, luas ini jauh lebih kecil dari luas sisa lahan masyarakat untuk sumber penghidupan di masa depan

cukup terjamin (lihat Tabel 4.5 di laporan). Di masa depan masyarakat setempat dapat mengandalkan sumber penghidupannya dari uang tunai hasil dari kebun sawit dan kebun karet milik sendiri, dan alternatif pemasukan uang tunai dari bekerja di perusahaan. (food security)” This adequately addresses the requirement to calculate the area required for food security. Also note that references are made to “table 4.5” and there is no table 4.5 in this report. These references need to be fixed.

Reviewers Recommendation:

The following should be included:

- Information about the methods employed for undertaking the PM. Currently the participatory map appears to be derived from the land cover map rather than generated in a participatory manner (which is required by HCSA). See Figure 1 and Figure 2 below.
- Base layer information.

Regarding PM the following statement has been added “Hasil dari pemetaan partisipatif yaitu seluruh lahan di dalam areal kajian telah dikelola oleh masyarakat. Kepemilikan terbentuk dengan pemanfaatan berupa perladangan. Lahan yang telah dimiliki/dikelola ditandai dengan adanya tanaman-tanaman ladang. Tanaman utama yang dikelola oleh masyarakat adalah karet, namun demikian masyarakat juga menanam pohon-pohon buah di ladang mereka. Selain itu, hasil pemetaan partisipatif juga menghasilkan lokasi-lokasi area keramat, makam, mata air dan tembawang yang dilindungi oleh masyarakat.” In the map (Gambar 4.12) – a lot of the detail is mapped – but this map should be added to the summary report.

Company Response:

- Table 4.5 has been added on the Full report of HCS, while on the public summary mentioned as Table 3. In addition, the reference data used are added
- Please refer to Figure 2 on the public summary for the Gambar 4.12 on the Full report of HCS.

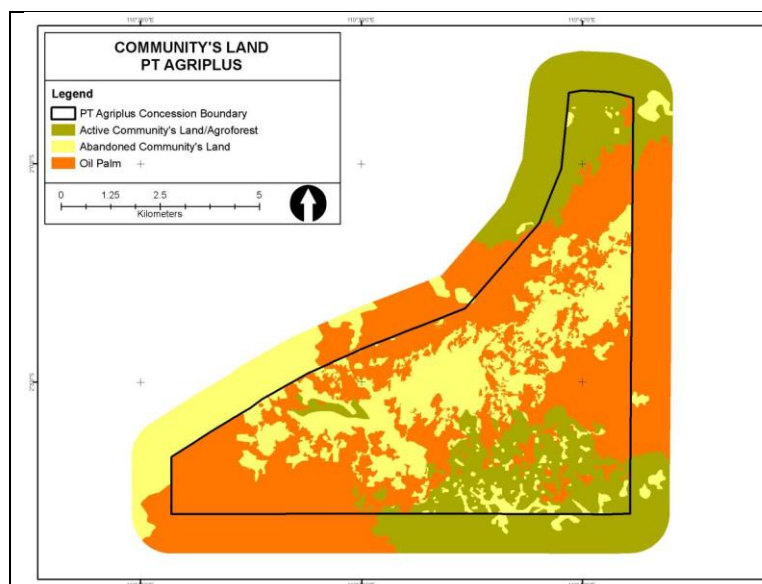


Figure 1. Result of participatory mapping

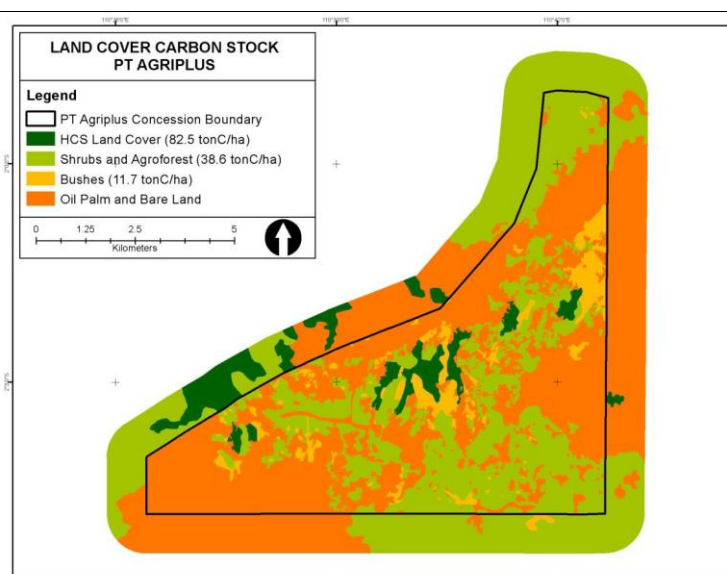


Figure 2. Land cover

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:

It is mentioned that the company consulted with the affected communities. The FPIC consultations which are mentioned are for the SIA and for the land acquisition process. There is no mention of the HCS Approach being discussed with the communities and setting aside HCS forest areas or community use areas. The HCS Approach is an essential element of the FPIC consultations and must be documented.

There is some mention of concerns / issues being raised but these do not relate to HCS forest or management of these areas.

There is no mention of the community nominating their own representatives. In all the documentation only the term “the community” is used (not their nominated representatives).

Reviewers Recommendation:

Please provide

- a chronology of consultations, briefly describing the purpose and outcome of the meetings. Associated meeting minutes and attendance lists must be

provided in the annex of the HCS report.

