

**APRIL Independent Peat Expert Working Group (IPEWG)**  
**- Meeting 6, Summary Report -**

**Time/Location:** May 16 -17, 2017 – Pangkalan Kerinci, Sumatra, Indonesia

**Participants**

**IPEWG:** Prof. Dr. Supiandi Sabiham, Dr. Ari Lauren, Prof. Susan Page, Prof. Chris Evans, Prof. Vincent Gauci, and Dr. Ruth Nussbaum

**SAC:** Joe Lawson

**APRIL:** Praveen Singhavi, Lucita Jasmin, Dr. Ibrahim Hasan, Mark Werren, Rob Pallett, Dr. Anthony Greer, Dr. John Bathgate, Craig Tribolet, Rudi Fajar, Dr. Chandra Deshmukh, Branislav Zoric

**Secretariat:** Tim Fenton (APRIL)

**Objectives of IPEWG Meeting 6:**

1. Clear timeframe plan for future of IPEWG including longevity, shape and ambitions
2. Progress on subsidence measurement and accounting methodology
3. Progress on modeling management on peat land
4. Clarity of how to put more scientific information from IPEWG into the public domain (and what to share)
5. Confirmation of the IPEWG Roadmap – structure and content

**Summary of discussions presented in the structure of the IPEWG Workplan**

Topic	Discussion Overview Notes	Workplan Ref.
<b>Component 1 – Building Science-based Understanding and Minimizing Impacts</b>		
<b>1.1</b> Data Collection Analysis and Research	<p><b>Subsidence and water table data:</b> The 34km subsidence transect across the Kampar Peninsula with intermittent water table measurement points is now complete; as is the transect across the Pulau Padang (PPD). Measurements will be recorded every 3 months.</p> <p>IPEWG provided an update on their progress on the analysis of the geospatial subsidence database shared by APRIL along with additional attribute data. More work is ongoing to fully understand the attribute descriptors associated with each of the data points.</p> <p>Discussions also continue between APRIL, IPEWG and Winrock International on clearly defining and answering the research questions on subsidence and the methodologies of measurement, recording and accounting over time, in order to further the work on the subsidence work plan. APRIL and IPEWG have agreed to conduct monthly Video Conference meetings in order to complete this work. IPEWG noted the research conducted by the University of Nottingham with the Sentinel 1 satellite platform might be an opportunity for APRIL to participate in an international collaboration scheme for measuring subsidence remotely.</p>	<b>D1.1</b> Subsidence and Carbon Balance

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1.1 Data Collection Analysis and Research	<p><b>GHG flux data:</b> Construction work on Green House Gas (GHG) Tower #1 in the Natural Forest site is forecast to be completed by month end May. This will result in the collection of Eddy Flux data being captured from all 3 landscape types – natural forest, plantation and mixed starting in June 2017.</p>	<p><b>D1.3</b> Support for Eddy Flux Towers</p>
1.1 Data Collection Analysis and Research	<p><b>Data on impacts of water table depth:</b> The Water Table Manipulation field trial plan was reviewed:</p> <p>Trial 1 - the Oxidation Mitigation trial plan (through water table manipulation) was reviewed as the 3 candidate compartments have now been selected - harvest dates are July and November, 2017. Discussions noted the importance to establish baseline measurements prior to the harvest – current/past water table depths, peat type, peat bulk density – and to ensure total biomass from harvested volumes and site waste &amp; residue materials following harvest were captured. And to take account of small scale heterogeneity when selecting experimental plots.</p> <p><b>Action for Work Plan:</b> List of site variables to be measured pre and post harvest to be circulated across APRIL and IPEWG for confirmation.</p> <p>Trial 2 – peat compaction data trends were reported on and discussed. Data collection will continue despite sites already reaching canopy closure.</p> <p><b>Action for Work Plan:</b> APRIL and IPEWG to review the carbon loss analysis during Year 1 of the treatment.</p>	<p><b>D2.2</b> Water Table Management and Hydrology</p>
1.1 Data Collection Analysis and Research	<p><b>Species trials:</b> R&amp;D presented its 2017 / 2018 initial plans as a result of IPEWG’s request to expand its research on wetter peat tree species. APRIL has identified 5 natural forest species in previous test trials as reasonably successful in wetter peat – tested in wet peat conditions and seasonally flooded areas:</p> <ol style="list-style-type: none"> <li>1. <i>Shorea balangeran</i></li> <li>2. <i>Shorea selanica</i></li> <li>3. <i>Cratoxylum sp</i></li> <li>4. <i>Camnosperman sp</i></li> <li>5. <i>Melaleuca sp</i></li> </ol> <p>APRIL has already planted more than 4,000ha of the genus <i>Melaleuca</i> commercially in its wetter areas and already has some good data on growth and yield for some areas up to 10 years.</p> <p>APRIL is in the process of locating seed sources for the above species; establishing new roles within R&amp;D for the expansion of this program; and planning trial timeframes.</p> <p>IPEWG requests full traceability of seed sources through nursery to plantation; and to collect data on trials for water tables less than 40cm.</p> <p><b>Action for Work Plan:</b> A more detailed work plan to be developed, to describe the scale and resource requirement for APRIL’s business to be successful on wetter peat – to be reviewed at the September, 2017 meeting.</p> <p><b>Recommendation:</b> For R&amp;D to explore ways to collaborate with MOEF and BRG on their planned species trials with a network of Indonesian universities, that BRG informed IPEWG about during their March meeting.</p>	<p><b>D3.</b> Growing Trees on Wetter Peat</p>

