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# WHAT IS THE KETAPANG PEAT LANDSCAPE?

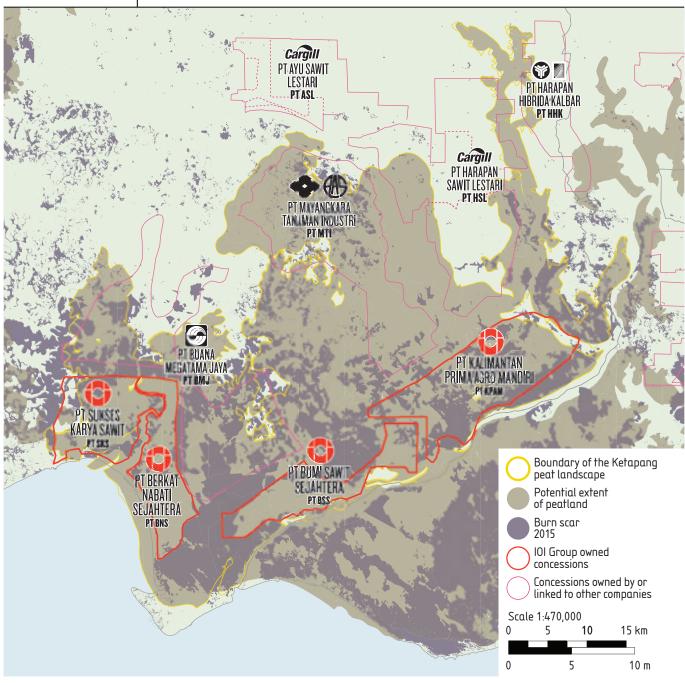


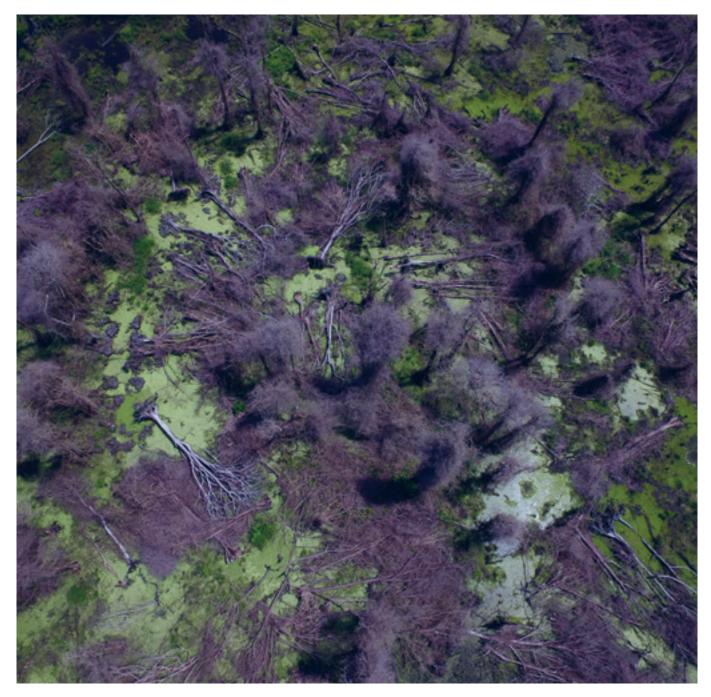
For the purpose of this report, the Ketapang peat landscape is defined as the potentially contiguous area of peat located in the south of the West Kalimantan district of Ketapang, covering an area of around 214,000 hectares.

Indonesia currently still lacks a definitive map of peat areas. Three maps have been produced in the past, all of which have shortcomings.<sup>1</sup>

The Indonesian government has been clear on the need for a new map but this is not scheduled to appear until November 2017.<sup>2</sup>

None of the existing maps covers the full extent of peat in Indonesia and some peatland areas do not appear on any of the maps, so even amalgamating the three maps gives an incomplete picture. The peat map used here is a combination of existing peat maps. The amalgamated map is currently the best method of showing the minimum extent of the area that needs to be properly surveyed when assessing impacts of drainage-based industry as part of a precautionary landscape approach to fire prevention and peatland conservation.





# **BACKGROUND**

Ketapang, West Kalimantan is becoming a test case of corporate commitments to responsible palm oil production. Once a forest home to endangered and vulnerable species including orangutans, proboscis monkeys and sun bears, the Ketapang peat landscape is now being carved up by the plantation sector with drainage canals; deforested and converted to industrial plantations. This has contributed to regular and severe outbreaks of fires, with analysis of satellite images suggesting nearly a third of the Ketapang landscape burned in 2015. Increasing seawater flooding is also likely over coming decades as burned peat disappears and drained peat degrades and subsides, causing the land surface to slowly sink towards sea level.