- a reference to the company's FPIC SOP. If this FPIC is not consistent with the social requirements of HCSA, the SOP should be updated. The company has stated they have no SOP on FPIC but have SOPs on Communication, Complaint and Grievance and Indemnity of Planting and Area. Only the front page of these SOPs was provided, so the reviewer was not able to verify that they suitably cover all the FPIC in the HCSA Social Requirements.

If the community did not nominate its own representatives relating to HCSA, this process, which is an element of FPIC needs to be undertaken with the community.

Company Response:

The SOP Document has been added as the appendix 1 on the Full Report of HCS. We only show the important parts what requested by the peer reviews

- 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:

There is no mention in section 3 of 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.

It is stated in the HCS report in the FPIC section : *"Sosialisasi secara berkala kepada masyarakat telah dilakukan oleh perusahaan. Beberapa informasi yang telah disampaikan dalam sosialisasi meliputi profil perusahaan, lokasi areal operasional perusahaan, rencana perusahaan, proses pelepasan lahan, pola kerjasama kemitraan, sistem bagi hasil, dan program CSR. Dalam proses sosialisasi, perusahaan juga menyampaikan informasi mengenai dampak keberadaan dan rencana perusahaan berdasarkan hasil AMDAL"*

Reviewers Recommendation:

The company should reference their FPIC SOP, which should be consistent with the HCSA Social Requirements and as such include the requirement for the community to say "No" to development as well as have the right to independent legal representation. If these elements are not part of the FPIC SOP, they must be included. If these two elements have not been undertaken with the community, the company must do so before any further land acquisition takes place.

The following paragraph is in the full report:

“Selain itu, tujuan lainnya memberikan informasi dan meminta izin terkait pelaksanaan kajian HCSA dan juga memastikan ada /tidak adanya keterwakilan masyarakat dalam mengikuti kajian HCSA. Output dari tahap kedua yaitu dapat mengidentifikasi harapan masyarakat atas lahan tersebut dan mengidentifikasi keputusan masyarakat atas lahannya terkait rencana perusahaan. Pada tahap ini masyarakat bebas membuat keputusan dan mendapat kesempatan untuk mempertimbangkan keputusannya serta dapat berkonsultasi dengan pihak-pihak yang dipercaya oleh masyarakat (FPIC).”

This explain that the plans for the implementation of the plantation were explained and that the community were given the opportunity to say no to development. This is an important point and it would be good to have the minutes of meeting attached. Furthermore, the way that it is expressed it appears that information was only provided to the community before the assessment. There is no mention of the results of the assessment being socialised. SR 7 (FPIC) states *“seek clarification from the developer or their consultants of the implications of HCV and HCS forest conservation areas; propose alternative arrangements; exclude any or all their lands from planting and conservation.”* So information should be provided about socialisation of the results to the community.

Company Response:

Added on the report

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

Finding:

The description provided regarding FPIC does not include many of the elements required in HCSA SR.

Reviewers Recommendation:

If all these SRs have been carefully followed, more detail needs to be added to the reports (both Summary Report and main HCS report) because currently there is only a brief mention of FPIC. If the SRs have not been followed the company should undertake the SRs prior to any further land acquisition. A Social Baseline Study, Land Tenure Assessment and Land Tenure and Use Study are also required.

More detail has been added to the full report. But it is still very general information. As an example there is the following statement *“(iii) identifikasi hak atas lahan dan penggunaan lahan oleh masyarakat (land tenure study),”* The Social Requirements describe the LT&LU Study

“This study covers land tenure and rights issues in detail, including in relation to inheritance and transfer, and identifies potential or actual areas of conflict. The study also assesses existing community

practices in relation to livelihoods and conservation, including the usage patterns of areas to be proposed for conservation, whether use is economic, social or cultural.

The developmental aspirations and options of affected communities and local stakeholders should also be considered, including possible alternatives to largescale commodity production, where relevant. Due consideration should be given to responsible and sensitive engagement however in order to avoid raising expectations.”

Much of this information has been included in section 4.2.5 of the main HCS report.

Company Response:

Added on the report

3. Ecological and Conservation Values (4 hours)

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

Finding:

The maps and the tables associated with section 4.1 are direct copies from the HCV report

Reviewers Recommendation: No Recommendations

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?

The HCV Report can be found in the SharePoint.

Finding:

The report has been given a satisfactory rating by the HCVRN. No subsequent review was done of the HCV report for this section.

Reviewers Recommendation: No recommendation

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?

Note that this is a check of procedures, not outcomes. The HCSA Toolkit provides more information on the expected quality of the RBA and the Pre-RBA.

Finding:

All the HCS Forest patches intersected with HCV areas, as such the patches were classified as HCS.

