TASK FORCE ON COUNTRY RISK PROFILE AND GUIDANCE FOR RISK-ADJUSTED AUDITING IN UKRAINE

Discussion Paper

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Title:	Task Force on Country Risk Profile and Guidance for risk-adjusted auditing in Ukraine
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The Forest Stewardship Council® (FSC) is an independent, not-for-profit, non-government organization established to support environmentally appropriate, socially beneficial, and economically viable management of the world's forests.

FSC's vision is that the true value of forests is recognized and fully incorporated into society worldwide. FSC is the leading catalyst and defining force for improved forest management and market transformation, shifting the global forest trend toward sustainable use, conservation, restoration, and respect for all.

INTRODUCTION AND BACKGROUND INFORMATION

Until now, FSC has no additional mechanism to assist certification bodies and auditors to manage risks when evaluating the conformity with applicable forest management requirements. The purpose of developing and implementing such a risk-based approach is to:

1. Improve certification uptake and impact FSC's forest management standards by making the certification process more efficient and cost-effective.

2. Maintain credibility and improve consistency of NFSS implementation and evaluation.

The proposed mechanism aims to assist certification bodies and auditors in improving their evaluation of certified or applicant organizations' effectiveness and credibility to reach the overall objectives highlighted above. It enables matching assurance efforts to risks, focusing on the issues of higher risk and opportunities, and decreasing efforts on issues with low risk. Additionally, it can be used to communicate more transparently with stakeholders on how FSC identifies and manages risks in its system. Finally, it allows FSC to collect information for risk monitoring and effectiveness assessment of the risk-based approach to improve it over time.

FSC Ukraine has been working on developing and implementing a risk-based approach for a long time. The central piece of the proposed approach in Ukraine is a Country Risk Profile (CRP). The CRP enables CBs to actively manage the risk of non-conformity, to plan the audits more effectively, adapting the effort allocation to reflect risk.

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1. Task Force Setup and Objectives

The Task Force's main objective is streamlining data flow related to forest management and incorporating risk-based approaches to the CBs auditing practice.

To achieve the main objective, the Task Force is expected to consider the following aspects:

a. The actual information about challenges and problems in the forestry sector of Ukraine (key aspects, sources of data).

b. Potential non-conformities related to FSC Principles and Criteria based on verified data.

c. identification of which data is eligible to the identified challenges and problems.

d. Grouping data from different data sources into Country Risk Profile (using templates for data collection and visualization).

e. The Risk Matrix for assessment of potential non-conformities.

f. Recommendations for an adequate response on identified risks using CRP.

g. Exploring the ways of use of additional guidance during the audit.

The expected outcomes of this task force are:

I. Templates for data collection and visualization.

II. Risk Matrix for assessing potential non-conformities with national comments.

III. Guidance on using public data and CRP during an audit.

IV. Recommendations on risks mitigation.

V. National comments for FSC-PRO-60-010 Incorporating a risk-based approach in the evaluation of conformity with National Forest Stewardship Standards V2-0 Draft 1-0.

2. National context

Forest and forestry conditions

Forestry history

Forest history in Ukraine relates closely to the history of human development. Thousand years ago, the forests` area was a few times bigger than now. Up to the medieval ages, forests mainly were used as hunting grounds, places for wild bee-keeping, haymaking and grazing, etc. Since the 17-18th centuries, charcoal and potash production in forests has intensified. Vast forest areas were clear cut or burned in the 17-19th centuries to meet charcoal and potash production demand, industry energy demands, and agricultural land needs. A network of human settlements has expanded in woodlands. Forest settlers used wood as an energy source for ore smelting, glass making, and charcoal and potash production. On the other hand, timber started to be valued as construction material for marine. The appearance of the first forest management plans is linked with the first attempts to maintain and protect so-called "ship forests", which were first identified and delimited between the 18th and 19th centuries. The process of identification of "ship forests" continued until the last decades of the 19th century. First regular management plans were introduced in the 19 century. They implemented a set of management measures and terms like establishing a compartment system, defining a rotation period, supporting natural regeneration and first attempts of artificial regeneration, etc. A significant share of forests belonged to private and community landowners. The final establishment of the forestry model, close to the currently existing one, happened during the Soviet era. All the private forests were nationalized, as well as some community-owned ones. Massive, unsustainable logging occurred during Soviet times, particularly after the Second World War, as a resource for the economy rebuilding process. However, significant afforestation and reforestation efforts were made in the middle of the 20th century, increasing the percentage of forest share to its current value.

Plantations vs natural forests

The majority of forests in Ukraine have a secondary origin. They had been cleared in the past and then regenerated. Almost a half of Ukraine's forests had been replanted, and another half was naturally regenerated. Less than 1% of forests in Ukraine have never been cut or have experienced an insignificant human impact. According to national law, they have to be officially protected as virgin, quasi-virgin, and natural forests. However, other old-growth forests of natural origin are also crucial for preserving forest biodiversity.

Forest types

Ukraine has a wide variety of different forest types. There are a few major forests types in each of the natural zones. Pine forests, pine-birch, and pine-oak forests are the main forests types in Polissia (Northern Ukraine). Oak forests are also widely present in Polissia and Forest-Steppe zones. Spruce forests are common in Carpathian high-altitude mountains, while beech and beech-fir forests are common in low- and middle-altitude Carpathians. Pine, juniper and beech forests are widespread in Crimean mountains. Alder, willow and poplar forests are widespread in river floodplains and other wetlands all over Ukraine. Some other minor types of forests are widely distributed among the described main ones.

Landowner typology (large vs small, private vs state owned)

Most of Ukraine's forests are state-owned - 87%, while only 13% are community-owned. The share of private forests is insignificant - less than 1%. Regarding landowners, the majority of forests belong to the State Forest Resources Agency - 73% (7,6 mln ha), which is the biggest landowner, carrying out forest management within approximately 300 state forestry enterprises and some nature reserve areas. Some percentage of forests is shared between different government bodies (Ministry of Environment, Ministry

of Defence, Ministry of Infrastructure, Ministry of Education, etc.) - altogether up to 7%. The mentioned entities manage their forests through forest enterprises or protected areas. Nearly 7% of forests belong to "land reserve", and they do not belong to any landowner. Communal forestry enterprises usually manage community-owned forests.

FSC culture

The establishment of FSC in Ukraine is directly related to the evolvement of voluntary forest certification and the development of the draft FSC National Forest Stewardship Standard.

More than 20 years of FSC presence in Ukraine has significantly impacted forest policy and practices. Silviculture is changing by increasing the share of natural regeneration, reducing the area of clear felling, and introducing more environmentally friendly technology and forestry practices close to nature. HCV concept was reflected in national legislation and nature conservation. Environmental assessment in forestry support transformation and improvements of forest management plannings.

About 35% of Ukrainian forests are certified. The FSC Principles and Criteria were adapted and introduced by National Forest Stewardship Standard for Ukraine. FSC encourage the improving working culture in forestry sector by applying best available practices.

3. Sources of data

In the age of digitalization, data is one of the most valuable assets. It is essential to know where to look for data. Some data can be found on organization's websites or databases, while others can be found through third-party sources. The more data you have, the easier it can be to narrow it down.

Information about certificate holders can be acquired from different sources, including public registers, commercial IT tools, science studies, independent investigations, online surveys, on requests, and observational studies. Forestry public data is the main part of the effective evaluation, but usually, it can be less detailed than we want, so it's more important to use relevant data sources to search for pertinent information during prescreening than only relying on available documents during assessments. Certification bodies then can use obtained data in various ways: to analyze and predict future trends, make decisions, or find relevant important information from stakeholders.