Some of the plantation companies in the landscape are strongly associated with players in the pulp sector<sup>7</sup> that have made firm commitments to conservation. Other companies are

PT BSS, 16 April 2016, 2°55'55.686"S 110°44'41.496"E

Drone footage reveals the impact of repeated fires on forest near the PT Bumi Sawit Sejahtera (IOI) oil palm concession. ©Greenpeace

directly controlled by large palm oil groups which are members of the Roundtable on Sustainable Palm Oil (RSPO). IOI, for example, controls a third of the land area under concession<sup>8</sup> in the Ketapang peat landscape.<sup>9</sup>

While none of the pulp operations in the Ketapang landscape shows signs of industrial development, IOI and the other palm oil companies that have developed their concessions have contributed to the dire state of this heavily damaged area. Nevertheless, there is still much to fight for. Protecting and restoring the surviving Ketapang peat and forest areas would not only reduce the risk of fires, but would mean serious gains for conservation and biodiversity, and a chance for local communities to benefit. However, without immediate action from IOI and other stakeholders in this landscape, what remains of Ketapang risks going up in smoke.







PT BSS, 16 April 2016, 2°55'13.1"S 110°43'46.9"E

An oil palm sapling brushes against the charred remains of a tree in the PT Bumi Sawit Sejahtera (IOI) oil palm concession. The area, which suffered extensive fires in 2015, was subsequently planted. Landsat analysis shows that the area, which borders a company-identified No Go area of peatland, was cleared after mid-2014.

Olfansasti/Greenpeace

Greenpeace first raised issues with IOI's plantations in Kalimantan in 2008, highlighting deforestation and drainage of peat and clearance of forested orang-utan habitat.<sup>19</sup>

Investigations by Greenpeace and others continued, and 11 NGOs submitted a complaint to the RSPO in 2010, covering issues in IOI's Ketapang concessions including clearance of peatland since 2009, clearance of high conservation value (HCV) forest areas and illegal encroachment into production forest outside the boundaries of the PT Berkat Nabati Sejahtera (PT BNS) concession. The complaint also covered breaches of community land rights in IOI's Pelita concession in Sarawak, Malaysia. The RSPO grievance panel concluded there was insufficient evidence to prove the sections of the complaint relating to Ketapang, <sup>20</sup> while the Pelita/Long Teran Kanan land dispute is still in a conflict resolution process. <sup>21</sup>

In March 2015 the not-for-profit consultancy AidEnvironment made a new complaint to the RSPO accusing IOI of breaching RSPO standards and its own environmental policies on its concessions in Ketapang.<sup>22</sup> This included specific evidence of:

- the construction of a drainage canal through an area of HCV forest
- clearance of areas of forest on deep peat, continuing after the company had been informed of this breach of standards
- further illegal planting outside the boundaries of PT BNS.

In response to this complaint, on 14 March 2016, the RSPO Complaints Panel decided to suspend IOI Group based on breaches of RSPO principles, <sup>23</sup> with certification suspended for all the company's international operations. <sup>24</sup> The suspension quickly lost IOI major customers, with Unilever, Nestle, Mars, Kellogg<sup>25</sup> and most recently General Mills announcing

moves to other suppliers.<sup>26</sup> IOI has responded by suing the RSPO<sup>27</sup> (and subsequently dropping the case)<sup>28</sup> and engaging Malaysian-based non-profit non-governmental organisation Global Environment Centre (GEC) to recommend actions to demonstrate that IOI complies with the RSPO Principles and Criteria, particularly in relation to peatland, HCV and fire management issues.

The impact of IOI in Ketapang is far greater than is recognised in the specifics of the RSPO complaint. The drainage of peat will contribute to degradation, subsidence and increased fire risk well beyond the boundaries of the concession, with damage to remaining forests and biodiversity. Peat degradation and fires are major contributors to Indonesia's carbon dioxide emissions.

IOI is now in the process of producing yet another new sustainability policy, but this will be of little if any value without comprehensive action on the ground, and IOI has a record of breaching its policies on sustainability (see below). Actions offered so far do not address IOI's destruction, protect what forest and peatland remains or reduce fire risk. The RSPO risks rubber stamping a peat management plan that does not address continued degradation of peatland and fires and emissions on a massive scale, which could irreparably compromise the Ketapang peat landscape.