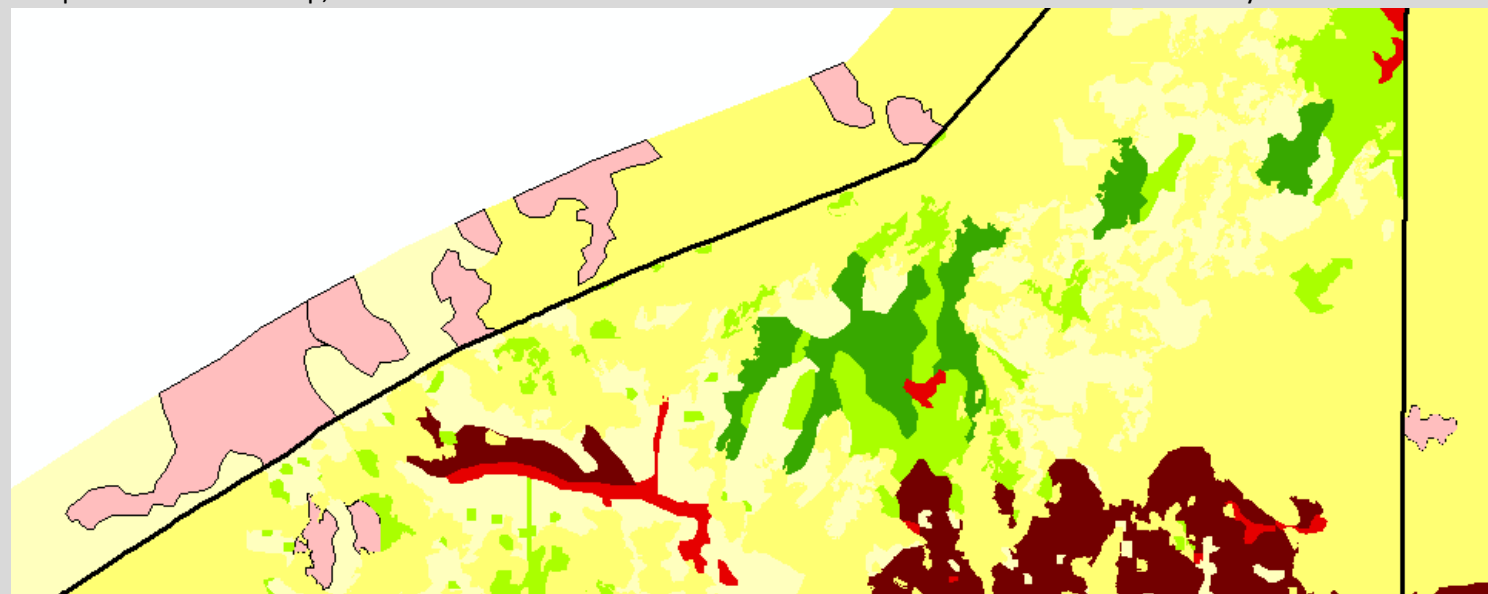
Reviewers Recommendation: No recommendation

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:

The forest areas outside the concession should have been included as HCS forest. The HCS modules gave 3 options (1) include only forest areas within the concession (2) include forest areas within the concession and within a 1 km buffer and (3) include forest areas within the concession and connected forest areas irrespective of the distance from the concession. Based on the recent directive from HCSA the area extending to the whole forest patch has to be considered as HCS (beyond the 1 km buffer). All these areas are in a protected area so there is no net effect.

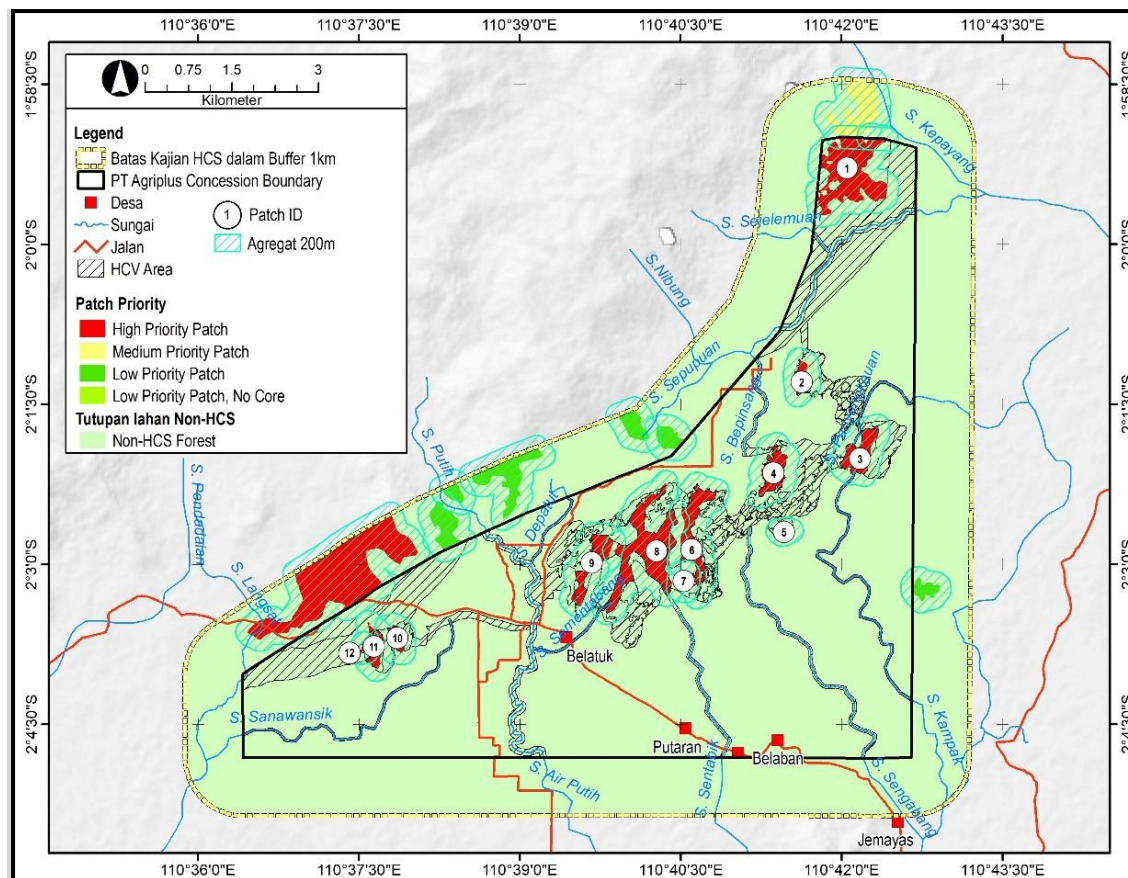
The pink areas in this map, which are outside the concession should have been classified as HCS but they were not. These are areas of YRF.



