

Meeting of the Programme Co-ordinating Group (PCG) of ICP Forests

Federal Ministry of Food and Agriculture, Wilhelmstr. 54, 10117 Berlin
12–13 November 2019

Minutes

Opening

- 1 Mr Ferretti (chair of ICP Forests) opened the meeting and welcomed all participants. The new chair of the EP Ambient Air Quality, Ms Pitar, was welcomed to her first PCG meeting by Mr Ferretti and the PCG group. Mr Ferretti then chaired the meeting on day 1, Mr Schwärzel (head of PCC) on day 2.
- 2 The agenda was adopted.

State of the manual revision

- 3 Mr Kirchner (PCC) presented an update on the ICP Forests Manual changes that have to be finalized by TFM 2020. He reminded the PCG on the time schedule for manual revisions agreed on at the TFM 2019. PCC is aware that some Manual changes will be discussed at the upcoming combined EP meeting in March 2020 and may cause some time delay in the schedule.
- 4 Mr Kirchner presented a summary of the Manual changes received by the PCC. So far, PCC received Manual changes from six expert panels. During his presentation, Mr Kirchner asked for feedback and verification whether PCC missed to mention important changes.
- 5 Mr Kirchner pointed out that, during the process of major Manual revisions, conflictive situations occurred. For future changes, the PCC will propose a guideline and template for tracking the decision-making of the expert panels on major Manual changes.
- 6 Regarding the changes in Manual Part X “Sampling and analysis of soil”, some countries expressed their surprise about the Manual change on crushing and sieving of mineral soil samples that was supposedly approved without their notice. The PCC asked Mr De Vos (chair of EP Soil and Soil solution) to send the Manual changes to the national experts again to clarify this issue before the Manual change is sent to the NFCs.
- 7 Mr Kirchner suggested documenting the reasons of Manual changes. Within a table in the Annex of each Manual part, the reason and advantage of the Manual change will be listed. The PCG recognized the importance and supported the inclusion of such a table.
- 8 Ms Kowalska (co-chair of WG QA/QC in Laboratories) reminded the PCG that new added parameters should also be included in the ring tests and should be communicated to the Working group QA/QC in Laboratories.

Future of forest monitoring plots

- 9 Under the topic of “Considering challenges for future Level II monitoring into design principles”, Mr Nicolas (NFC France, Level II) had been invited to present his draft proposal for updating Manual Part II. Based on the questionnaire to NFCs which was circulated to the NFCs and evaluated at the 35th Task Force Meeting in Ankara, Mr Nicolas presented the drawn

conclusions and objectives for the Manual Part II update, before going through the document of Manual Part II with the proposed changes.

- 10 The Mr Nicolas informed the PCG about the issue that, according to the Manual, deposition is an obligatory survey, but in reality it is not measured at all Level II sites. Mr Nicolas suggested adapting the standard. It was pointed out by the PCG that, initially, deposition was no mandatory variable on Level II, but was included as mandatory during the ICP Manual changes in 2010. Despite the knowledge that some Level II plots are not adequately equipped, the standard should be to measure N deposition at all Level II plots. The PCG agreed to stay with the current version, but to add a statement about the above mentioned discrepancy. Mr Nicolas will propose such a sentence in the revised version after the meeting.
- 11 Mr Nicolas presented his proposed new paragraph 4.2.2.5 “Possible options in case of severe disturbance or stand regeneration stage” pointing out that there are three options to choose from: 1, relocate the plot; 2, stay at the plot; and 3, do both. Mr Nicolas prepared a table of advantages and disadvantages for each of the options which should be included in the Manual Annex.
- 12 It was discussed whether clear preferences should be given in the Manual rather than solely points to consider. The PCG acknowledged that the decision is very country specific and might be subject to governmental regulations. Further, the task of Level II monitoring within the Air Convention is the study of cause-effect-relationships which can be fulfilled by all three options. To avoid a prolonged discussion within the paragraph text itself, the PCG agreed to revise and refine the wording and to put some parts to the Annex. The PCG decided that no preference on the choice of a specific option will be included in the Manual.
- 13 There was a general agreement by the PCG that whatever option is preferred by the countries, the communication about the decision and the following activities to the PCC and the appropriate information in the data accompanying report are the most important.
- 14 Mr Nicolas also prepared a proposal for some changes in the stand description data table. In the current version of the table, he identified several parameters which are not clearly defined. He proposed to remove the parameters “Coverage of tree layers” and “Canopy closure”, both described in 5% steps values, or to change the methodology for them. In addition, he proposed to include the parameters “Estimated year of final cutting” and “Canopy gaps” (in three classes). It was commented that changes in the stand description data table should be carefully chosen as it comprises parameters linked to the NEC Directive.
- 15 It was discussed how the parameter “Forest type” can be more specified. It was suggested to harmonize the classification with the European Forest Types. The need for a clear system on how to classify the forest was pointed out.
- 16 Mr Nicolas further proposed to enter a new chapter to the Manual Part II: Chapter 6 “Management operations and natural disturbances” covering the mandatory documentation of all noticeable forest management operations and natural disturbances in Level II plots in the data accompanying report (DAR). The form of the documentation was discussed as the DAR was not considered to be the right format. The idea of a log book was mentioned. Mr Kirchner also mentioned the possibility to set up a data table in the database. However, a list of the events that need to be documented is necessary. The PCG agreed on the introduction of this new chapter and on the first proposed paragraph regarding the obligation of event documentation.