Indonesian President Joko Widodo gave clear signals about the way ahead for Indonesia and the plantation sectors when he called for an end to new peatland development,<sup>29</sup> blocking of canals, restoration of burnt areas and ban on further palm oil plantations on forest land.<sup>30</sup>

Whereas some plantation companies have commissioned baseline maps,<sup>31</sup> and dammed hundreds of canals around their plantations,<sup>32</sup> much more is needed. IOI, most RSPO companies and the vast majority of plantation companies have so far done nothing to demonstrate that they are serious about taking action to ensure that the fires and emissions that choked Indonesians and the region in 2015 are not repeated.



# PT BSS: DOCUMENTING IOI'S LEGACY OF DESTRUCTION





#### PT BSS, 16 April 2016, 2°55'25.1"S 110°43'45.2"E

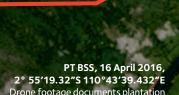
Oil palm saplings await planting in the PT Bumi Sawit Sejahtera (IOI) oil palm concession. The area suffered extensive fires in 2015. Landsat analysis shows that the area, which borders a company-identified No Go area of peatland, was cleared after mid-2014. ©lfansasti/Greenpeace



#### PT BSS, 16 April 2016, 2°55′13.1″S 110°43′46.9″E

An oil palm sapling brushes against the charred remains of a tree in the PT Bumi Sawit Sejahtera (IOI) oil palm concession. The area, which suffered extensive fires in 2015, was subsequently planted. Landsat analysis shows that the area, which borders a company-identified No Go area of peatland, was cleared after mid-2014.

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Drone footage documents plantation development on an area that suffered extensive fires in 2015. Landsat analysis shows that the area was cleared after mid-2014.





# 2009

IOI Corporate Responsibility Policy Statement from 2009: 'We strictly avoid encroaching forested or peat land and/or develop new plantation estates that will result in deforestation.' <sup>33</sup>

# 2010

PT Bumi Sawit Sejahtera (BSS) HCV survey: According to the company's HCV report,<sup>34</sup> over 90% of the concession area was covered by swamp forest when surveyed in 2010, though much of this was degraded. The report stated that these forests host endangered species including orang-utans, proboscis monkeys and Müller's Bornean gibbon.<sup>35</sup> The report identifies some 711 hectares of peat deeper than 3m.<sup>36</sup> Such areas are legally protected from development under Indonesian law, though enforcement is lax.<sup>37</sup> The map of planned planting and protected areas that appears in the HCV report<sup>38</sup> shows a significantly smaller protected area than that indicated by the consolidated map of peat and HCV and HCS forest areas produced as part of a later survey process,<sup>39</sup> in particular seeming to ignore much of the peat area, including areas identified as deep peat.

# **JANUARY 6 2014**

'Sustainable Palm Oil Manifesto' (SPOM)
signed by IOI's CEO, including:
• Protection of peat lands regardless of
depth in new developments.
• No deforestation through the conservation
of High Carbon Stock (HCS) forests<sup>40</sup>

# 2013/BY JAN 2014

Significant development has started in PT BSS concession. By 26 January 2013, the NE area of PT BSS has an almost fully developed road and canal network, with the plantation blocks largely cleared. In the SW area of the concession, roads and canals have been established widely across the area and around 7 plantation blocks (~175ha) cleared.

# **JANUARY 30 2014**

IOI's regional Senior Environment, Health and Safety manager signs up to a peatland restoration plan for 141 hectares of deep peat already cleared in PT BSS.<sup>41</sup>

# **FEBRUARY 27 2014**

IOI submits documents to the RSPO in line with the New Planting Procedures for PT BSS .<sup>42</sup> Any development prior to these being accepted is a breach of RSPO protocol.

#### **JUNE 2014**

Greenpeace receives verbal assurance from IOI CEO
Dato Lee in a meeting that the commitment to halt
all clearance of peatlands and forests applied to BSS
and that development would stop while the company
understood peatland/ vegetation/ carbon mapping.

Most of PT BSS has canals and access roads, well in advance of the workplan indicated in the NPP.

### **AUGUST 2014**

A letter from Dato Lee confirms Greenpeace's understanding of the June meeting agreement: that 'our commitment to halt clearance of peat land and potential HCS areas applies to all our active concessions' and 'PT BSS is the only concession where IOI is currently clearing land'.<sup>43</sup>

SkyBox satellite image shows further development/ canals in the western area of PT BSS. By 30 August, the concession has a fully developed road and canal network; this network includes areas identified by IOI on maps supplied to Greenpeace as 'No Go' areas. This network includes peat areas in the SW area of the concession that have not subsequently been developed as plantations.