Reviewers Recommendation:

The patch analysis should really be repeated, but given that the areas to the north of the concession are conserved by HCV, this exercise is unnecessary. The area on the eastern border should be considered an HCS forest patch also.

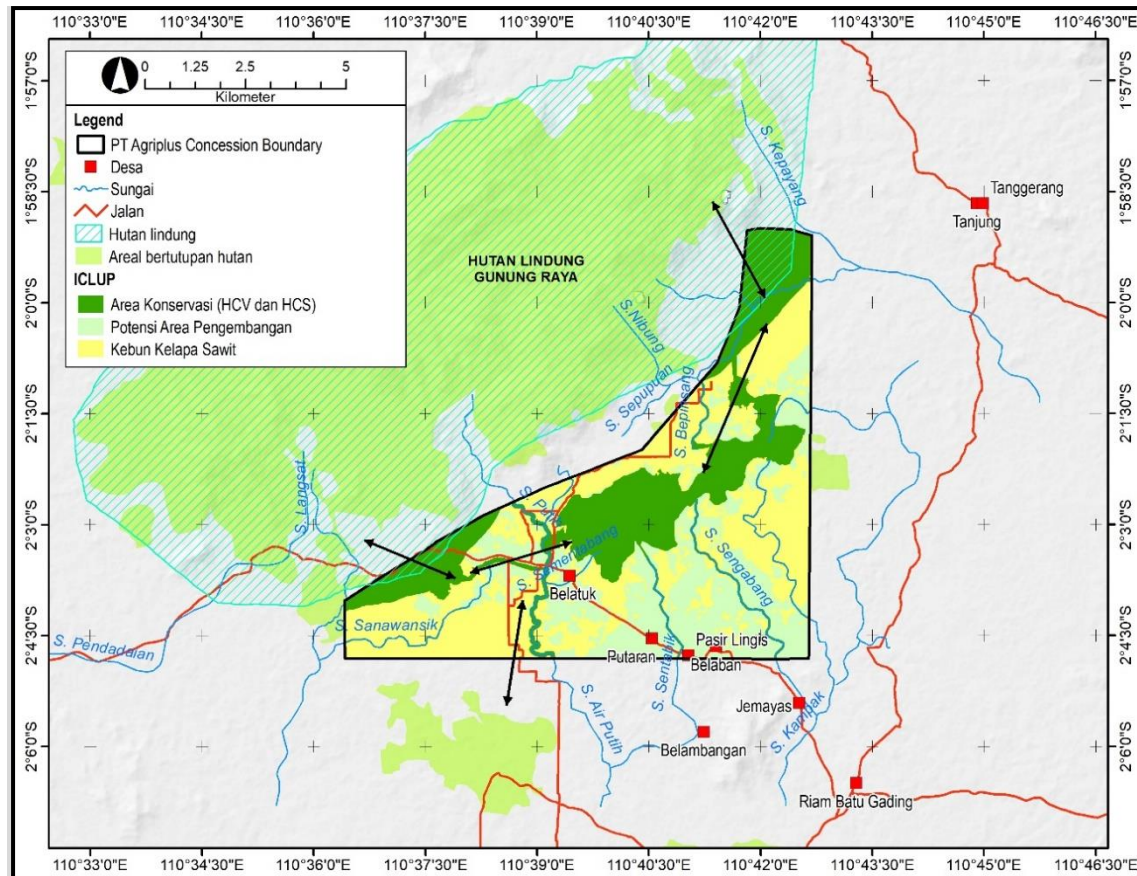
With the resubmission the following map has been provided



The forest patches outside the concession are mapped, but they are not given identifiers although they are mentioned in the patch analysis table (table 5.3), but the reviewer cannot determine which row in the patch analysis table relates to which patch. In the final map the HPP outside the concession are not mapped as HCS nor is the MPP to the north of the concession (which is linked to the HPP no.1) mapped as HCS (see red ovals in the map below).

Company Response:

The Patch 1 analysis has been corrected in the HCS report and public summary.



4. Image Analysis (6 hours, including land use planning/Decision Tree Section 6 below)

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

The HCSA Toolkit explains how the AOI should be identified.

Finding:

The AOI was defined as the concession with a 1 km buffer. This is consistent with the HCSA. However, Gambar 3.2 is presented without the 1 km buffer.

Reviewers Recommendation:

This has now been presented showing land cover around the concession.

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

The HCSA Toolkit describes the expected quality of the images.