A list of data sources that can be used for risk assessment is presented below:

- ***Bihus Declarations*** (one of the largest databases of declarations of public officials in Ukraine, project of the White Collar Hundred) – https://declarations.com.ua
- ***Clarity Project*** (noncommercial service for analysis of public procurement)– https://clarity-project.info
- ***Contr Agent*** (analytical system for verification and monitoring of counterparties, commercial IT service of Ukrainian company LIGA:ZAKON) – https://ca.ligazakon.net
- ***Database of importers and exporters of the SE "Goszovnishinform"*** – https://eximbase.com
- ***Dataset of the documents related to sanitary cuttings*** on State Forest Resources Agency of Ukraine website – https://forest.gov.ua/agentstvo/vidkriti-dani/perelik-zahodiv-z-polipshennya-sanitarnogo-stanu-lisiv
- ***Diia.Open data*** (aggregator of open data sources by different categories) – https://diia.data.gov.ua/
- ***Dozorro*** (service for viewing procurements that have been made in ProZorro with violations since 2016) – https://dozorro.org/
- ***Environment impact assessment portal*** - http://eia.menr.gov.ua/uk/cases
- ***EOS forestry map*** (commercial GIS monitoring tools) – https://forest-monitoring.eos.com/interactive/map
- ***Flagma*** (online businesses platform with publications of ads, jobs, resumes etc.) – https://flagma.com
- ***Fordaq*** (online businesses platform for wood professionals) – https://fordaq.com
- ***FSC GIS Portal*** (advanced GIS tools for certification bodies) – https://gisportal.fsc.org
- ***FSC® Open Knowledge Repository*** (the digital platform that collects, preserves, and distributes digital material related to the FSC system) – https://open.fsc.org/
- ***GIS portal: Forests of Ukraine*** (GIS portal of Ukrainian order "Sign of Honour" Research Institute of Forestry and Forest Melioration named after G. M. Vysotsky) – https://forestry.org.ua
- ***ImportGenius*** (database of export and import operations which include records obtained through the FOIA (Freedom of Information Act) mechanism) – https://importgenius.com
- ***Inspection portal*** (pilot module for Ukrainian supervision and control bodies for planning activities and collecting information of inspections) – https://inspections.gov.ua
- ***List of court cases to be considered in Ukraine*** – https://court.gov.ua/assignments
- ***Map of loggings in Ukraine based on forest tickets*** – https://lk.ukrforest.com/map/general
- ***Map of wood processing facilities in Ukraine*** – https://map.ukrforest.com/map
- ***Ministry of Environmental Protection and Natural Resources public data sets*** – https://mepr.gov.ua/content/vidkriti--dani.html

- ***Open data portal in Ukraine*** (official service for working with public) – https://data.gov.ua
- ***Opendatabot*** (analytic tool related to open data, project of Correct Decisions LLC) – https://opendatabot.ua
- ***Prozorro*** (hybrid electronic open-source government e-procurement system) – https://prozorro.gov.ua
- ***Public cadastral map of Ukraine*** – https://map.land.gov.ua
- ***Ring*** (open data analysis tool, project of Bihus.Info) – https://ring.org.ua
- ***Single web portal for the public funds spending in Ukraine*** – https://spending.gov.ua
- ***State bureau of investigations in Ukraine*** – https://dbr.gov.ua/
- ***State Enterprise "FIAC" (State Enterprise Forestry Innovative Research Centre) services*** – https://ukrforest.com
- ***State Fiscal Service of Ukraine Registers*** – https://cabinet.tax.gov.ua/registers
- ***Unified State Register of Court Decisions in Ukraine*** – https://reyestr.court.gov.ua
- ***Unified State Register of Declarations in Ukraine*** – https://public.nazk.gov.ua
- ***United State Register of Legal Entities, Individuals Entrepreneurs and Public Organizations of Ukraine*** – https://usr.minjust.gov.ua
- ***VAT Refund of Ukrainian organizations*** – https://mof.gov.ua/uk/vat-refund
- ***Virgin, Quasi-virgin and Natural Forests of Ukraine*** (web portal provided by WWF in Ukraine, that includes different layers about forests: virgin, quasi-virgin and natural forests, protected areas, rare species, and HCV) – https://gis-wwf.com.ua
- ***Vkursi*** (analytic tool related to open data, project of Web Dream Technology LLC) – https://vkursi.pro/
- ***WWF in Ukraine - combating illegal logging*** – https://wwf.ua/our-work/forest/fight-illegal-logging/
- ***YouControl*** (commercial analytical system for compliance, market analysis, business intelligence, and investigation)– https://youcontrol.com.ua
- ***FSC Public Search*** – https://info.fsc.org/
- ***FSC Audits Schedule*** – https://ua.fsc.org/ua-en/audit-schedule

Primary documents that can be obtained on request from FMEs that can be used for risk assessment:

- Accounting data (book) for forest pests and diseases
- Approval of forest use limits by the Ministry of Environmental Protection and Natural Resources of Ukraine and approved permits for sanitary cuts
- Book of forest fire monitoring
- Certificate (act) of forest pathology inspection
- Certificates about forest fires
- Data and project of Nature Reserve Fund organization
- Forest fire monitoring data
- Forest management planning data and the appointment of measures to improve forest health condition
- Forest management planning materials for Nature Reserve Fund
- List of measures to improve the forest health condition
- Regulations on organization of territories of Nature Reserve Fund
- Reports on the deterioration of forest health condition
- Sheet of wood volume and forest health condition assessment for trees marked for sanitary felling (cubic meters per ha):
  i) field enumeration list;
  ii) list of sample plot of tree assessment
- Statistical reporting forms 3-LG, 10-LG

4. The Risk Matrix for assessment of potential non-conformities with national comments

After reviewing the issues in Ukraine's forestry sector during the task force meetings, it is evident that there are several difficulties associated with the current FME information system monitoring.

Most of the issues are related to:

- Commercialization of thinning and sanitary cuts
- Illegal logging
- Environmental Impact Assessment issues
- The negative impact of management activity on the environment
- Replacement of aboriginal species by alien ones
- Use of pesticides
- Non-compliance with occupational health and safety requirements by contractors
- Corruption
- Low qualification of staff
- The unstable financial condition of FMEs
- Lack of communication culture between FMEs and stakeholders
- Ignoring the values of non-timber forest products and ES for local communities

As a result of mitigating difficulties in obtaining actual data, there has been an effort to develop an effective solution using open data. It was proposed to use a Risk Matrix for RBA.

Risk Matrix is an assessment of potential non-conformities in forestry. It helps to identify risks of non-compliance with forest management planning, zoning, and local economic development planning, and it determines the extent to which management's commitment to sustainable forest management may be compromised.

It is possible to use this tool as a decision-making and monitoring tool for timber harvesting, forest management, and certification bodies.

STEP 1. RISK ASSESSMENT

Table 1 Example on the Risk Matrix for assessment of potential non-conformities with comments

No.	Characteristic	Risk factor	Low Risk	Specified risk	Indicators	Data source	Comments
1.	Commercialization of Thinning and Sanitary cuts	1. Is there a reasonable discrepancy between the planned and actual volumes of harvesting in the context of all types of cuts?	Yes	No	1.3.1 1.3.3 2.5.1 2.5.2 2.5.3 5.2.3 7.1.2	• Forest management plan (on request) • Annual logging volume approved by order of the Ministry of Environmental Protection and Natural Resources of Ukraine (on request or at Environmental Impact Assessment portal and FMEs' sites) • Dataset of harvesting permits (State Enterprise "FIAC" services: https://data.gov.ua/ and https://www.ukrforest.com/) and information at FMEs' websites • Form 3-LG (on request) • Form 10-LG (on request) • List of measures to improve the forest health condition (planned/approved) and accompanying documents (webpage of FME) Certificate (act) of forest pathology inspection of stands that require sanitary clear cut and reports of deterioration of forest condition	Some information that may help: • Workers training program • Records of training • Interviews with workers • Inspection of the logging areas during the field audit • Analysis of maps of the technological process of logging • Analysis of cuts carried out in the habitats of rare species
		2. Whether the increase in planned/conducted sanitary clear cuts is reasonable?	Yes (reasonable increase – e.g., forest fire, storm, windstorm, etc.)	No (controversial increase e.g., ecological factors, climate change, bark beetles in broadleaved forests, etc. See table of controversial reasons).			
		3. What are the dynamics of deviations between planned and actual volumes of cuts in the context of all cuts for 5 years?	Downward trend (or increase of actual volumes of harvesting is sufficiently substantiated)	Constant or growing trend (excluding reasonable causes, e.g., forest fires, windstorms, etc.)			