Activities and agenda of the Scientific Committee

- 17 Mr Schaub (chair of the Scientific Committee) reported on the activities and on the meeting of the Scientific Committee in the morning.
- 18 Mr Schaub welcomed Ms Ukonmaanaho (co-chair of the EP Foliage and Litterfall) as a new member of the Scientific Committee. At the same time, he expressed his regrets on the withdrawal of Mr Rautio (chair of EP Foliage and Litterfall) from the Scientific Committee who had to resign due to other duties.
- 19 Members of the Scientific Committee took part in the *joint workshop on “Assessing and estimating ozone impacts”* with delegates of ICP Vegetation in April 2019 where it was agreed on a joint special issue of "Impacts of Ground Level Ozone Pollution on Forests: Assessment of the Influence of European Air Pollution Policy on Forest Ecosystems" in the journal "Forests".
- 20 Mr Schaub gave a summary on the *8th Scientific Conference 2019* in Ankara showing the feedback of the participants. The conference was judged as interesting, informative and inspiring, but the scientific value was rated 4.2 out of 5 points indicating that some improvement is needed. Proposed topics for the Scientific Conference 2020 are the following: climate change, air pollution, biodiversity and remote sensing among many others.
- 21 Mr Schaub presented highlights from their session “Long-Term Forest Monitoring Networks for Evaluating Responses to Environmental Change” at the *IUFRO XXV World Congress 2019* in Curitiba, Brazil. 11 out of 22 presentations were from ICP Forests. The presentations covered a broad range of scientific scope, methodologies, geographical extent etc., but only a few presentations were based on National Forest Inventory data. Mr Schaub concluded that the ICP Forests community should take advantage of this broad coverage and initiate co-operations starting with information exchange, working on individual themes or organizing follow-up meetings.
- 22 Mr Schaub then informed about upcoming meetings the SC is involved in. The *Workshop on Regional Impact Assessment* together with The Acid Deposition Monitoring Network in East Asia (EANET) will take place on 21st and 22nd of November in Niigata, Japan, and will promote information exchange and research activities on regional impact assessment.
- 23 Mr Schaub announced that the *9th ICPF Scientific Conference* on “Forest Monitoring to assess Forest Functioning under Air Pollution and Climate Change” will take place at the WSL in Birmensdorf, Switzerland, from 8th to 10th June 2020 back to back with the 36th ICP Forests Task Force Meeting (11th to 12th June 2020) and a *post conference excursion* to the Swiss Alps (12th to 13th June 2020). For the first time, the Scientific Conference will be accompanied with a *Summer School* in Davos, Switzerland, from 23rd to 29th August 2020 organized by ICP Forests, SwissForestLab and NFZ.forest.net. Next to Mr Schaub and Mr Vesterdal, Mr Verstraeten, Ms Sanders, Mr Potočić and Ms Gottardini volunteered for the conference panel. Mr Schaub asked for ideas on keynote speakers for the SC and it was suggested that these could be chosen from the IUFRO group. Mr Schaub further informed about current and up-coming initiatives, calls and conferences.
- 24 Finally, Mr Schaub presented the publication strategy and outreach of the SC. He set up a Researcher ID for ICP Forests (Author Identifier: F-7626-2019 at <http://apps.webofknowledge.com/>) resulting in 312 ICP Forests publications, a total-times-cited of 5847 and an h-Index of 38. He pointed out again the importance to promote ICP Forests output. He proposed to add a link on the ICP Forests website to the Researcher ID to allow an automated up-date of ICP Forests publications instead of manually up-dating the list of publications at the website through the PCC. The PCG agreed to have such a link on the website, however also to keep the existing list of publications for complementing both