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<p><b>1.1</b> Data Collection Analysis and Research</p>	<p><b>Natural forests:</b> The development of the Conservation Forest Management plan is proceeding well, with a proposed framework to move forward – identifying the values of the Conservation Forests, including the current status of High Conservation Values (HCV) in those forested areas that have been previously assessed; and the direct and indirect threats to Conservation Forests (outside of RER); and Permanent Sample Plot (PSP) data analysis requirements.</p> <p>IPEWG Feedback included:</p> <ol style="list-style-type: none"> <li>1. Analysis of PSP data trends - structurally; spatially and temporal; species and Diameter at Breast Height (Dbh)</li> <li>2. Direct Threats, in addition to those already identified, should include water stress (unintentional drainage) and change in micro-climate due to adjacent plantation establishment</li> <li>3. Values analysis approach – recognition of some areas as more important than others due to identified values.</li> </ol> <p>All agreed to:</p> <ol style="list-style-type: none"> <li>1. Start the work using the available information rather than re-surveying</li> <li>2. IPEWG will help connect APRIL with tools such as ZSLSPOTT</li> <li>3. Integrate this workstream with work carried out by The Nature Conservancy, and existing HCV and High Carbon Stock (HCS) assessments</li> </ol>	<p><b>D6.</b> Natural Forest Condition and Management</p>
<p><b>1.2</b> Resource Mapping</p>	<p>An update on the analysis of the LiDAR data collected from PPD in January 2017 was provided. There are 4 projects being worked on by APRIL to answer the question – “What is the value of LiDAR surveys compared to alternative, lower cost methodologies?”</p> <ol style="list-style-type: none"> <li>1. Land cover area calculation</li> <li>2. Digital Terrain Model (DTM)</li> <li>3. Comparison of LIDAR topography Vs ground survey topography</li> <li>4. Demonstration area for DTM, Digital Surface Model, and Canopy Height Model</li> </ol> <p>Excellent progress is already being made with some very useful early results, and more analysis ongoing. It is clear that LiDAR has some significant strengths and will be very useful in better understanding the resource. It also seems likely that it will be possible to use combinations of data to reduce costs while still getting equivalent outcomes. IPEWG requested ongoing updates of progress with both analysis and investigation of combining data.</p> <p><b>Recommendations:</b></p> <ol style="list-style-type: none"> <li>1. APRIL to review the Sentinel 2 satellite platform and compare value to MODIS</li> <li>2. APRIL to update the Data Acquisition strategy to incorporate the findings and knowledge gained from the PPD data set collection.</li> <li>3. APRIL to discuss with the IPEWG the timeline for ongoing data acquisition and analysis and communicate any changes to its stakeholders</li> </ol>	<p><b>1.2.1</b> LiDAR Data Collection and Analysis</p>
<p><b>1.4</b> Clear Communication</p>	<p>The discussion with APRIL senior management on the Roadmap was most productive, clarifying both the Roadmap and the Workplan Overview. The IPEWG, with inputs from the Stakeholder Advisory Committee (SAC), is now in a position to complete the draft documents in the next few weeks for final review, prior to making them public on APRIL’s website, DIALOG.</p> <p>The Roadmap and Workplan set out IPEWG’s role in supporting APRIL with the</p>	<p><b>1.4.1</b> Peatland Roadmap</p>