# NOVEMBER 2014

Subsidiary IOI Loders Croklaan publishes policy committing to no deforestation of HCS areas as defined in the HCS Approach.<sup>44</sup>

# 15 DECEMBER 2014

IOI Group signs sustainability policy commitment to 'no deforestation of HCV areas and HCS areas' and to 'protect peat areas regardless of depth in new developments'.45

# 12 JANUARY 2015

IOI Corporation and IOI Loders Croklaan sign joint statement to comply with each other's sustainability policies.<sup>50</sup>

# NOVEMBER 2015

Greenpeace informs the company of its findings in relation to PT BSS. The company makes no substantial comments on Greenpeace's statements, besides claims to have restored the peat areas that were cleared 'accidentally'.

# 2014/2015

Extensive fires  $^{46}$  burn much of the PT BSS concession, including areas earmarked for protection by the company's HCV/HCS assessment.

A May 2015 report commissioned by IOI from consultants Aksenta found that about half the concession area burned in 2014 alone,<sup>47</sup> including the 141 hectare 'restoration area'.<sup>48</sup> Landsat analysis and FHS data for 2015 show major fires for a second year running,with nearly 1,700 hectares burned in PT BSS, including most of the 141 hectares 'restoration area'.<sup>49</sup>

# OCTOBER 2015

The Indonesian government announces sanctions against PT BSS under the 2009 Environment Act for failing to prevent fires.<sup>51</sup>

#### 5 NOVEMBER 2015

Ministerial Instruction from the Ministry of Environment and Forestry prohibiting, among other things, new planting on burned areas, and requiring companies to block canals.<sup>52</sup>

# APRIL 2016

Field investigation and satellite analysis by Greenpeace documents:

- New planting on burnt areas<sup>53</sup>
- Post-January 2014 drainage and planting on peatland
- Drainage canals in 'No Go' areas as identified for IOI in 2014 on maps consolidating peatland, HCV and HCS (as defined by IOI's own approach) prepared by environmental consultants Aksenta<sup>54</sup>
- Failure to block canals and take other actions in accordance with the Ministerial Instructions issued in November 2015.

# 2 JUNE 2016

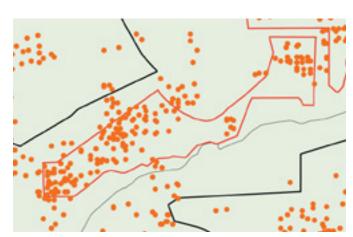
IOI Group issues 'Update on sustainability': 'As always, IOI Group would like to reiterate that we remain dedicated to all necessary actions (both corrective and forward-looking) to demonstrate our continued commitment to building a world class oil palm business, based on our published sustainability principles of no deforestation, no planting on peat, zero-burning on all new planting and re-planting of oil palm, and to drive positive socio-economic impact for people and communities.'56

# APRIL-MAY 2016

Peer reviews of of the HCV reports for PT BSS, PT BNS and PT SKS carried out after IOI's suspension from the RSPO all find issues the reviewers class as 'major' with most aspects of the original reports. In reference to PT BSS, the criticisms included the lack of consideration of HCVs in the wider landscape, the poor quality of maps presented, the lack of monitoring plans and not identifying the company's operational activities as a threat to HCV 1 (biodiversity).<sup>55</sup>

# PT BUMI SAWIT SEJAHTERA: FIRE HOT SPOTS

2014



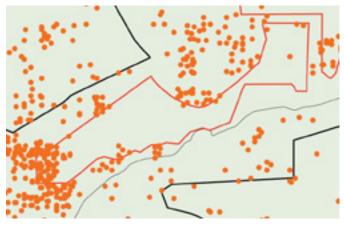


PT BSS, 22 February 2014, 2°48'55.92"S 110°48'21.24"E

Fire burns beside a canal extending outside the boundary of PT BSS.

©AidEnvironment

# 2015





PT BNS, 3 December 2015, 2°53'46.23" S110°40'9.33"E

Fires and haze in forest between two IOI oil palm concessions – PT Berkat Nabati Sejahtera and PT Bumi Sawit Sejahtera – in the Ketapang peat landscape.