No.	Characteristic	Risk factor	Low Risk	Specified risk	Indicators	Data source	Comments
		4. No planned/conducted sanitary clear cuts in protected areas/NRF for 5 years?	Yes	No		Forest management planning data for NRF: these data should be approved by the Ministry of Environment (Ecology) Materials and project for organization of NRF EIA has positive conclusion for carrying out sanitary cuts	
		5. Is EIA available or indicates that sanitary cuts are not prohibited by EIA for 5 years	Yes	No			
		6. What are the qualitative and dimensional characteristics of round timber from Thinning and Sanitary cuts for 5 years in the context of each type of cuts?	Reasonable distribution	Growing trend of commercial wood output from selective cuts Unreasonable output of A, B and C assortments from selective cuts		Actual assortment structure (on request) Filled-in form 3-LG (on request) List of measures to improve the forest health condition (planned/approved) and accompanying documents	Rough data for the different reasons of selective sanitary cuts (expert opinion) Forest fire – more than 20% A, B and C Root rot – more than 30% A, B and C Stem rot – more than 10% A, B and C Windstorm (other disasters) – more than 30% A, B and C Controversial reason – more than 10% A, B and C
		7. What are the dynamics of change in the area of forest dieback in terms of reasons over 5 years?	Downward trend (no forest dieback/decline on satellite imagery/ Certificate (act) of forest pathology survey indicate the absence of massive forest decline/dieback	Constant or growing trend (excluding reasonable causes, e.g., forest fires, windstorms, etc.), Unreasonable forest dieback on satellite imagery and in certificates (acts) of forest pathology inspection		Form 3-LG (or request) Tools for checking satellite imagery over 5 years List of measures to improve the forest health condition (planned/approved) and accompanying documents (webpage of FME) Certificate (act) of forest pathology survey of stands	

No.	Characteristic	Risk factor	Low Risk	Specified risk	Indicators	Data source	Comments
		8. Does the satellite imagery show no increasing signs of tree decline/dieback over 5 years/ Do certificates (acts) of forest pathology inspection of stands over 5 years indicate the absence of massive forest decline?	Yes	No		Accounting materials for pests and forest diseases (book)	
		9. What are the dynamics of pests and diseases over 5 years?	Downward trend (continuous trend or small fluctuations)	Constant or growing trend		Accounting materials for pests and forest diseases (Book of forest pests and diseases monitoring) List of measures to improve the forest health condition (planned/approved)	
		10. What are the dynamics of area of sanitary cuts over 5 years?	Downward trend	Growing trend (excluding justified reason)		Form 3-LG (on request) List of measures to improve the forest health condition (webpage of FME)	
		11. Previous non-conformities regarding sanitary cuts are absent	Yes			Based on previous audit report (e.g. ecological inspection, FSC evaluation)	
		12. Absence of unjustified landscape cuts or forest restorative cuts (especially in NRF and for old forest)	Yes	No		Form 3-LG (on request) List of measures to improve the forest health condition	

No.	Characteristic	Risk factor	Low Risk	Specified risk	Indicators	Data source	Comments
		13. Does the satellite imagery/SF map indicate the absence of a series of clear cut areas of about 0.9 ha ***within the same compartment*** (e.g., 10 sites located close to each other)	Yes	No		Tools for checking satellite imagery Check the map at https://forestry.org.ua/ and satellite imagery	
		14. What is the annual forest use intensity over 5 years?		Average timber harvest per 1 ha exceeds the average growing stock change per 1 ha		• Data of the State Forest Account (open access) • Dataset of logging permits (State Enterprise "FIAC" services: https://data.gov.ua/ and https://www.ukrforest.com/) and information on FMEs' websites • Form 3-LG (on request)	
		15. Media publications about violations in the FMEs		The number of negative publications has increased over the last year Publications related to professional investigations with proven facts of violations have emerged over the last year.		Professional and specialized media (online) with links to official documents, satellite images, video recordings, etc. E.g., https://texty.org.ua/d/2020/open_forestry/ https://forestcom.org.ua/news-post/zvit-monitoringu-starovikovih-nasadzhen-v-ukrayinskih-karpatah-za-listopad-2021-r	
		16. Is there an increase in the volume of processing by own facilities and/or in terms of waste raw materials?	No	Yes		Volumes of products output (on request)	

No.	Characteristic	Risk factor	Low Risk	Specified risk	Indicators	Data source	Comments
2.	Illegal logging[1]	17. Are there errors in estimating volumes and determining qualitative and dimensional characteristics?	No	Yes	1.4.1. 1.4.2. 1.4.3. 1.5.1. 1.7.2. 1.7.5. 2.1.1.	Inspection portal https://inspections.gov.ua/ Previous FSC audit report	Find more about illegal logging in the report "Illegal Logging and Illegally Sourced Timber: Legal Regulation of Concepts" on https://ua.fsc.org/sites/default/files/assets/FSC_newsentry_1625572792_file.pdf
		18. Have state control bodies identified violations of stand inventory?	No	Yes		Inspection portal https://inspections.gov.ua/ STATE BUREAU OF INVESTIGATIONS https://dbr.gov.ua/ And https://dbr.gov.ua/news/kriminalni-pravoporushennya-u-sferi-lisovogo-gospodarstva-yaki-rozsliduvali-slidchi-dbr-u-2020-2021-rokah Regional prosecutor's office court decisions: https://youcontrol.com.ua/eventsauth/ Previous FSC audit report	
		19. Are there any violations related to qualitative and dimensional characteristics identified at selling products to customers?		Availability of information about violations in the media (investigations)		Inspection portal https://inspections.gov.ua/ STATE BUREAU OF INVESTIGATIONS https://dbr.gov.ua/ And https://dbr.gov.ua/news/kriminalni-pravoporushennya-u-sferi-lisovogo-gospodarstva-yaki-rozsliduvali-slidchi-dbr-u-2020-2021-rokah	
		20. Are there facts and a growing detection trend of unauthorized felling?	Downward trend of available facts	Growing trend of available facts		Inspection portal https://inspections.gov.ua/ STATE BUREAU OF	

No.	Characteristic	Risk factor	Low Risk	Specified risk	Indicators	Data source	Comments
						INVESTIGATIONS https://dbr.gov.ua/ And https://dbr.gov.ua/news/kriminalni-pravoporushennya-u-sferi-lisovogo-gospodarstva-yaki-rozsliduvali-slidchi-dbr-u-2020-2021-rokah Previous FSC audit reports	
		21. Are there any facts of workers' prosecution related to illegal logging?	No	Yes		STATE BUREAU OF INVESTIGATIONS https://dbr.gov.ua/ And https://dbr.gov.ua/news/kriminalni-pravoporushennya-u-sferi-lisovogo-gospodarstva-yaki-rozsliduvali-slidchi-dbr-u-2020-2021-rokah	
		22. Media publications about violations in the FMEs		The number of negative publications has increased over the last year.			
		23. Are there any facts of violations of other applicable legislation (environmental aspects, labor legislation, occupational safety)?	No	Yes		Inspection portal https://inspections.gov.ua/ STATE BUREAU OF INVESTIGATIONS https://dbr.gov.ua/ EIA portal - http://eia.menr.gov.ua/uk/cases	
		24. Are there areas where logging without permits is identified by remote sensing?	No	Yes		FSC GIS Portal https://gisportal.fsc.org	

STEP 2: EVALUATION OF RISKS

Each of the identified risks will then be evaluated according to the documents on request and control criteria to confirm/refute information on identified risks during the audits.

If the public information or data on request are absent, the specified risk is confirmed and a risk-based approach should be applied.