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	<p>development and deployment of best management practices for peatland both currently and in the future. Both IPEWG and APRIL recognize that it is crucial that APRIL fully supports the IPEWG Roadmap and Workplan since they form a part of APRIL's overall strategy and implementation plan for its operating areas and surrounding landscape, so are integral to APRIL's own activities.</p> <p><b>Action for Workplan:</b> It was also agreed by IPEWG and APRIL that, in addition to the longer-term publication of scientific papers which is already being planned, it would be helpful for IPEWG to produce more regular updates and briefings setting out progress being made with key issues.</p>	
<p><b>1.4</b> Clear Communication</p>	<p>APRIL welcomes IPEWG's proposal to capture "updates" of APRIL programs and to create science-based Briefing Papers to better inform stakeholders and the general public of the ongoing research and innovation for peatland management in the province of Riau, Sumatra, Indonesia.</p>	<p><b>1.4.1</b> Peatland Briefing Papers</p>
<p><b>Component 2 - Responsible Peatland Operations</b></p>		
<p><b>2.2</b> Modeling plantations and landscapes</p>	<p>Very significant progress has been made with the 2D and 3D water table (WT) models. Discussion focused on the question: "What are the implications of maintaining a 40cm WT depth?" Comparisons of water levels in canals – 50 cm vs 90cm – were simulated using local environmental precipitation records for a one year period. Simulation results compared WT &lt;40cm and &gt;40cm over the period of 12 months.</p> <p>Ensuing discussions included the potential effect of nutrient supply availability and tree mortality with higher WTs; and the need for field trials to verify the model. At this time, the model helps illustrate the challenge of water table management on peat land, and can be used to help inform discussions on precipitation response; and also allows identification of possible mechanisms for how water table control affects tree growth.</p> <p><b>Work Plan Action:</b> Form a sub-group composed of IPEWG and APRIL to lead further work on this model with scheduled monthly Video Conference meetings. This is to include testing the model on real plantation data and revising based on results, in addition to continued documentation in preparation for publication, for credibility.</p> <p>The Capacity Building contract with the DHI Singapore is in progress and should be executed in June 2017. This will initiate a series of training programs for APRIL technical staff to increase their knowledge and skills for drainability and flood risk assessment using MIKE software.</p>	<p><b>2.2.1</b> Simulation Modeling</p> <p><b>2.2.2</b> Drainability and Flood Risk Assessment</p>
<p><b>Component 3 – Developing a Vision for Managing Peatland Landscapes</b></p>		

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<b>Wetlands International Workshop</b>	<p>The 2 day workshop attended by 4 Wetlands International representatives at APRIL's operations in Pangkalan Kerinci, April 2017, consisted of one day of technical discussions about peat land management and organizational perspectives; and a second day in the field reviewing a Riau Ecosystem Restoration forest area and a GHG tower operating in the center of an Acacia plantation.</p> <p>The meeting resulted in not only an exchange of perspectives, but in a positive change of perceptions about each other's organizations.</p> <p>IPEWGW welcomed the active initiation of a workstream to increase direct discussions between APRIL operational and scientific staff and others working on the practicalities of responsible peatland management.</p>	<b>3.3</b> Collaboration
<b>Senior Management Discussions</b>		
<b>Peatland Regulations Update</b>	<p>A review of the most recent peatland implementing regulations issued by the MoEF – Permen 14, 15, 16, and 17; and their 2 decision letters SK129/2017 and SK130/2017 – reminded everyone of the speed and magnitude of change occurring in Indonesia at this time. APRIL complied with the MoEF requirement to submit the revision of its 10 year operating plan (RKU) in relation to the SK130 map in May and continues verification work on the BRG SK05 map, due at the end of June 2017.</p> <p>APRIL informed the IPEWGW of the chronology and current status of the administrative sanction received in the Desa Dayun Block earlier this year. Almost all conditions of the sanction have been fulfilled at time of review.</p>	
<b>IPEWGW Meeting Schedule</b>		
<b>Next Meeting(s)</b>	<p>Meeting 7 – a web-based update on Thursday - Friday, Sep 7 - 8, 2017 in Oxford / Jakarta</p> <p>Meeting 8 – on-site review from Tuesday – Friday, Nov 28 – Dec 1, 2017 in Kerinci, Indonesia</p>	