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# PT BSS: SATELLITE EVIDENCE OF DEFORESTATION, DRAINAGE, PLANTATION DEVELOPMENT AND BURNSCARS

LANDSAT 7: **24.06.13** 



LANDSAT 7: **26.01.14** 



# LANDSAT 7: 27.06.14

LANDSAT 7: 22.02.15





LANDSAT 7: **05.11.15** 



LANDSAT 7: **15.05.16** 



# CASE STUDY IN DESTRUCTION: CLEARANCE AND PLANTING ON PEAT IN THE NE CORNER OF PT BSS



PT BSS, 17 April 2016, 2°48'22.974"S 110° 55'24.966"E

Drone footage documents burnt forest and drainage canals cutting through peatland toward an area of identified High Conservation Value in the PT Bumi Sawit Sejahtera (IOI) oil palm concession.

@Greenpeace

Peat over three metres deep is protected by Indonesian law.<sup>57</sup> The RSPO Principles include 'Compliance with applicable laws and regulations',<sup>58</sup> and the criteria for new planting direct companies to avoid 'extensive planting on... fragile soils, including peat' in new developments.<sup>59</sup> Nevertheless, IOI cleared important areas of identified deep peat within the PT BSS concession. Despite this, a report commissioned by IOI from consultants Aksenta claimed in May 2015 that the deep peat areas had been cleared because 'severe degradation has decreased their conservation value'; it also confirms important peatland clearance took place following IOI's 6 January 2014 commitment to end peatland clearance: <sup>60</sup>

'According to the land clearance progress report and stacking map provided by the management unit, the management unit conducted its land clearance on the deep peat area in the northern part of the Permit Area, in the period January-February 2014 (see map on page 22). [...] This land clearance activity was stopped immediately on 14th February.'

An image from 18 December 2013 – less than three weeks before IOI's 6 January 2014 commitment to avoid all peatland development regardless of depth – shows drainage canals (straight lines) across much of the area, with land cleared and prepared for planting in the southwest and apparent rough vegetation in other areas. Some of what remained of this was later recognised as high carbon stock, by the company's chosen methodology.

By 26 January 2014, Landsat 7 images indicate that all of the 141 hectares deep peat area had been fully developed and most

of it cleared. Additionally, roads and canals to the north of this area, but also cutting into deep peat, were also in place.

On 30 January 2014, IOI's regional Senior Environment, Health and Safety manager signed up to a peatland restoration plan for 141 hectares of deep peat already cleared in PT BSS.<sup>61</sup>

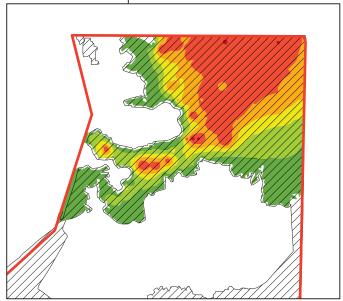
On 3-4 February 2014, the SAI Global assessors conducting the NPP verification audit for IOI visited the concession. The NPP document reports: 'during field observation we found that peat area of more than 3 meters deep outside of HCV identified has been opened on Block O5a (Longitude: 1100 54,33' East & Latitude: 20 48,95' South) and Block P5a (Longitude: 1100 54,77' East & Latitude: 020 48,96' South) – see appendix 3. The opening of deep peat in the new plantings area was found not in accordance with PT BSS's development and management plan and RSPO Principles and Criteria especially criterion 7.3 indicator major 1 and criterion 7.4 indicator minor 2. SAI Global noted that PT. BSS has established restoration program started in 2014 up to 2016 (Appendix 4).'62

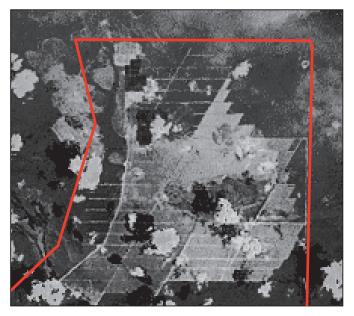
By 11 February 2014, Landsat 7 images show at least one additional road and canal, cutting into deep peat and connecting an identified area of HCV (the so-called HCV 7 area) to a water reservoir at the nursery.