sources. It was further agreed on that the link will be included on the ICP Forests account at researchgate.com.

- 25 Some concerns rose if setting up such a Researcher ID for a program or project is appropriate and common. Mr Schaub agreed to check this with other researchers and projects.
- 26 The publication strategy of the Scientific Committee is to foster collaboration with external partners, ICP Forests data papers and ICP Forests Briefs of each EP.

News from the data infrastructure

- 27 Mr Kirchner (PCC) presented the current status of the database revision. There had been several changes in the last few months comprising data tables of the surveys Deposition, Crown Condition, LAI and Ambient Air Quality. Within the Deposition survey, the forms DEO and DEM merged and some new optional attributes were integrated. Regarding Crown Condition, plot files were removed and in the data table C1 (Level I crown condition) formerly missing optional attributes were added to be finally in line with the ICP Forests Manual. The revision of the data tables of the LAI survey were more extensive as data tables have been restructured several times resulting in unique tables for certain time periods. Mr Kirchner set up a new data table comprising all data from the different forms starting in 1984. In the Ambient Air Quality survey, aggregated information from plot files had been removed and data availability report had been created.
- 28 Data availability reports (DAR) including number of measurements per monitoring period per variable were created for the surveys Ambient Air Quality and Meteorology and will be created for each survey. It should be noted that the aggregated information about measurement periods will be removed from plot files in all surveys as well.
- 29 Mr Kirchner became aware of the submission of data of air pollutant concentrations in the form DEA within the Deposition survey until 2008 instead of a submission in the Ambient Air Quality (AQ) survey. The table DEA was shifted to the folder “adds” of the AQ survey which you receive when downloading the survey. Mr Kirchner asked everybody to check the information/ data one is receiving and to inform him about parameters that belong to a new survey now. Members should approach him if old data cannot be found.
- 30 Mr Kirchner informed about the revision of LQA (Laboratory Quality Assurance/Quality Control) and ring test data. Both tables showed a high redundancy and many errors. At the 7th Meeting of the heads of the laboratories in Romania, it was decided that from now data will be submitted to PCC directly from the ring test organizers. Ring test data was removed from LQA forms and is now provided in the “adds” folder for all surveys.
- 31 Mr Kirchner showed different aspects that should be considered during the Manual Revision: 1, Not all specifications/ conditions can be easily implemented into test routines; 2, Standardized content of a DAR should be summarized as part of each manual; 3, The online documentation incl. links to dictionaries and explanatory items should be checked. At the end, an explanatory statement should explain each change of the manual to document the reason of the change. Mr Kirchner asked the EP chairs to approach him with problems of existing test routines.
- 32 Mr Kirchner further updated about his initiative to harmonize the representation of ICP Forests in DEIMS (LTER). He met the colleagues from DEIMS again and discussed the possibility of adding a partner network to DEIMS. A test run is prepared. For harmonization: 1, one site should be identical with one specific plot; 2, that the ICP Forests plot ID for DEIMS should be standardized; and 3, the used coordinates should be the same as in the ICP Forests database.