Finding:

The study was undertaken between August and November 2017. The report states that the data used is “Citra Satelit Landsat 8 Path 121/Row 61 yang diakuisisi pada tanggal 27 Februari 2017 dan 16 Juni 2016”. Only the 27/2/2017 has been provided which appears to be acceptable except for some areas of cloud. Potentially this could be augmented by the 16/6/2016 image, but this has not been provided. Landsat is acceptable resolution for HCSA.

Reviewers Recommendation:

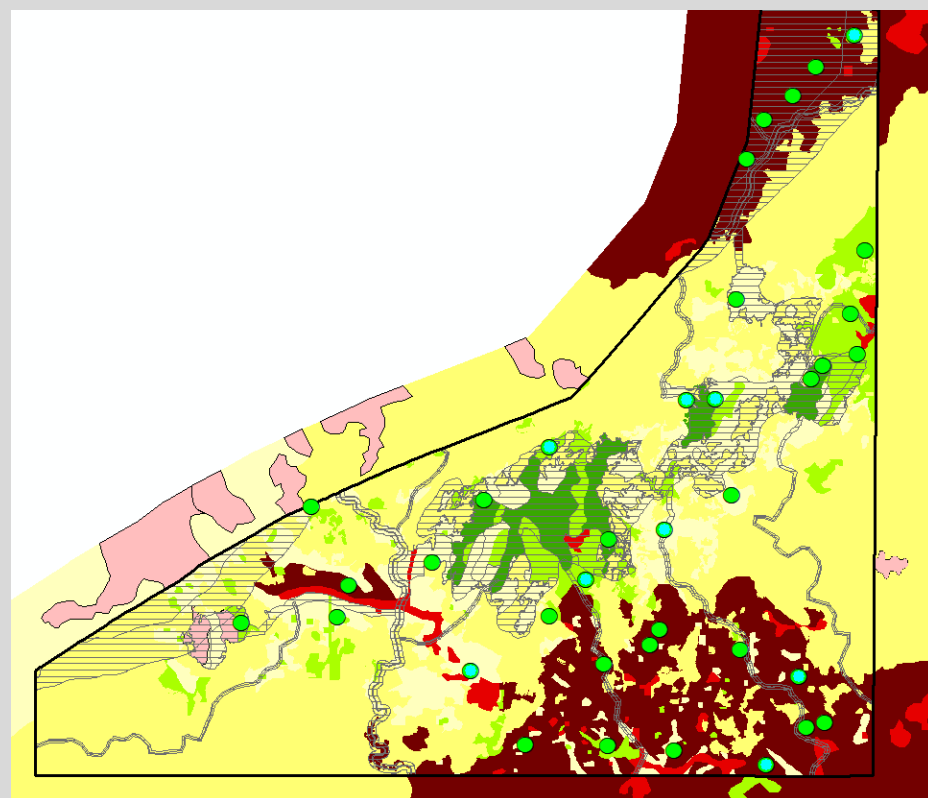
With the resubmission an appropriate suite of images have now been provided.

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?

The HCSA Toolkit provides more information regarding the expected quality of the image analysis.

Finding:

The land classification looks to be of acceptable quality. However, no ground truthing points have been provided – note that ground truthing is required. See HCS Module - “a satellite-based high resolution land cover classification (including ground truthing and subsequent accuracy assessment) is mandatory”. Furthermore, the landcover shapefile provided is inconsistent with that used for the HCS (The land covers presented in gambar 3.2, 3.3 and gambar 4.1 are inconsistent.). The main difference is the area to the north of the concession is mapped as agroforest for the HCV assessment and in the HCS assessment it is mapped as old shrubs and young shrubs



When comparing the HCS plots with the land cover the green plots are where the land cover that was noted at the plot is consistent with the mapped land cover and the blue plots are where it is inconsistent. The land cover should be consistent with the land cover noted at the plots.

Additionally there are two classification systems used. In the report the following classes are used “(i) hutan sekunder (low density forest), (ii) belukar (young regenerating forest), (iii) agroforest, (iv) semak belukar, (v) semak, (vi) lahan terbuka, dan (vii) kelapa sawit.” However in maps the legend is as follows

Landcover :	
	Secondary Forest
	Old Shrub
	Agroforest
	Young Shrub
	Bush
	Bare Land
	Oil Palm

It is not clear whether Bush = semak belukar and Young shrub = semak. For consistency, please use the same classifications throughout the report.

Reviewers Recommendation:

Ground truthing points have been added to the spatial data package. It is recommended to mention how these ground truthing points were captured – currently only how the HCS plots are mentioned as being used for verifying the classification - “Perbaikan stratifikasi penutupan lahan untuk menghasilkan stratifikasi penutupan lahan final (refined land cover interpretation) kemudian dilakukan berdasarkan hasil verifikasi lapangan melalui observasi dan analisis vegetasi (forest inventory).” Did someone actually walk to each point and note the landcover at that point?

Tabel 3.1 has now been provided as a translation table between the assessor’s land cover and HCS landcover – but it is confusing. E.g. in the two classification systems belukar is in a completely different category (see below).