Table 2 Evaluation of risks

<table>
<tr><th>Questions</th><th>Specified risk is refuted</th><th>Specified risk is confirmed</th></tr>
<tr><td rowspan="2">Risk factor 1. Is there a reasonable discrepancy between the planned and actual volumes of harvesting in the context of all types of cuttings?
Risk factor 2. Whether the increase in planned/conducted sanitary clear cuts is reasonable?
Risk factor 3. What dynamics of deviations between planned and actual volumes of cuttings in the context of all cutting for a 5-year period?
Risk factor 4. No planned/conducted sanitary clear cuts in protected areas/NRF for 5 years?
Risk factor 5. Is EIA available or indicates that sanitary cuts are not prohibited by EIA for 5 years</td><td colspan="2"><u>Documents on request should confirm the legitimate reason</u>:
• List of measures to improve the forest health condition (planned/approved) and accompanied documents
• Form 3LG and 10LG
• Annual financial plan
• Certification (act) of forest pathology inspection of stands indicates necessity of sanitary felling
• Reports of deterioration of forest health indicates necessity of sanitary felling</td></tr>
<tr><td>Explanation for increase of actual volumes of harvesting should be officially justified (e.g. fire, windstorm etc.)
Thinning could/should be approved on regional level (e.g. by Regional forest and hunting management) and
Thinning should not occur more than once every 10-15 years.</td><td>Controversial increase – e.g. ecological factors, climate change, bark beetles in broadleaved forests and so on.
Thinning could conduct once every 5-7 years.
No reports deterioration of forest health over 5 years or only for date before sanitary cutting/no signs of forest dieback on satellite imagery
<u>Recommendation: check site for sanitary felling in field (before or during harvesting).</u></td></tr>
<tr><td>Risk factor 6. What qualitative and dimensional characteristics of round wood from Thinning and Sanitary cuts for 5 years in the context of each type of cutting</td><td>Reasonable output of A, B and C assortments could be only for clear sanitary cutting (ground fire, root rot) for conifers.
For hardwood trees reasonable output of A, B and C could be only in extremely rare cases.</td><td><u>Recommendation: check site for selective sanitary felling in field (before or during harvesting).</u>
In hardwoods output of A, B and C assortments is unreasonable in majority of cases.</td></tr>
<tr><td rowspan="2">Risk factor 7. What are the dynamics of change in the area of forest dieback in terms of reasons over 5 years
Risk factor 8. Does the satellite imagery show no increasing signs of tree decline/dieback over 5 years/ Do certificates (acts) of forest pathology inspection of stands over 5 years indicate the absence of massive forest decline?
Risk factor 9. What are the dynamics of pests and</td><td colspan="2"><u>Documents on request should confirm the forest dieback:</u>
• Reports of deterioration of forest health indicated forest decline/dieback over a few year
• State forest protection enterprise report (on request)
• Additional study of reason of forest dieback (e.g. involving research staff) has been done avoiding conflicts of interest among institutions)</td></tr>
<tr><td>The FME strictly adheres to the principle of giving priority to maintaining forest resilience and forest species and genetic richness, structural diversity, resistance to biotic and abiotic stress (watershed management erosion control, effective fire control, pest and disease control).
Preventive measures are commonly taken as routine steps in practical</td><td>Controversial increase – e.g. ecological factors, climate change, bark beetles in broadleaved forests and so on simultaneously with no reports deterioration of forest health
No signs of forest dieback on satellite imagery
No data of forest dieback on sanitary report of FME / state forest protection service
The modern forest protection measures</td></tr>
</table>

Questions	Specified risk is refuted	Specified risk is confirmed
diseases over 5 years?	forestry for insect and disease control to lessen anticipated losses.	(besides sanitary felling) have not been applied over five years Recommendation: check site for sanitary felling in field (before or during harvesting)
What are the reasons for sanitary cuts by the area over 5 years? *Risk factor 10*. What are the dynamics of area of sanitary cuts over 5 years? *Risk factor 11.* Previous non-conformities regarding sanitary cuts are absent *Risk factor 12.* Absence of unjustified landscape cuts or forest restorative cuts (especially in NRF and for old forest) *Risk factor 13.* Does the satellite imagery/SF map indicate the absence of a series of clear cut areas of about 0.9 ha within the same compartment (e.g., 10 sites located close to each other)	Documents on request should confirm the justified reason for sanitary felling: • Reports of deterioration of forest health indicated forest decline/dieback over a few year • State forest protection enterprise report (on request) • Data in accounting materials for pests and forest diseases (book) forest decline/dieback over a few year • Additional study of reason of forest dieback (e.g. involving research staff) has been done	
	Permanent trend (or small fluctuations) in pest/disease outbreaks simultaneously with data on study of pest population/disease frequency FME always finds the right balance between the forest conservation and use of forest resources in an effort to reduce the sanitary clear cut, risks of sanitary felling commercialization, aiming to improve forest resilience and to prefer applying selective sanitary felling where appropriate. Reasonable increase – e.g. forest fire mentioned in Forest fire monitoring materials; the certificate about forest fire; the book of monitoring of forest fires.	Unreasonable growing trend of forest dieback No reports of deterioration of forest health over 5 years? No signs of forest dieback on satellite imagery over 5 years? No data of forest dieback on sanitary report of FME / state forest protection service Recommendation: check site for sanitary felling in field (before or during harvesting)
Risk factor 14. What is the annual forest use intensity over 5 years?	Documents on request should confirm the justified reason: • Form 3LG and 10LG (on request) • List of measures to improve the forest health condition (planned/approved) and accompanied documents	
	Form 3LG: increase in timber harvest per 1 ha could be explained by e.g. salvage logging – sanitary felling after disasters)	
Risk factor 15. Media publications about violations in the FMEs	Documents on request: For sanitary felling for sites mentioned in media investigation: • Reports of deterioration of forest health indicated forest decline/dieback over a few year • State forest protection enterprise report (on request) • Additional study of reason of forest dieback (e.g. involving research staff) has been done avoiding conflicts of interest among institutions	
	Certification (act) of forest pathology inspection of stands and Reports of deterioration of forest health indicate necessity of sanitary felling Additional study of reason of forest dieback and sanitary felling At the local and national level, FME activities broaden over time to include	Sanitary felling can be replaced by landscape felling, or reforestation felling (if sanitary felling were not approved, especially in NRF, OGF etc No local infrastructural programmes for establishment of resistant forest. Recommendation: check mentioned n

Questions	Specified risk is refuted	Specified risk is confirmed
	a wider variety of activities such as (1) the creation of community awareness of forest health, (2) conducting needs assessments and planning exercises for sanitary felling, (3) involving villagers/community in the tree planting; (4) involving community in forest health monitoring and infrastructural programmes for establishment of resistant forest.	media study sites for sanitary felling in field (before or during harvesting)
Risk factor 16. Is there an increase in the volume of processing by own facilities and/or in terms of waste raw materials?	Increase in volumes of products output (on request) could be reasonably explained.	Increase in volumes of products output (on request) could not be justified.
Risk factor 17. Are there errors in estimating volumes and determining qualitative and dimensional characteristics?	Selective inspection by independent experts of the cutting sites in field could justify errors.	Selective inspection by independent experts of the cutting sites in field could not justify errors.
Risk factor 18. Have state control bodies identified violations of stand inventory? *Risk factor 19.* Are there any violations of selling products to buyers identified related to qualitative and dimensional characteristics?	Presence of revoked instructions in the register of court decisions.	No criminal cases/other violations overturned.
Risk factor 20. Are there facts and a growing trend of the detection of unauthorized felling?	Presence of revoked instructions in the register of court decisions.	No criminal cases/other violations overturned.
Risk factor 21. Are there any facts of workers' prosecution related to illegal logging?	No or downward trend	Upward trend
Risk factor 22. Media publications about violations in the FMEs	No or downward trend in publications related to professional investigations with available facts of violations over the last year.	Increase in publications related to professional investigations with available facts of violations over the last year.
Risk factor 23. Are there any facts of violations of other applicable legislation (environmental aspects, labor legislation, occupational safety)?	No or downward trend	Upward trend
Risk factor 24. Are there areas where cutting are identified without permits detected by remote sensing?	No or downward trend	Upward trend

5. Recommendations based on risks for evaluation

STEP 3: FIELD EVALUATION

Field evaluation should verify compliance of Thinning and Sanitary Felling with the Ukrainian Law and FSC standards whether Thinning and Sanitary Felling have been conducted in line with best practices and official purpose which is ecosystem health for of sanitary felling and thinning for tree growth promotion.

For site selection, auditor should choose at least 5 sites (before/during harvesting) from List of measures to improve the forest health condition (planned/approved) (webpage of FME) with controversial reason and absence/low intensity forest decline/dieback.