- 33 If ICP Forests can be added to DEIMS as a partner network, the ICP Forests plots will be visible and searchable within DEIMS. Mr Kirchner made clear that ICP Forests plots not automatically become LTER sites and do not follow the settings of these. One still needs to apply officially for becoming an LTER site.
- 34 Mr Schaub remarked that a project about the harmonization of LTER and ICP Forests had been approved for funding of 5 years. Mr Schaub himself is going to chair this task within the project.

Important information from the EPs and committees

- 35 Mr Ferretti reminded the EP chairs that last year he had asked them to check their mandates. This was to clarify the tasks of the EPs and to track the work of the EPs over time. Mr Potočić answered that regarding the EP Crown Condition and Damage Causes, this information is given in the report of the 25th anniversary of ICP Forests.
- 36 Mr Potočić (chair EP Crown Condition and Damage Causes) listed four new scientific papers published in 2019 using crown condition and damage causes data. Six new projects were started in 2019 of which three were external projects. Mr Potočić himself started a new internal project on the vitality of common beech in changing climate conditions (VitaClim).
- 37 Ms Pitar (chair EP Ambient Air Quality) showed five new publications using ozone data, and four publications that are in preparation. The data of the EP is used in two new projects. The projects PRO3FILE, VibEUroNet and Pollen Deposition are still running. Ms Pitar showed some upcoming activities as the organization of the next intercalibration course in Romania in September 2020. Ms Pitar pointed out that the database will be checked further, not only with regard to ozone measurements, but to the other air pollutants as well. It is planned to do a data valorization with the involvement of the EP members.
- 38 Mr Canullo (chair EP Biodiversity) presented 11 recently published scientific papers and four papers that are submitted. At the European scale, a paper by Galluzzi et al. (2019) shows results from the former BioSoil project. Further, Mr Canullo introduced the Finnish/ Russian ECODIVE project led by Päivi Merilä (NFC Finland). In Italy, nine ICP Forests sites became sites reported under the NECD and six of these are LTER-Italy sites. Mr Canullo also informed about planned projects including new vegetation inventories in Finland, Poland, Italy and Slovakia. The EP collaborative activities comprise an internal project on ground vegetation functional traits at EU level and plant diversity hotspots, as well as the assessment of vegetation data acquisition. A paper is planned on the effect of sampling design, methods and quality assurance.
- 39 Mr Verstraeten (chair EP Deposition) introduced five new scientific publications. Importantly, the SWETHRO dataset is now linked to the ICP Forests database and available for evaluations upon request. Mr Verstraeten pointed out that the expert panel was represented with six related talks at the XXV IUFRO World Congress in Brazil and that several new projects applied for deposition data in the last year. Mr Verstraeten also reported about the Pollen-Throughfall project of him, Elena Gottardini (co-chair EP Ambient Air Quality) and others. He pointed out that about 70 plots (eight countries) are involved in the project and that a first manuscript is prepared in the next months. However, data gaps, the length of time series and the withholding of data by some colleagues are problems the project is facing.
- 40 Mr De Vos (chair EP Soil and Soil Solution) listed five new scientific papers published in 2019 using soil or soil solution data. Mr De Vos informed about the recent Horizon 2020 call “LC-SFS-22-2020: Forest soils Research and Innovation”. He and several other “soil” colleagues from ICP Forests are in a consortium led by INRAE. The 1st stage submission deadline is 22nd January 2020 and, in case of a successful 1st stage proposal, the deadline of the second stage submission would be the 8th September 2020. Mr De Vos pointed out that several ICP Forests

data of Level I and Level II would be needed for the project when successful. As many ICP Forests partners are involved, he suggested treating it as internal evaluation. However, the data request will only be sent when the proposal is finally granted.