Company Response:

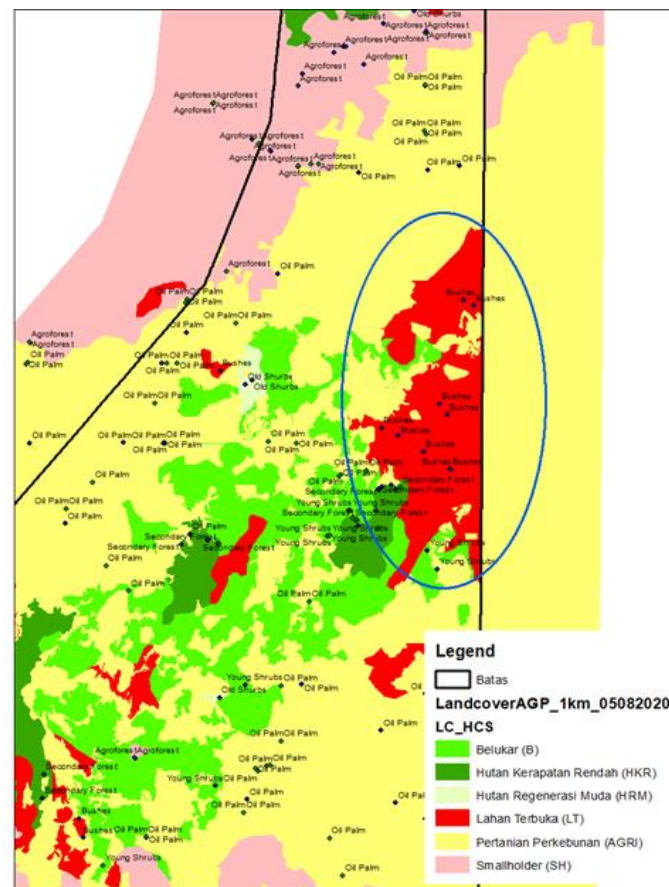
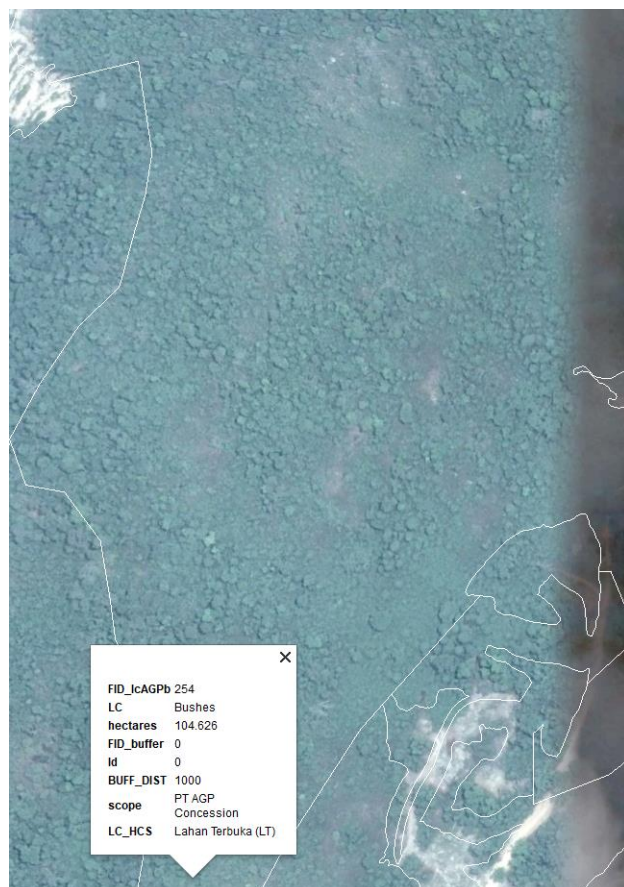
- Explanation of land cover verification / ground truthing has been added to the Full HCS report and public summary.
- The scrub description has been amended using the SNI land cover designation, in the HCS report and Public summary.

Tabel 3.1 Strata kelas tutupan lahan, luas, dan padanannya dengan kelas tutupan lahan HCS

No	Tutupan Lahan	Luas (ha)	Tutupan Lahan HCS	Keterangan
1 ^a	Hutan Sekunder (Secondary Forest) ^a	291.33 ^a	Hutan Kerapatan Rendah (HKR) ^a	Hutan alam dengan tajuk tertutup hingga terbuka, beragam dari hutan kerapatan tinggi sampai rendah. Data inventarisasi menunjukkan keberadaan pohon dengan diameter > 30 cm dan didominasi oleh spesies klimaks.
2 ^a	Belukar (Old Shrubs) ^a	49.49 ^a	Hutan Regenerasi Muda (HRM) ^a	Hutan yang sangat terganggu atau kawasan hutan dalam tahap regenerasi menuju struktur aslinya. Distribusi diameter didominasi oleh pohon dengan DBH 10-30 cm dengan frekuensi spesies pionir yang lebih tinggi dibandingkan dengan HK1. Dalam kelas tutupan lahan ini mungkin terdapat kawasan pertanian atau plasma. Catatan: Perkebunan yang ditelantarkan dengan kurang dari 50% luas bidang dasar terdiri dari tanaman pohon bisa termasuk dalam kategori ini atau kategori di atas. Tegakan dengan luas bidang dasar > 50% tidak dianggap sebagai hutan. SKT melainkan lahan perkebunan dan harus diklasifikasi secara terpisah.
3 ^a	Semak Belukar (Young Shrubs) ^a	986.01 ^a	Belukar (B) ^a	Lahan yang dulunya berupa hutan tetapi telah dibuka dalam waktu yang belum

Also looking at the map below the area of lahan terbuka (see blue oval) has been classified as “bushes”. Also looking at a good quality image it doesn’t really look like “open land”. The term bushes seems more relevant to scrub.