In general, auditors should look at the typical signs and symptoms indicating/ confirming whether the stated reason for sanitary felling can be confirmed

Some considerations for the audit:

Field visits should occur from March to September and before or during harvesting, and also, given the fact that from April 1 to June 15, any activities are prohibited in forests;

The sites to prioritize for the visit vary depending on the status of logging (pending for logging, logging in progress, harvested); harvested sites should be excluded from field visit;

Some dead wood should be present in the harvesting areas, especially in NRF, except where it is inappropriate in terms of fire safety or safety of visitors.

SITE SELECTION:

The auditors should use some criteria to prioritize the field visits and define the sampling from List of measures to improve the forest health condition:

- controversial sanitary felling reasons (table)
- clear cuts felling
- the highest difference between declared pre-cutting volume and the actual cutting volume
- the highest number of living trees (III-IV Forest health condition)
- check the absence/presence and intensity forest decline/dieback using satellite images, pictures for this sites and select 5 sites with smallest/absent forest decline symptoms (roughly, auditor can check 5 sites per day)

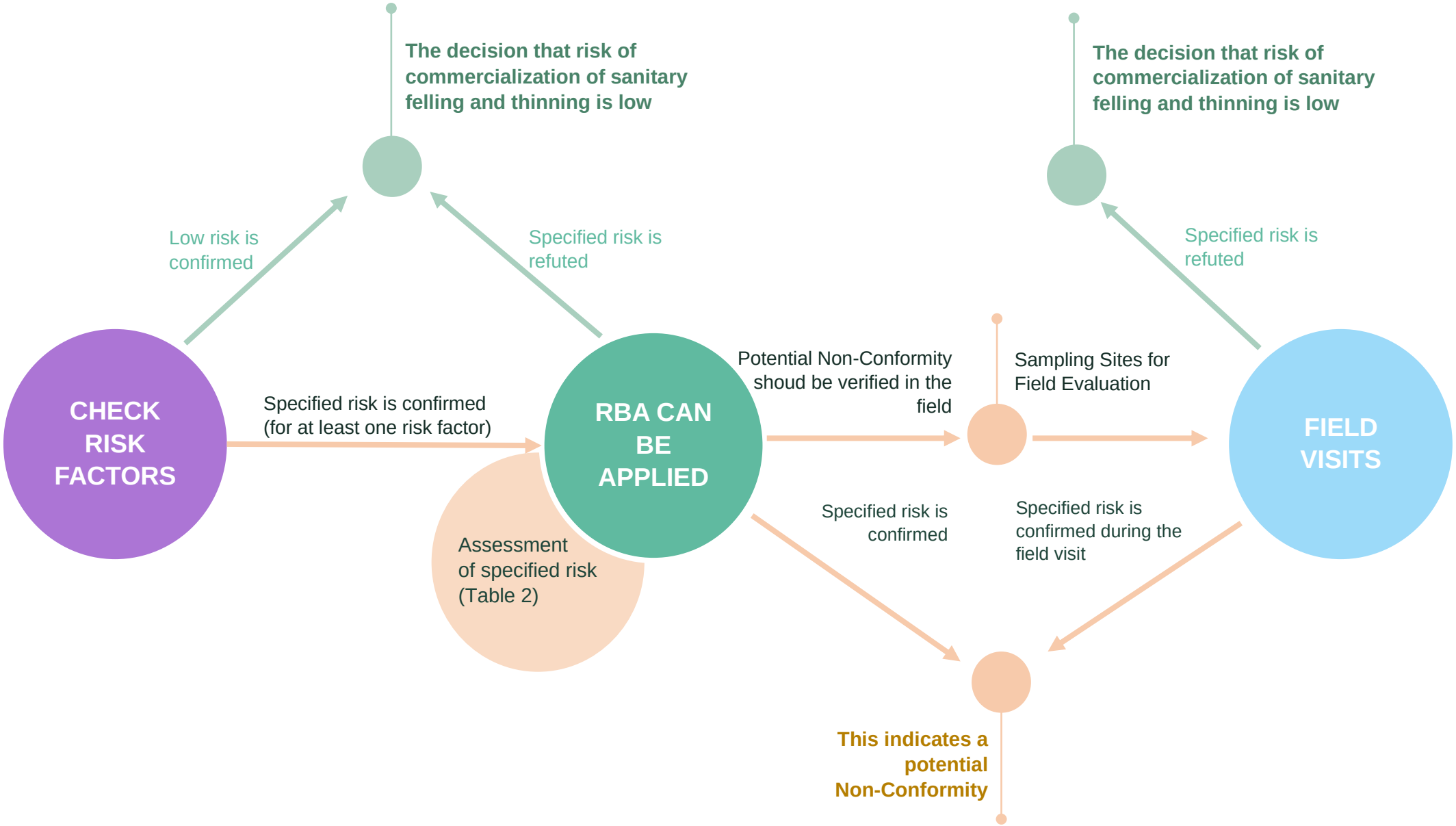

Figure 1 Example of algorithm of risk-adjusted auditing related to issue of commercialization of sanitary felling

Table 3 Controversial reason and verification methods during field visit before harvesting

Reason	Specific locations on where to verify the reason	Verification before/during harvesting
Root rot/ Wood decay fungi Root rot by Armillaria (honey fungi)	• *Stumps and under roots on logging sites* • *Remaining retention trees on the logging site* • *Marked trees for sanitary clear-cutting on the logging site* • *Neighboring untouched forest stands* • *series of satellite images*	***The main verifier: trees for sanitary logging dying or dead*** *Can you see fruit bodies of wood decay fungi on logs?* *Are the rot of reddish-brown coloration/wood discoloration also visible?*
Complex ecological and climatic factors	• *Marked trees for sanitary clear-cutting on the logging site* • *Neighboring untouched forest stands* • *Series of satellite images*	***The main verifier: trees for sanitary logging unhealthy, dying or dead*** *Can you see that at least 50% trees dying and dead?* *Can you see that remaining trees are weakened and dying and only a few living trees are there?*
Fluctuation of groundwater.	• *Marked trees for sanitary clear-cutting on the logging site* • *Neighboring untouched forest stands* • *Series of satellite images*	***The main verifier: trees for sanitary logging unhealthy, dying or dead*** *Understory and herbal cover could be also dying or dead*
Bark beetle on hardwood trees	• *Pile of harvested logs (tops, bottoms, bark, etc)* • *Logging residues (branches, bark, foliage)* • *Remaining retention trees on the logging site*	***The main verifier: trees for sanitary logging unhealthy, dying or dead***

Table 4 Description of technical tools for remote and field evaluation

Method	Description
Analysis of basic document	Check absence and validity of Felling license, certificate on forest pathology survey, list of approved sanitary and health measures in the current year as well as other documents related to sanitary felling (see table of basic documents). FMEs must keep records of this data.
Field visits	Field visits should occur from March to September (preferably) and before or during harvesting, and also, given the fact that from April 1 to June 15, any activities, including SF, are prohibited in forests; Some dead wood should be present in the harvesting areas, especially in NRF, except where it is inappropriate in terms of fire safety or safety of visitors. The most serious problem of all is designation of healthy trees for sanitary felling as, for example, some healthy trees marked for felling as weakened or dying. Still, according to the current legislation, sanitary logging should include only damaged trees by biotic/abiotic factors. According to the law of Ukraine (Law of Ukraine About access to public information № 32, 2011 with amendments Sanitary rules in the forest in Ukraine), Forest managers must publish the location of logging sites, so auditors can access this information (https://lk.ukrforest.com/forest-tickets/index) and prioritize the sites for the visit (https://lk.ukrforest.com/map/general).
GIS, satellite images and Public Data for logging	*GIS software* can be used in both planning and conducting the audit to precisely identify the area of the forest that will be applied for sanitary logging, to locate any deforestation, to investigate illegal logging, and to assess forest fires and illegal land use. Satellite data (Sentinels, Landsat and other providers) for monitoring variability in forest land with wide swath width (290 km) and high revisit time (10 days at the equator with one satellite, and 5 days with 2 satellites under cloud-free conditions) https://sentinel.esa.int/web/sentinel/about-sentinel-online Websites such as Geoportal "Forest of Ukraine" (https://forestry.org.ua/) and "Forest in a smartphone" (https://lk.ukrforest.com/) and other open resources can be used for accessing and operating geospatial information on forest management in conjunction with data remote sensing of the Earth. The main source of information is both taxation and cartographic (summarized on a map of Ukraine) data on continuous forest management including sanitary felling. For each forest site, the type of current felling and its description are available.
Forest pathology assistance	Such assistance could be needed when there are identified risk factors for sanitary felling (field visit) and forest pathologist/entomologist (or other special experts) need to be involved for audit, but expert participation should be done by avoiding conflict of interest with FME (e.g. specialists from State forest protection services or other FMEs may have a conflict of interest with FME).