- 41 Mr De Vos also informed about planned projects including an heavy metal evaluation study for EU forest soils and EU negotiations on a 3rd Pan-European survey initiated by the head of PCC Kai Schwärzel and himself.
- 42 Mr Levanič (chair EP Growth) reported on scientific publications and projects that include ICP Forests growth data. Four publications were published already. In addition, Mr Levanič pointed out two publications that are just about to get published: *Pervasive decreases in living vegetation carbon turnover time across forest climate zones* by Yu et al. – a study comparing plot data to eight Earth system models; and *Nitrogen deposition is the most important environmental driver of growth of pure, even-aged and managed European forests* by Etzold et al. – a paper studying the impact of various drivers on forest growth. Mr Levanič showed that eight projects are running at the moment and three new projects were initiated by externals in 2019.
- 43 Mr Levanič remarked that the guidelines for this year's presentation to PCG should be reviewed as they were too restrictive. Further, he suggested to add keywords to the reference database which data/ from which EP has been used.
- 44 Ms Ukonmaanaho (co-chair EP Foliage and Litterfall) gave an overview on recent and upcoming publications using foliar and/ or litterfall data. Besides others, running projects include the study of Yiyang Ding et al. (University of Helsinki) on *Below- and aboveground carbon input to soil in boreal forests along a site type gradient* and the mercury study of Lena Wohlgemuth (University of Basel) which is based on archived foliar/ litterfall samples.
- 45 Ms Ukonmaanaho showed that the revision of Manual Part XII (Sampling and analysis of needles and leaves) and Part XIII (Sampling and analysis of litterfall) will include changes in the optional parameters list (new: As, Cr, Co, Hg, Ni), drying temperature, most damaging species list, and plausible values. Further, Ms Ukonmaanaho pointed out that the evaluation and correction of the litterfall database is under work. She raised the question whether Youtube videos about the litterfall set up and collecting of litterfall/foliar analyses might be a useful tool to share and promote the ICP Forests methodologies.
- 46 Mr Fleck (Co-Chair EP Meteorology, Phenology, and LAI) introduced the recent publication of Chianucci et al. *A dataset of leaf inclination angles for temperate and boreal broadleaf woody species* which is providing a dataset that extends the collection of leaf angle distributions already included in the ICP Forests Manual Chapter XVII. The new data will be incorporated during the upcoming Manual revision 2020. Further, Mr Fleck introduced three new projects/ initiatives: A collaboration on allometric relationships between the German NW-FVA and the Swiss WSL which is currently focusing on the assessment of variability of Specific Leaf Area. In addition, a new *ICP Forests group on Leaf traits* across nutrients and water availability gradient was established. In Germany, the project WHH-KW (roughly translated: Water budgets as site characteristic in climate change) started. Related to ICP Forests, tasks of this project are: 1, gap-filling of Level II meteorological measurements with Generalized Additive Models based on regionalized data; 2, Generic Species-specific parameterization of water budget models on roughly 50 Level II plots; and 3, Inverse modelling of LAI based on throughfall to precipitation relationship.
- 47 Ms Kowalska (Co-Chair WG QA/QC in Laboratories) reported about the main activities in 2019 including the 9th Deposition/Soil Solution Ringtest (Sep 2018 - Feb 2019), 21th Needle/Leaf Ringtest (Mar 2018 - Sep 2019), and the 9th Soil Ringtest (Jan 2018 – mid 2019). At the combined Expert Panel Meeting in Brussels and at the Meeting of the Heads of the Laboratories, the results of the ring tests have been discussed: The experiences with the

evaluation of Fe, Mn and Al, and the evaluation limits for heavy metals (Depo/ SS RT); experiences with the evaluation of As, Cr, Co, Hg and Ni (Needle/Leaf RT); and the comparison between the aqua regia reflux method and the microwave method (Soil RT). Ms Kowalska pointed out that the presentations of the 7th Meeting of the Heads of the Laboratories in Brasov (5 -6 Sep 2019) are available at the ICP Forests website.