→ Based on the land cover verification/ **ground truthing those area are shrub lands (according to HCS land cover i.e. open land)**



Then looking at the photos in gambar 3.1 (d) looks more like YRF than its current classification as scrub. Similarly (b) looks like LDF rather than YRF. This is reflected in the data where semak belukar actually has a higher carbon stock (57.99 t.C/ha) than belukar (55.90 t.C/ha). There can be reasons for these anomalies, but none are explained. The table in module 4 HCS TK pg 23 gives the upper limit to scrub as 35tC/ha so a figure of 57.99 t.C/ha either needs to be explained or a review of the data.

The land cover has been adjusted based on the ground truthing plots as the company suggests.

The reviewer recommends using the HCSA classification system and synchronising all datasets and the report with this classification system. While it might be clear to the author of the report, it is very confusing to a third party.

Company Response:

- There are outliers that have not been corrected so that the value of the scrub is greater than the shrub. however, the HCS report and Public summary have been corrected following the request for peer review
- These explanation has been amended using the SNI land cover designation, in the HCS report and Public summary

5. Forest Inventory (4 hours)

- 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.

The HCSA Toolkit describes the expected quality of the forest inventory process.

Finding:

The plots were laid out with a square design. This is different from the circular plots advocated by HCS, nevertheless the method appears acceptable. There were 37 plots measured in the following land covers

Land cover	Number of plots
Agroforest	16
Bushes	7
Oil Palm	2
Secondary Forest/LDF	4
Young Shrubs	8
Grand Total	37

There was no discussion about how, pre-inventory, the plots were located. Also there was no discussion about how many plots were required. (This is covered in Advice Note 3). Also there is no discussion about the method for plot location (e.g. placing a grid over the concession). Note that the modules do not recommend measuring plots in oil palm, as has been done in this assessment. (From pg 27 Module 4 “Other classes, such as existing plantation areas (e.g. oil palm and food crops), and enclave areas including community areas, peatlands, and HCV areas, are generally not assessed”)

Reviewers Recommendation:

Add a discussion on (1) the analysis of how many plots were required pre inventory and (2) the method of locating the plots.

The reviewer could not find any discussion of how many plots were required. The reviewer was expecting to find a discussion based on the section pg 27 of the HCS TK module 4 (and further clarified in Advice Note 3).

Company Response:

Determination of the number of plots is using stratified random sampling. The number of plots corresponds to the stratification of land cover in the field. For each land cover stratification, 3 sample plots were taken with a 120 meter transect line and 3x repeat plot lines. This method can still be used even if it does not comply with the recommendations of the HCSA Toolkit V.1

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

The HCSA Toolkit describes the expected qualifications of the forestry team.

Finding:

Table 8 lists a team of 4 people – all with forest inventory experience. Two people have tree identification skills. This appears adequate.

Reviewers Recommendation: No recommendation

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

The HCSA Toolkit provides more guidance on choosing an allometric equation.

Finding:

Based on column M in the spreadsheet “complete forest plot data PT AGP” a suite of different equations are used for calculating biomass. The reviewer is not familiar with any of these. It appears that different equations are used for different species.

Reviewers Recommendation:

A good discussion of the reasons for using the particular allometrics has been added in section 7.7 of the Summary report.

- 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?
PDU

The HCSA Toolkit provides more guidance on what statistical analysis should be used.

Finding:

The photo in Figure XX on the right-hand side really looks more like LDF than YRF. Similarly, in figure 11 the pictures of scrub look more like YRF. The above ground carbon stocks appear to be in line with what would be expected in forests in this area (based on the reviewer's experience with other assessments).

In table 9 of the summary report, there seems to be something wrong with the stocking figures – there is no way that LDF would support a stocking of 5332 stems per ha. All the other figures appear very high also.

Company Response:

- This numbers haven been rechecked, revise on number of stems/ ha on the Full HCS report Public summary.

Land-cover class	Number of Plots	Stems per hectare			
		DBH 5-10-cm	DBH 10-20-cm	DBH 20-35-cm	DBH >35-cm
°	°	°	°	°	°
Semak/ Bushes	°3	8,000.00	600.00	25.00	-
Semak- belukar/ Shrubs	°7	3,657.14	542.86	189.29	16.96
Agroforestry	°15	2,514.29	943.86	353.33	38.84
Belukar/ Young- Regenerating- Forest	3	2,666.67	533.33	208.33	16.67
Hutan- Sekunder/ Low-Density- Forest	°9	4,311.11	677.78	283.33	60.15

Reviewers Recommendation: No recommendations

6. Land use planning (6 hours with Image Analysis above)

- 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?

The HCSA Toolkit provides more guidance on how to incorporate the forest inventory results into the land cover map.

Finding:

As shown in the screen snapshot in section 4.3 the land cover map has not been calibrated with the HCS plots. There are a number of plots that when intersected with the landcover, show that the plot land cover and the landcover in the shapefile are different.

Doing these reconciliations is made very difficult because the assessor has a suite of different land cover categories. There is one set of land cover categories on map legends, another in the report a different one again in the plot data spreadsheet. Nowhere have these been consistently mapped against the HCSA land cover categories

Reviewers Recommendation:

Present all the land cover categories consistently in all the data sets provided. Where the categories deviate from the HCSA land cover category names, please provide a table that references the assessor's categories with the HCSA categories.