Recommendation:

- When combining FMEs (two or more), the analysis should be done for both enterprises, i.e. the history of 5 years should be studied as the history of two separate FME.
- In case of specified risks were not refuted and risk absence was not confirmed, the next additional audit should be held unannounced.

Risk mitigation measures (for FME)

Managing for risk should be based on the precautionary approach focusing on conserving forest biodiversity, forest resilience and forest productivity and the prosperity of forest-dependent communities in the long term.

1. Sustainable forest management. In terms of forest conversation and the establishment of the adapted resilient forests, FME may focus on decreasing sanitary clear cuts, giving greater attention to the protection of forest biodiversity and to ecosystem processes, recognizing the long-term importance of forests to the environment and forest-dependent communities.

2. **Integrated forest protection strategy**.

Table 5 Risk mitigation measures

Sustainable Forest management	Integrated forest protection strategy
FME thinks in long time scales, in line with the long life of their renewable forest stands. FME should conserve biological diversity, maintain the health and productive capacity of forest ecosystems and their role in watersheds and the global carbon cycle In established forests the selective cutting of marketable timber, taking either one tree at a time (single-tree selection) or a number of trees in a cluster (group selection) and leaving gaps in which replacements can grow up from natural seedlings, can prove economical and also ensure the best possible use of available soil, light, and growing space. FME should maximise the long-term multiple social and economic benefits of forest use, including conduction partial-cutting techniques more than clear-cutting (sustained trend to decrease sanitary clear-cutting excluding cases after disaster)	The multiple-use integrated forest protection management concept is the guiding principle for FME. Minimise insecticide demand by tapping the full potential of all non-chemical methods. FME applies complex biological and ecological approaches and the protection of forests against insects and diseases emphasis on preventive measures (Prevention – Identification – Action). Combination of silvicultural, biological, mechanical/technical and chemical measures Utilisation of all ecological effects The FME use and work on follow data: date/ season in which the storm occurs, amount of windthrow, tree species composition in the stands and proportions within windthrow, density of pest population, weather development especially after the calamity; overall state of forest health

ANNEX 1: DATA COLLECTION TEMPLATE: CORRECTIVE ACTION REQUEST ANALYSIS

№	Column name	Data type	Minimal set	Description
1	Information from	Date	+	Date when data was received (date of actualization)
2	License code	Text	+	FSC-C followed by 6 digits
3	Certificate code	Text	+	Follow the format: XXX-XXX-######
4	Certification body	Text	+	Code of Certification Body who provided the certification services.
5	Type of certificate	Text	+	The second letters set of Certificate Code which refers to the type of certification - FM (Forest Management), COC (Chain of Custody), CW (Controlled Wood) or FM/COC (combined Forest Management and Chain of Custody), CW/FM
6	Type of SLIMF certificate	Text		Type of SLIMF certificate
7	Number of group members	Text		Number of group members
8	Names of group members	Text		Names of group members
9	Certificate status	Text	+	Certificate Status: Valid, Suspended, Suspended and Blocked, Terminated, Terminated and Blocked
10	License status	Boolean		License Status: true, false
11	CW	Boolean		Controlled wood: true, false
12	Organization name	Text	+	Organization Name
13	Local name	Text		Organization Name in Local Language
14	Site/Member	Boolean		Site/Member: true, false
15	Country or Area	Text	+	World Countries (Generalized) https://www.arcgis.com/home/item.html?id=2b93b06dc0dc4e809d3c8db5cb96ba69
16	Address in a	Text	+	Address in a single line: Street Address, Address Line 2, City,

№	Column name	Data type	Minimal set	Description
	single line			State/Province/Region, Postal/Zip Code, Country
17	Street name	Text		Street name
18	Address line 2	Text		Address Line 2
19	City	Text		City
20	State/Province/ Region	Text	+	State/Province/Region
21	Postal/Zip code	Text		Postal/Zip Code
22	Latitude	Text	+	Latitude in DMS
23	Longitude	Text	+	Longitude in DMS
24	Address in a single line (local language)	Text		Address in a single line (local language): Street Address, Address Line 2, City, State/Province/Region, Postal/Zip Code, Country
25	Street name (local language)	Text		Street name (local language)
26	Address line 2 (local language)	Text		Address Line 2 (local language)
27	City (local language)	Text		City (local language)
28	State/Province/ Region (local language)	Text		State/Province/Region (local language)
29	ID Code	Text	+	ID Code
30	Forest Zone (report)	Text		Forest Zone (report)
31	FAO Global Ecological Zoning Level 1 – Domain	Text		See http://www.fao.org/3/ap861e/ap861e00.pdf

№	Column name	Data type	Minimal set	Description
32	FAO Global Ecological Zoning Level 2 – Global Ecological Zone	Text		See http://www.fao.org/3/ap861e/ap861e00.pdf
33	WWF Biome	Text		See https://en.wikipedia.org/wiki/List_of_terrestrial_ecoregions_(WWF)
34	WWF Ecoregion	Text		See https://en.wikipedia.org/wiki/List_of_terrestrial_ecoregions_(WWF)
35	Local nature-agricultural zone	Text		Local nature-agricultural zone
36	Website	Text		Website URL
37	CH management area total, ha	Decimal Number	+	CH management area total, ha
38	CH management area (forests), ha	Decimal Number		CH management area (forests), ha
39	First issue date	Date	+	First Issue Date
40	Last issue date	Date	+	Last Issue Date
41	Suspension date	Date	+	Suspension Date
42	Termination date	Date	+	Termination Date
43	Expiry Date	Date	+	Expiry Date
44	Ownership type	Text	+	Public, Communal, Private or Other ownership
45	Link to the document	Text		Link to the document on info.fsc.org
46	Evaluation	Text	+	Document Code, Version and Title

№	Column name	Data type	Minimal set	Description
	standard			
47	The starting date of the audit	Date		The starting date of the audit
48	The ending date of the audit	Date		The ending date of the audit
49	Date of report	Date	+	Date of report (year)
50	Date of report approval	Date		Date of report approval
51	Date of report modification	Date		Date of report modification
52	Type of audit	Text	+	Type of audit: Main evaluation, Surveillance, Re-evaluation
53	Number of surveillance audit	Whole Number	+	Number of surveillance audit
54	Maximum allowable annual cut, cubic meters	Decimal Number		Maximum allowable annual cut, thousand m^3
55	List/Number of auditors	Text		List/Number of auditors
56	Record of CAR	Boolean	+	The presence of CARs: true, false
57	More than one requirement violation in the CAR description	Boolean		More than one requirement violation in the CAR description
58	CAR number	Whole Number	+	CAR Number in numerical order
59	CAR code	Text	+	CB CAR code
60	Type of CAR	Text	+	Type of Corrective Action Request (CAR): Major or Minor

№	Column name	Data type	Minimal set	Description
61	Principle	Whole Numbe	+	Principle Number
62	Criteria	Whole Number	+	Criterion Number
63	Indicator	Whole Number	+	Indicator Number
64	CAR detail	Text		Comments indicator
65	Section of the standard	Text	+	Number of the Paragraph in the Standard
66	Requirement	Text		Requirement
67	Requirement (local language)	Text		Requirement (local language)
68	Non-compliance	Text		Non-compliance
69	Non-compliance (local language)	Text		Non-compliance (local language)
70	Objective evidence	Text		Objective evidence
71	Objective evidence (local language)	Text		Objective evidence (local language)
72	Identification date	Text		Identification date
73	Deadline	Date		Closure deadline (date)
74	Status	Text		Status: Closed, Open
75	Closure date	Text		Closure date
76	Close-out evidence	Text		Close-out evidence

№	Column name	Data type	Minimal set	Description
77	Close-out evidence (local language)	Text		Close-out evidence (local language)
78	Comments	Text		Comments
79	Technical comments	Text		Technical Comments