- 48 Ms Kowalska informed about the up-coming activities including the evaluation of the 22nd Needle/Leaf Interlaboratory Comparison Test; the registration and sample submission of the 23rd Needle/Leaf Interlaboratory Comparison Test; and the 10th Deposition & Soil Solution Ringtest.
- 49 Regarding finished projects and publications, the question was raised again if and how ICP Forests should get a more detailed overview on what part of the requested data has actually been used. This issue is known to the PCG. Mr Kirchner ensured that PCC tried for many years to track publications to data requests/ projects by sending forms to the data applicant. However, there was very little feedback. It was suggested to send an e-mail to first authors after publication. **PCC agreed to contact first authors and to prepare a template to set up a procedure in the next years.**
- 50 Based on the need of more action in topics of growth and climate change, the status of ICP Forests data on tree growth was discussed. The question was raised why external scientists seem to publish ICP Forests growth data, but internal project partners are not. Mr Levanič made clear that the current data set is very biased and more corrections are needed. It was suggested to have a special time slot for this topic in the next Expert Panel Meeting.
- 51 Mr Levanič stressed the fact that growth measurements should be taken more often to make the data set more attractive for cause-effect studies, especially regarding the impact of climate change and drought on growth.

Upcoming meetings

- 52 Mr Ferretti informed about next week's "Workshop on regional impact assessment of atmospheric deposition and air pollution on forest ecosystems" together with EANET in Niigata, Japan (21 – 22 November 2019). ICP Forests and Air Convention delegates are Marco Ferretti, Tom Levanič, Henning Meesenburg, Nenad Potočić, Marcus Schaub, Thomas Scheuchner, Kai Schwärzel and Arne Verstraeten.
- 53 The 36th Task Force Meeting will be held at the Swiss Federal Research Institute WSL, Birmensdorf, Switzerland, 10 - 12 June 2020. It will be accompanied with the 9th Scientific Conference and a post-conference excursion. After consultation with the local organizers, the provisional program is: 08.06. Reception; 09.06. Scientific Conference; 10.06. Scientific Conference, short excursion and conference dinner; 11.06. Task Force Meeting; 12.06. Task Force Meeting and start of the post-conference excursion; and 13.06. all-day post-conference excursion.
- 54 In 2020, the ICP Forests Scientific Conference will be connected with a summer school, scheduled for August 2020.
- 55 Mr Raspe informed about the current status of the organization of next year's combined meeting of the Expert Panels on Meteorology, Phenology & LAI, Forest Growth, Ambient Air Quality, and Biodiversity & Ground Vegetation. The meeting will take place in Kutna Hora, Czech Republic, 9 – 12 March 2020. The local organizers (Forestry and Game Management Research Institute, Czech Republic) set up a website for registration, programme and travel information (<https://www.vulhm.cz/en/icp-forests-2020/>). The preliminary programme

includes a joint session of the Expert Panels at 11.03.2020. Mr Raspe further presented Expert Panel's key agenda items.

Reporting in 2020 and in future: WGE, TR, briefs, possible special reports for the year 2020

- 56 Mr Ferretti gave an introduction about the current ICP Forests reporting needs and possible reporting issues. PCC pointed out that the preparation of the annual Technical Report is very time consuming and a large part is dedicated to countries activities. It was discussed if the Technical Report needs a re-design. As there is no other formal way to acknowledge the efforts and support of the participating countries at the moment, the PCG decided to keep the format of the Technical Report, but preparation efforts should be put to a minimum.
- 57 With regard to the ICP Forests Briefs, Mr Ferretti proposed that a new Brief should be on forest condition after drought considering the renewed interest in forest condition after the drought events in the last years. Together with PCC, Mr Potočić and Mr Timmerman (chairpersons of the EP Crown Condition and Damage Causes) agreed to take the lead of such a study. They pointed out that the 2019 data needs to be included as first analysis of 2018 showed no effect so far. The PCG remarked that there has to be a trade-off between best as possible data with time constraints. It was discussed if meteorology results and soil water content should be considered in this Brief. Due to the current data availability, it was agreed to start with the process on the Crown Condition Brief, but to think about an additional Brief including meteorology as well.
- 58 Mr Ferretti made a proposal for a new document that should be more substantial by giving an overview about trends in forest ecosystem compartments and explanatory hypothesis of changes: "Forest condition in Europe: the 20xx Assessment" including a summary for policy makers and being prepared every 5 years. The PCG lively discussed this proposal pointing out that such an assessment may rise more awareness and can generalise regional studies to European scale. However, an additional report is very time consuming and new communication channels should also be considered. It was suggested to ask the countries for their needs. The PCG concluded that there is a positive agreement for a regular assessment, but a detailed structure and a Task Force approval is needed. PCC will think about how to involve the countries and prepares a proposal for the Task Force.
- 59 The idea of an ICP Forests video clip came up as there are some national examples. Mr Ferretti asked everybody with experience to approach PCC or himself.