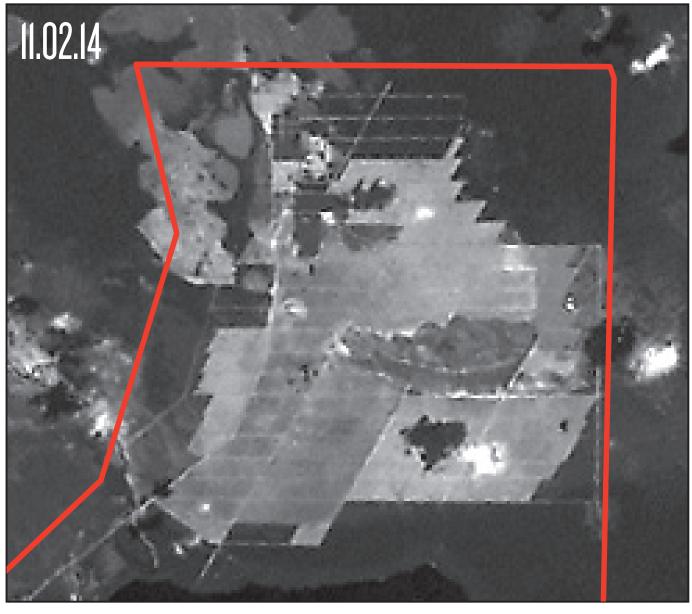
In October 2014, much of the 141 hectares restoration area burned.<sup>63</sup> A high resolution satellite image from 19 December 2015 shows that drainage canals continue to cover the entire area intended to be restored, and reduced vegetation suggests little in the way of serious restoration. Young planting is now visible (narrow parallel lines of green) in the southwestern part of the restoration area.<sup>64</sup> It is also visible on an area of peatland just east of the restoration area, also on peat.



26.01.14







# IOI'S LEGACY OF FOREST DESTRUCTION IN PT BSS



PT BSS, 7 March 2014, 2°50′38″S 110°54′40″E Drainage canal cutting into an area later identified as a No Go area of forest containing High Conservation Value.

©Rante/Greenpeace



PT BSS, 20 February 2015 Clearance of identified High Carbon Stock forest.

@AidEnvironment

# ALL TALK AND NO ACTION



On 27 May 2016, IOI circulated a new draft policy and action plan for consultation.<sup>65</sup> This goes no further than existing IOI policy, and even appears to water down its past commitments.<sup>66</sup> Greenpeace informed the company that the proposal remains weak, with no credible timeline for implementation or measurable milestones. It lacks the following significant commitments:

- A moratorium on expansion, including in existing
  concessions: Although IOI's policy commits the company
  to no deforestation and HCV clearance, there is no
  mechanism to ensure that all remaining forest and other
  socially or ecologically-important areas within the wider
  landscape are identified and protected. The company should
  commit to an immediate moratorium on development,
  including in existing concessions, while the appropriate
  studies are conducted.
- A landscape approach to peatland conservation: IOI should make an explicit commitment to conserve the forest and peatland landscapes impacted by its supply base. This starts by hydrological mapping of the landscapes affected by IOI's supply base using appropriate technology (including LiDAR) to understand the impact of its deforestation and drainage. This baseline data will help to produce integrated management plans that mitigate fire risk and protect all remaining forest and peatland in these landscapes.
- Timelines and measurable indicators: The policy lacks
  measurable objectives, and lacks milestones and timelines to
  achieve those objectives. For example, it is unclear when the
  company plans to ensure that the IOI Group is fully compliant
  with its own policies.
- Drainage and past damage: The action plan does not specify ending drainage affecting peat inside and outside this or IOI's other concessions in the area, nor does it specify measures to protect or restore natural vegetation to all peat areas. No

mention is made of damage to other HCS and HCV areas or how this would be remediated.

- Inadequate standards for forest and peat protection: The IOI Group is backing a high carbon stock study funded by signatories of the Sustainable Palm Oil manifesto, 67 which would permit clearance of forests with up to 75 tonnes of carbon per hectare: given the HCS study is not aiming to achieve 'no deforestation', this does not represent an adequate implementation of the company's commitment. Instead the 'High Carbon Stock Approach' developed and overseen by a group of plantation companies and NGOs, is based on vegetation classes and protects patches of 'young regenerating forest,'68 HCS forest that generally contains less than 75 tonnes of carbon per hectare. The policy also cites the RSPO Principles and Criteria (P&C) and 'Manual on Best Management Practices for existing oil palm cultivation on peat' as its guides on existing plantations; these are inadequate and fall short of what other players in the plantation sectors are doing. The action plan commits the company to the RSPO Next standards, <sup>69</sup> but these provide no additional protection for peatlands in existing plantings and do not currently set a definition for high carbon stock forest.70
- Transparency and accountability: the policy omits a
  measurable commitment to transparency. IOI should publish all
  concession maps for its own operations through Global Forest
  Watch's online forest monitoring and alert system and require
  all suppliers to do likewise.
- Communities offered fair and equitable
   opportunities: the policy should include an explicit
   commitment to conduct independent assessments of social
   and labour conditions in palm oil concessions in Malaysia
   and Indonesia and resolve outstanding grievances including
   with the Long Teran Kanan community in a transparent
   manner to the satisfaction of the local people.