ANNEX 2: DATA COLLECTION TEMPLATE: MEDIA ANALYSIS

№	Column name	Data type	Minimal set	Description
1	Information from	Date	+	Date when data was received (date of actualization)
2	License code	Text	+	FSC-C followed by 6 digits
3	Certificate code	Text	+	Follow the format: XXX-XXX-######
4	Certification body	Text	+	Code of Certification Body who provided the certification services.
5	Type of certificate	Text	+	The second letters set of Certificate Code which refers to the type of certification - FM (Forest Management), COC (Chain of Custody), CW (Controlled Wood) or FM/COC (combined Forest Management and Chain of Custody)
6	Type of SLIMF certificate	Text		Type of SLIMF certificate
7	Number of group members	Text		Number of group members
8	Names of group members	Text		Names of group members
9	Certificate status	Text	+	Certificate Status: Valid, Suspended, Suspended and Blocked, Terminated, Terminated or Blocked
10	License status	Boolean		License Status: true, false
11	CW	Boolean		Controlled wood: true, false
12	Organization name	Text	+	Organization Name
13	Local name	Text		Organization Name in Local Language
14	Site/Member	Boolean		Site/Member: true, false
15	Country or Area	Text	+	World Countries (Generalized) https://www.arcgis.com/home/item.html?id=2b93b06dc0dc4e809d3c8db5cb96ba69
16	Address in a single line	Text		Address in a single line: Street Address, Address Line 2, City, State/Province/Region, Postal/Zip Code, Country
17	Street name	Text		Street name
18	Address nine 2	Text		Address Line 2
19	City	Text		City
20	State/Province/Region	Text	+	State/Province/Region
21	Postal/Zip code	Text		Postal/Zip Code

№	Column name	Data type	Minimal set	Description
22	Latitude	Text	+	Latitude
23	Longitude	Text	+	Longitude
24	Address in a single line (local language)	Text		Address in a single line (local language): Street Address, Address Line 2, City, State/Province/Region, Postal/Zip Code, Counry
25	Street name (local language)	Text		Street name (local language)
26	Address line 2 (local language)	Text		Address Line 2 (local language)
27	City (local language)	Text		City (local language)
28	State/Province/Region (local language)	Text		State/Province/Region (local language)
29	ID Code	Text	+	ID Code
30	Forest Zone (report)	Text		Forest Zone (report)
31	FAO Global Ecological Zoning Level 1 – Domain	Text		See http://www.fao.org/3/ap861e/ap861e00.pdf
32	FAO Global Ecological Zoning Level 2 – Global Ecological Zone	Text		See http://www.fao.org/3/ap861e/ap861e00.pdf
33	WWF Biome	Text		See https://en.wikipedia.org/wiki/List_of_terrestrial_ecoregions_(WWF)
34	WWF Ecoregion	Text		See https://en.wikipedia.org/wiki/List_of_terrestrial_ecoregions_(WWF)
35	Local nature-agricultural zone	Text	+	Local nature-agricultural zone
36	Website	Text		Website URL
37	CH management area total, ha	Decimal Number	+	CH management area total, ha
38	CH management area (forests), ha	Decimal Number		CH management area (forests), ha
39	First issue date	Date	+	First Issue Date
40	Last issue date	Date	+	Last Issue Date

№	Column name	Data type	Minimal set	Description
41	Suspension date	Date	+	Suspension Date
42	Termination date	Date	+	Termination Date
43	Expiry Date	Date	+	Expiry Date
44	Ownership type	Text	+	Public, Communal, Private or Other ownership
45	Keyword	Text	+	Keyword for search
46	Publication URL	Text	+	Publication URL
47	Publication Resource name	Text	+	Publication Resource name
48	Publication Title	Text	+	Publication Title
49	Publication Body	Text	+	Publication Body
50	Date of publication	Date	+	Date of publication
51	Type of source	Text	+	Type of source: Youtube, Reddit, Facebook, Twitter, News, Instagram, web
52	Sentiment	Text	+	Sentiment: Negative, Positive or Neutral
53	Focus area	Text	+	Zone of attention
54	Technical Comments	Text		Technical Comments

ANNEX 3: DATA COLLECTION TEMPLATE: FOREST MANAGEMENT ANALYSIS

№	Column name	Data type	Minimal set	Description
1	Information from	Date	+	Date when data was received (date of actualization)
2	License code	Text	+	FSC-C followed by 6 digits
3	Certificate code	Text	+	Follow the format: XXX-XXX-######
4	Certification body	Text	+	Code of Certification Body who provided the certification services.
5	Type of certificate	Text	+	The second letters set of Certificate Code which refers to the type of certification - FM (Forest Management), COC (Chain of Custody), CW (Controlled Wood) or FM/COC (combined Forest Management and Chain of Custody)
6	Type of SLIMF certificate	Text		Type of SLIMF certificate
7	Number of group members	Text		Number of group members
8	Names of group members	Text		Names of group members
9	Certificate status	Text	+	Certificate Status: Valid, Suspended, Suspended and Blocked, Terminated, Terminated or Blocked
10	License status	Boolean		License Status: true, false
11	CW	Boolean		Controlled wood: true, false
12	Organization name	Text	+	Organization Name
13	Local name	Text		Organization Name in Local Language
14	Site/Member	Boolean		Site/Member: true, false
15	Country or Area	Text	+	World Countries (Generalized) https://www.arcgis.com/home/item.html?id=2b93b06dc0dc4e809d3c8db5cb96ba69
16	Address in a single line	Text		Address in a single line: Street Address, Address Line 2, City, State/Province/Region, Postal/Zip Code, Counry
17	Street name	Text		Street name
18	Address nine 2	Text		Address Line 2
19	City	Text		City

№	Column name	Data type	Minimal set	Description
20	State/Province/Region	Text	+	State/Province/Region
21	Postal/Zip code	Text		Postal/Zip Code
22	Latitude	Text	+	Latitude
23	Longitude	Text	+	Longitude
24	Address in a single line (local language)	Text		Address in a single line (local language): Street Address, Address Line 2, City, State/Province/Region, Postal/Zip Code, Country
25	Street name (local language)	Text		Street name (local language)
26	Address line 2 (local language)	Text		Address Line 2 (local language)
27	City (local language)	Text		City (local language)
28	State/Province/Region (local language)	Text		State/Province/Region (local language)
29	ID Code	Text	+	ID Code
30	Forest Zone (report)	Text		Forest Zone (report)
31	FAO Global Ecological Zoning Level 1 – Domain	Text		See http://www.fao.org/3/ap861e/ap861e00.pdf
32	FAO Global Ecological Zoning Level 2 – Global Ecological Zone	Text		See http://www.fao.org/3/ap861e/ap861e00.pdf
33	WWF Biome	Text		See https://en.wikipedia.org/wiki/List_of_terrestrial_ecoregions_(WWF)
34	WWF Ecoregion	Text		See https://en.wikipedia.org/wiki/List_of_terrestrial_ecoregions_(WWF)
35	Local nature-agricultural zone	Text	+	Local nature-agricultural zone
36	Website	Text		Website URL

№	Column name	Data type	Minimal set	Description
37	CH management area total, ha	Decimal Number	+	CH management area total, ha
38	CH management area (forests), ha	Decimal Number	+	CH management area (forests), ha
39	First issue date	Date	+	First Issue Date
40	Last issue date	Date	+	Last Issue Date
41	Suspension date	Date	+	Suspension Date
42	Termination date	Date	+	Termination Date
43	Expiry Date	Date	+	Expiry Date
44	Ownership type	Text	+	Public, Communal, Private or Other ownership
45	Reporting Year	Text	+	Reporting Year
46	Total timber harvested, cubic meters	Decimal Number	+	Total timber harvested, thousand m^3
47	Total timber harvested, ha	Decimal Number	+	Total timber harvested, ha
48	Total merchantable timber harvested, cubic meters	Decimal Number	+	Total merchantable timber harvested, m^3
49	Total timber harvested by contractors, cubic meters	Decimal Number		Total timber harvested by contractors, m^3
50	Total merchantable timber harvested by contractors, cubic meters	Decimal Number		Total merchantable timber harvested by contractors, m^3
51	Total timber harvested by contractors, ha	Decimal Number		Total timber harvested by contractors, ha
52	Total timber harvested in course of Final felling, cubic meters	Decimal Number		Total timber harvested in the course of Final felling, m^3
53	Total merchantable	Decimal Number		Total merchantable timber harvested in the course of Final felling, m^3