Further publications

- 60 With regard to the 2020 report "State of Europe's Forests" prepared by Forest Europe, ICP Forests partners are contributing to Criterion 2, Forest Health and Vitality, Indicators 2.1-2.5 (Deposition of air pollutants, Forest soil condition; Defoliation; Forest damage; and Forest degradation). Mr Ferretti expressed his gratitude to all contributors.
- 61 Mr Ferretti was approached by the Joint Research Centre asking for 2017 and 2018 data for an internal report. With PCG approval, he will share the 2017 data as soon as the Technical Report 2019 is out, and 2018 data as soon as the Technical Report 2020 is published.
- 62 Mr Schwärzel reintroduced the book project "Long-term Monitoring of Forest Ecosystems: Status, Changes, and Trends Discussion" within the Springer Book Series "Ecological Studies". Mr Schwärzel sent the 2017 outline to editor Mr Schulze who approved it showing that there is still interest. As there is the 30th anniversary of Level II monitoring in 2021, ICP Forests should go on with this project. The PCG agreed to this.

- 63 Mr Schwärzel pointed out again the challenges we have to face with the current data: 1, Data was sampled but not submitted; 2, data was submitted but is not complete; 3, not all plots are still active; 4, not everything is measured at each plot; and 5, observation periods of the different surveys vary. However, the book project provides the opportunities: 1, to complete the ICP Forests database; 2, to improve the quality of the data; and to increase the visibility of ICP Forests. **PCG agreed to use the book to improve the ICP Forests database.**
- 64 The first issue discussed by the PCG was the harmonization of considered monitoring periods. It was suggested to have two periods: 1. The longest available period per survey/ parameter, and 2. a defined period for survey synthesis. The later one needs to be defined depending on the available data.
- 65 The PCG discussed the proposed workflow and time schedule. There was a general agreement that the resubmission of data by countries will be a long and work intensive process and enough time should be provided to this task. Further, there was no decision on the idea to decouple the book database from the ICP Forests database. However, PCC pointed out that the cleaning up of the database should be a priority and a shadow database should be avoided in any case.
- 66 It was agreed on the following workflow for data cleaning: By February 2020, EP chairs inform PCC what data is needed. PCC will approach NFCs to check the completeness and quality of the needed data in the ICP Forests database and, if necessary, to resubmit data for correction and gap-filling. After that, the EP Chairs will review the available data and might ask for further corrections. The final data will be discussed and presented. In February 2021, the EP will start to work with the data.
- 67 There is no deadline from Springer at the moment, but lead authors will need to sign to Springer at one stage. With regard to the book writing the following general workflow was accepted: First chapter drafts will be sent by the lead authors to editors for a first review. The second draft of the chapters will be language edited and laid out by PCC and editors. The lead authors have a final look at the chapters before the editors sent it to Springer. The book should be launched by August 2022 if the first chapter drafts come in by August 2021. **It was agreed that the countries will be offered to contribute to the chapters** as the number of authors is not a problem and it would encourage and appreciate their support.
- 68 The responsibilities of the expert panels are 1, to review and analyse the data, 2, to write the chapters in Part B (Trends in environmental conditions) and C (Trends in responses of vegetation to changing environmental conditions), and 3, to respect the timeline. In contrast to this the editors and PCC have the duty : 1, to steer the process of book development and to write the introduction, the synthesis and the outlook of the book; 2, to assist the EP and member states in data submission; 3, to harmonize the chapters including figures, graphics and tables; 4, to layout the book; 5, to edit the chapters; and 6, to communicate with Springer.

AOB

- 69 Mr Ferretti stepped back from his position as chair of the Quality Assurance Committee due to his duties as chair of ICP Forests. It was discussed if this Committee is still wanted, but the decision was postponed to the next Expert Panel Meeting. Mr Ferretti will look for the original mandate of the QAC to support the decision.
- 70 The PCG expressed its severe gratitude to Ms Strich for all her work and support. Ms Strich is retiring in March 2020 and joined the PCG meeting for the last time. The PCG wished her all the best.