# THIRD-PARTY PALM OIL SUPPLIERS



PT Arrtu Energi Resources, 20 September 2015, 1°37'20.1"S 110°3'29.671"E

A Greenpeace investigator captures GPS coordinates on the boundary of a PT Arrtu Energi Resources (Eagle High) concession in Ketapang, West Kalimantan.

©lfansasti/Greenpeace

Companies including Eagle High supply palm oil to large RSPO members including Cargill and Wilmar, who in turn trade with IOI subsidiaries as well as global brands. Recent investigations by Greenpeace revealed extensive fires and clearance in the peatland area within and beyond concession boundaries of a PT Arrtu Energi Resources (Eagle High) concession in Ketapang, West Kalimantan. The area is identified as orangutan habitat and is covered by the government moratorium on new permits for development on primary forest or peatland. Images such as these demonstrate how the problems in Ketapang go beyond IOI Group.

The web of external suppliers and complex trading makes it essential for the palm oil industry as a whole to clean up its operations and monitor smaller producers, as part of solving the problems of fires and peatland destruction.



PT Arrtu Energi Resources, 20 September 2015

Drone footage on the boundary of an Arrtu Energi Resources (Eagle High) concession in Ketapang, West Kalimantan shows extensive fires and clearance in the area within and beyond concession boundaries.

@Greenpeace



Kalimantan, 3
December 2015,
3°3′35.28″S
113°30′42.072″E
Peatland forest.
©Ifansasti/Greenpeace



PT BNS, 3 December 2015, 2°54′22″S 110°41′1″E Smoke rising from peatland at the border of the PT Berkat Nabati Sejahtera (IOI Group) oil palm concession in Ketapang, West Kalimantan.

©lfansasti/Greenpeace

# RSPO STANDARDS FAIL TO PROTECT PEAT LANDSCAPES



Whilst the RSPO's standards currently acknowledge much of the damage oil palm plantations do to peat, they fail to incorporate real efforts to prevent this damage, leaving the RSPO lagging behind both progress in the private sector and recent directives from the Indonesian government – notably instructions from the Minister of Environment and Forestry to all plantation companies to dam canals, to halt all development on peat and to restore all burnt areas.<sup>71</sup>

The RSPO 2013 Principles and Criteria (P&C) and 'Manual on best management practices for existing oil palm cultivation on peat' clearly state that subsidence and significant  $\rm CO_2$  emissions are inevitable in palm plantations on peat even in optimum conditions. The best practice manual cites scientific studies showing a 'carbon footprint of about 60 tonnes of  $\rm CO_2$ /hectare/year'<sup>72</sup> under optimal drainage of 40–60cm, and notes that 'implementation of good water management and other BMPs will reduce subsidence but will not stop it'<sup>73</sup> so that 'in the long term, the demise of the drained peat soil layer is inevitable'.<sup>74</sup>

It appears that the RSPO accepts that plantations on peat are a short-term destructive land use with major environmental implications, yet the P&C do not even ban replanting on peat after the current plantation cycle, merely recommending drainability assessments and that companies 'should consider ceasing replanting'.75

The P&C direct companies to avoid 'extensive planting on ... fragile soils, including peat' in new developments<sup>76</sup> with accompanying guidance suggesting this should be no more than 100 hectares in a development.<sup>77</sup>

Neither document addresses the damage to peat and forests in the wider landscape caused by drainage for plantations.

The RSPO's failure to protect peatland in its P&C and best practice manual and the failure to effectively enforce existing standards, mean it is falling behind best-practice efforts to prevent fires and degradation.