Table 3.1 has been added, but as mentioned in section 4.3 of this review, using a separate land cover classification system from HCS is confusing.

Especially when the same names (e.g. belukar) is used but doesn't refer to belukar in HCS. Nevertheless, the landcover map has been calibrated to the ground truthing and inventory results

Company Response:

- The description of Belukar has been amended using the SNI land cover designation, in the HCS report and Public summary.

- 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?

The HCSA Toolkit explain how to merge patches and identify the core area.

Finding:

The following statement is made that suggests that based on the participatory mapping all the concession has been signed over to the company and there are no community lands.

"Berdasarkan hasil pemetaan partisipatif dan FPIC masyarakat, diketahui bahwa tidak terdapat lahan yang tidak dilepaskan oleh masyarakat untuk rencana perusahaan. Seluruh area di dalam lokasi kajian disetujui oleh masyarakat untuk diserahkan guna rencana pengembangan perkebunan kelapa

sawit perusahaan di lokasi kajian.”

No patch analysis shapefile was provided so the reviewer could not check such things as core areas and connectivity.

A shapefile of land tenure has been provided and this has been mapped in gambar 4.5. This shows the area that GRTT has already been paid (4,249.4 ha) of the total area of PT AGP (6,109.5 ha). From the following statement it appears that PM was used to identify community lands that should be enclaved. “Berdasarkan hasil pemetaan partisipatif dan FPIC masyarakat, diketahui bahwa seluruh lahan yang akan dilepaskan oleh masyarakat untuk rencana perusahaan kecuali pada area area keramat, pemakaman umum, dan tembawang dengan total luas 130.5 ha, dimana seluruh areal ini telah ditetapkan sebagai HCV 5 dan HCV 6.” tambahkan area keramat, pemakaman umum, dan tembawang pada peta land tenure, dan tambahkan shapefile ini ke reviewer.

Reviewers Recommendation:

Provide shape files of the patch analysis process.

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?

The HCSA Toolkit explains how to prioritize patches and go through the Decision Tree.

Finding:

There were only 8 forest patches identified within the concession. It appears they were analysed correctly using the PADT (though no PADT shapefile was provided). Nevertheless, visually it can be seen that all these forest patches should be HCS forest. Furthermore the forest patches all overlap with the HCV area. The forest patches external to the concession (gambar 5.2) are not considered. This is an error. The patches to the north of the concession overlap with the HCV area, though the small patch to the east has not been considered.

Reviewers Recommendation:

Repeat the patch analysis including the patches external to the concession. Note that the HCSA is now requiring the full extent of forest patches to be mapped and considered as HCS (not just the area within the 1 km buffer) – See HCS Advice Note 3 – also HCS is applying this retrospectively. So the full extent of the forest patches will have to be mapped.

The only error is patch 1, which does not take into account the full extent of the patch (“HCS forest patches that extend outside the boundaries of the

proposed development area are assessed for their full size irrespective of the concession boundary” -pg25 of Module 5). However, it is mapped as conservation anyhow, as such the error does not matter.

Company Response:

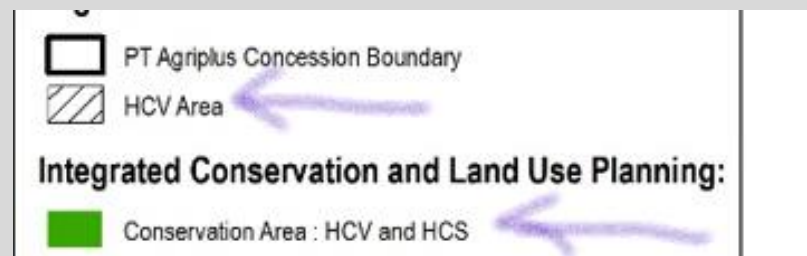
The Patch 1 analysis has been corrected in the HCS report and public summary.

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?

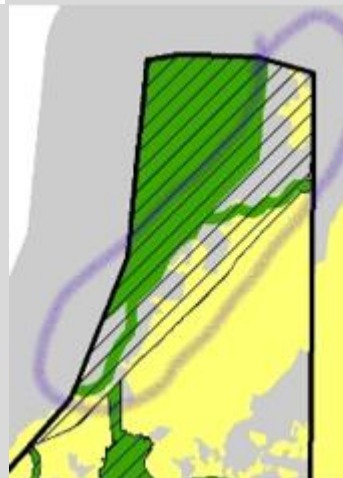
Finding:

The assessor has followed the HCS PADT to come up with the appropriate conservation areas. The only issues are that the forest patches external to the concession need to be added to the analysis, as do the HCV areas external to the concession.

Additionally in Figure 14 the legend has the HCV area (hatched) and Conservation area (solid green area).



However some of the HCV area is not considered conservation area



Reviewers Recommendation:

1. Forest patches external to the concession need to be added to the analysis, as do the HCV areas external to the concession. These need to be added to the ICLUP
2. Include the full extent of the HCV area in the conservation area.

Note that Section C of HCS TK module 5 discusses the ICLUP. It does not state that the HCV and HCS areas should be clipped to the boundaries of the concession. As such the ICLUP should include areas external to the concession.

Company Response:

- ICLUP Map has been amended on the Full report of HCS and public summary.