Closing of the meeting

- 71 Mr Schwärzel thanked everybody for their active participation and closed the meeting.

List of Participants

Surname	Name	Institution	County
Canullo	Roberto	University of Camerino	Italy
De Vos	Bruno	Research Institute for Nature and Forest (INBO)	Belgium
Ferretti	Marco	Swiss Federal Research Institute WSL	Switzerland
Fleck	Stefan	Nordwestdeutsche Forstliche Versuchsanstalt	Germany
Gottardini	Elena	Fondazione Edmund Mach	Italy
Kirchner	Till	PCC - Thünen	Germany
Kowalska	Anna	Forest Research Institute	Poland
Levanic	Tom	Slovenian Forestry Institute	Slovenia
Michel	Alexa	Thünen-Institut für Waldökosysteme	Germany
Nicolas	Manuel	Office national des forêts	France
Pitar	Diana Maria	National Institute for Research and Development in Forestry "Marin Dracea"	Romania
Potocic	Nenad	Croatian Forest Research Institute	Croatia
Prescher	Anne-Katrin	Thünen-Institut für Waldökosysteme	Germany
Raspe	Stephan	Bavarian State Institute of Forestry	Germany
Schaub	Marcus	WSL	Switzerland
Schwärzel	Kai	Thünen-Institut für Waldökosysteme	Germany
Strich	Sigrid	Federal Ministry of Food and Agriculture	Germany
Timmermann	Volkmar	Norwegian Institute of Bioeconomy Research	Norway
Ukonmaanaho	Liisa	Luke	Finland
Verstraeten	Arne	Research Institute for Nature and Forest (INBO)	Belgium
Vesterdal	Lars	University of Copenhagen	Denmark

Agenda

Symbols:

<>: approx. time foreseen.

(xx): contribution from.

13 Nov. 2019, Tuesday	Chairperson Day 1: Marco.
Start: 13:00	Opening <0:05> (Marco) - Adoption of agenda
	State of the manual revision <0:20> (Kai)
	Future of forest monitoring plots <1:00> (Manuel) - Discussions on manual changes regarding monitoring of post-disturbance recover, natural forest regeneration etc.
	Activities and agenda of the Scientific Committee <0:15> (Marcus)
15:00-15:30	Coffee break <0:30>
	News from the data infrastructure <0:45> (Till) <ul style="list-style-type: none"> • Harmonized representation of ICP Forests in the LTER data infrastructure • Results from the revision of LQA data and RT results • Data - lost and found • Other issues
	Important information from the EPs and committees <1:00> (EP chairs, each EP has 5 minutes)
	Upcoming meetings <0:30> <ul style="list-style-type: none"> - Workshop on regional impact assessment of atmospheric deposition and air pollution on forest ecosystems, 21-22 November 2019 in Niigata, Japan (Marco) - Combined meeting of the Expert Panels on Meteorology, Phenology and Leaf Area Index; Forest Growth; Ambient Air Quality; Biodiversity and Ground Vegetation; Kutná Hora, Czech Republic, 9th – 12th March 2020 (Vit) - 36th Task Force Meeting 2020: Zurich (Marco) - 9th Scientific Conference 2020: Zurich (Marcus)
End: ca. 18:00	
19:30	Social Dinner
14 Nov. 2019 Wednesday	Chairperson Day 2: Kai.
Start: 9:00	Reporting in 2020 and in future: WGE, TR, briefs, possible special reports for the year 2020. <1:30> Discussion and proposal for the 2020 reporting and for the Task Force, also in view of the augmented interests for forest condition after the 2018 drought.
10:30-11:00	Coffee break <0:30>
	Further publications <0:45> SoEF 2020 (Marco). Ecological Studies (Book Series, Springer): Long-term Monitoring of Forest Ecosystems: Status, Changes, and Trends Discussion and agreement on how to move it forward (Kai, Tanja).
	AOB <0:45>
End: 12:30	Closing of the PCG Meeting