№	Column name	Data type	Minimal set	Description
	timber harvested in course of Final felling, cubic meters			
54	Total timber harvested in course of Final felling, ha	Decimal Number		Total timber harvested in course of Final felling, ha
55	Total timber harvested in course of Final felling by clearcutting, cubic meters	Decimal Number		Total timber harvested in course of Final felling by clearcutting, m^3
56	Merchantable timber harvested in course of Final felling by clearcutting, cubic meters	Decimal Number		Merchantable timber harvested in course of Final felling by clearcutting, m^3
57	Total timbered harvested in course of Final felling by clearcutting, ha	Decimal Number		Total timbered harvested in course of Final felling by clearcutting, ha
58	Total timber harvested in course of Final felling by shelterwood system, cubic meters	Decimal Number		Total timber harvested in course of Final felling by shelterwood system, m^3
59	Merchantable timber harvested in course of Final felling by shelterwood system, cubic meters	Decimal Number		Merchantable timber harvested in course of Final felling by shelterwood system, m3
60	Total timber harvested in course of Final felling by shelterwood system, ha	Decimal Number		Total timber harvested in course of Final felling by shelterwood system, ha
61	Total timber	Decimal		Total timber harvested in course of Final felling by selective

№	Column name	Data type	Minimal set	Description
	harvested in course of Final felling by selective cuts, cubic meters	Number		cuts, m^3
62	Merchantable timber harvested in course of Final felling by selective cuts, cubic meters	Decimal Number		Merchantable timber harvested in course of Final felling by selective cuts, m^3
63	Total timber harvested in course of Final felling by selective cuts, ha	Decimal Number		Total timber harvested in course of Final felling by selective cuts, ha
64	Total timber harvested in course of Final felling by other methods, cubic meters	Decimal Number		Total timber harvested in course of Final felling by other methods, m^3
65	Merchantable timber harvested in course of Final felling by other methods, cubic meters	Decimal Number		Merchantable timber harvested in course of Final felling by other methods, m^3
66	Total timber harvested in course of Final felling by other methods, ha	Decimal Number		Total timber harvested in course of Final felling by other methods, ha
67	Total timber harvested in course of Sanitary cuts, cubic meters	Decimal Number		Total timber harvested in course of Sanitary cuts, m^3
68	Total merchantable timber harvested in course of Sanitary cuts, cubic meters	Decimal Number		Total merchantable timber harvested in course of Sanitary cuts, m^3
69	Total merchantable	Decimal Number		Total merchantable timber harvested in course of Sanitary cuts, ha

№	Column name	Data type	Minimal set	Description
	timber harvested in course of Sanitary cuts, ha			
70	Total timber harvested in course of Sanitary cuts by clearcutting, cubic meters	Decimal Number		Total timber harvested in course of Sanitary cuts by clearcutting, m^3
71	Merchantable timber harvested in course of Sanitary cuts by clearcutting, cubic meters	Decimal Number		Merchantable timber harvested in course of Sanitary cuts by clearcutting, m^3
72	Total timber harvested in course of Sanitary cuts by clearcutting, ha	Decimal Number		Total timber harvested in course of Sanitary cuts by clearcutting, ha
73	Total timber harvested in course of Sanitary cuts by selective cuts, cubic meters	Decimal Number		Total timber harvested in course of Sanitary cuts by selective cuts, m^3
74	Merchantable timber harvested in course of Sanitary cuts by selective cuts, cubic meters	Decimal Number		Merchantable timber harvested in course of Sanitary cuts by selective cuts, m^3
75	Total timber harvested in course of Sanitary cuts by selective cuts, ha	Decimal Number		Total timber harvested in course of Sanitary cuts by selective cuts, ha
76	Total timber harvested in course of Thinning, cubic meters	Decimal Number		Total timber harvested in course of Thinning, m^3
77	Total merchantable timber harvested in course of	Decimal Number		Total merchantable timber harvested in course of Thinning, m^3

№	Column name	Data type	Minimal set	Description
	Thinning, cubic meters			
78	Total merchantable timber harvested in course of Thinning, ha	Decimal Number		Total merchantable timber harvested in course of Thinning, ha
79	Total timber harvested in course of Thinning, cubic meters	Decimal Number		Total timber harvested in course of Pre-commercial thinning, m^3
80	Total merchantable timber harvested in course of Thinning, ha	Decimal Number		Total merchantable timber harvested in course of Pre-commercial thinning, ha
81	Total timber harvested in course of Thinning, cubic meters	Decimal Number		Total timber harvested in course of Commercial thinning, m^3
82	Total merchantable timber harvested in course of Thinning, ha	Decimal Number		Total merchantable timber harvested in course of Commercial thinning, ha
83	Total timber harvested in course of Other types of cuts, cubic meters	Decimal Number		Total timber harvested in course of Other types of cuts, m^3
84	Total merchantable timber harvested in course of Other types of cuts, cubic meters	Decimal Number		Total merchantable timber harvested in course of Other types of cuts, m^3
85	Total merchantable timber harvested in course of Other types of cuts, ha	Decimal Number		Total merchantable timber harvested in course of Other types of cuts, ha

№	Column name	Data type	Minimal set	Description
86	Total timber harvested in course of Other types of cuts by clearcutting, cubic meters	Decimal Number		Total timber harvested in course of Other types of cuts by clearcutting, m^3
87	Merchantable timber harvested in course of Other types of cuts by clearcutting, cubic meters	Decimal Number		Merchantable timber harvested in course of Other types of cuts by clearcutting, m^3
88	Total timber harvested in course of Other types of cuts by clearcutting, ha	Decimal Number		Total timber harvested in course of Other types of cuts by clearcutting, ha
89	Total timber harvested in course of Other types of cuts by other methods, cubic meters	Decimal Number		Total timber harvested in course of Other types of cuts by other methods, m^3
90	Merchantable timber harvested in course of Other types of cuts by other methods, cubic meters	Decimal Number		Merchantable timber harvested in course of Other types of cuts by other methods, m3
91	Total timber harvested in course of Other types of cuts by other methods, ha	Decimal Number		Total timber harvested in course of Other types of cuts by other methods, ha
92	Total timber harvested in course of non-forestry activities, cubic meters	Decimal Number		Total timber harvested in course of non-forestry activities, m^3
93	Total timber harvested in course of non-forestry uses	Decimal Number		Total timber harvested in course of non-forestry uses activities, m^3

№	Column name	Data type	Minimal set	Description
	activities, cubic meters			
94	Total timber harvested in course of non-forestry uses activities, ha	Decimal Number		Total timber harvested in course of non-forestry uses activities, ha
95	Average timber stock change per 1 ha, cubic meters	Decimal Number	+	Average timber stock change per 1 ha, m^3
96	List of data sources	Text	+	List of data sources
97	Comments for calculation	Text	+	Comments for calculation
98	Reference to the data sources	Text	+	Reference to the data source
99	Technical Comments	Text		Technical Comments

ANNEX 4: TASK FORCE COMPOSITION

Name	Organization/Company*	Position
Roman Volosyanchuk	NGO Ecosphere	Expert
Andrii Khromiak	Control Union Certifications Ukraine	Client manager
Sergiy Rozvod	Forest certification LLC. (Legallis LLC)	Expert-auditor
Andriy Plyha	WWF Ukraine	Forest Coordinator
Volodymyr Kovalyshyn	SGS Ukraine	Lead Auditor
Georgiy Bondaruk	NEPCon OÜ trading as Preferred by Nature	Forest Management and Chain of Custody Auditor
Kateryna Davydenko	Ukrainian Order "Sign of Honour" Research Institute of Forestry and Forest Melioration Named After g. M. Vysotsky	Senior Researcher

External observer:

Oksana Pavlishchuk (Associate Professor at National University of Life and Environmental Sciences of Ukraine)

**Task Force members and External Observer weren't official representing their organization's when making contributions to the discussion paper. They provided personal input as volunteers.*

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