# ALTERNATIVES - CROSS-SECTOR COLLABORATION ON PEAT PROTECTION

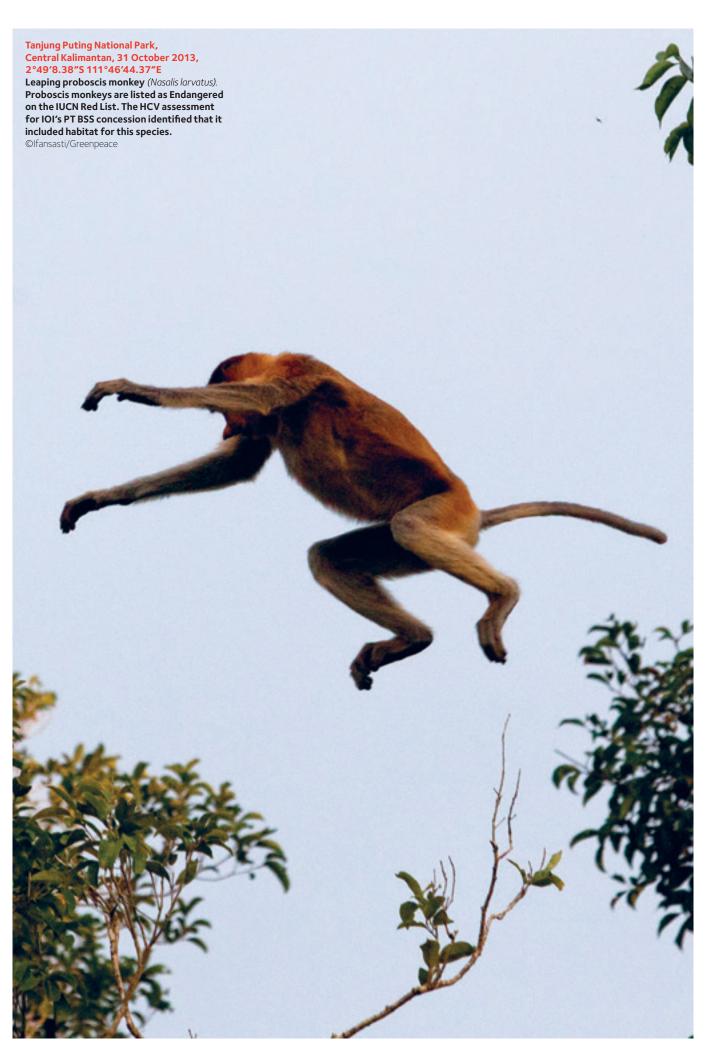
Work to protect and restore Indonesia's peatland has already begun.

Hydrological mapping is essential to assessing priority areas and private-sector work has now developed a cost-effective approach to LiDAR mapping which can be used on major domes and deep coastal peat, which account for the lion's share of Indonesia's peatland. This system has already been used to survey around half of Sumatra's peatland and the data will be made available to the Indonesian government.

Rewetting of dry peat by blocking drainage canals can help prevent fires and reduce peat degradation. Reviews of past canal blocking have shown that community-constructed box dams can be a long-term solution in smaller ditches, but have a limited lifespan in large canals where water flows are higher. An alternative has recently been developed for use at scale, using dams built of compacted peat: tests so far suggest these dams are more robust and cost effective and could provide a long-term solution in primary drainage canals. Thousands of such dams have now been build on perimeter canals in pulp concessions in Sumatra.

Companies that between them control 2 million hectares of peatland are showing some signs of starting to mitigate their impact on peat. Much more is needed including collaboration between actors operating in the same peatland landscapes . These landscapes are often impacted by oil palm company operations.

It is critical for the plantation sector as a whole – pulp growers, oil palm growers and industry bodies such as the RSPO – to take action.



# 6-STEP PLAN TO SAVE PEAT LANDSCAPES

#### 1. MORATORIUM

 Immediate moratorium on plantation development and expansion.

#### 2. MAPPING

- Conduct HCV and HCS
   assessments (using the High
   Carbon Stock Approach
   methodology) to identify all
   remaining forest and other socially
   or ecologically-important areas.
- Map out all peatland landscapes affected by own operations and suppliers using appropriate technology, including LiDAR, to identify priority areas for intervention and those areas most at risk from subsidence. Make this data publicly available.

#### 3. COLLABORATION

- Engage with communities living on and around peat domes and incorporate their knowledge and needs in development of management plans.
- Multi-stakeholder partnerships within priority peatland landscapes to collaborate on peatland protection and management.

#### 4. PROTECTION

#### SHORT-TERM

- Immediate retirement of areas most dramatically degrading peatland forests (eg through dieback) inside or adjacent to the concession areas.
- Raise water levels throughout plantation areas to attempt to reduce subsidence rates and decrease fire risks.
- Introduce buffer zones to protect remaining peatland forests in and adjacent to concessions.
- Permanently protect all remaining forest and other socially or ecologically important areas in concessions.
- Require all third party suppliers to do likewise and develop an ambitious time-bound plan for phasing out non-compliant suppliers.

#### **MEDIUM-TERM**

- Government: Rezoning of peatland areas and revision of peat regulations to protect forest, stop drainage impacts and prevent further peatland degradation and fires.
- RSPO: Revise standards and monitoring/enforcement systems to compel members to protect peat landscapes on and near existing and new plantations.
- Development of non-drainagebased uses of peatland including cultivation of alternative species and provision of economic alternatives for people living in peat landscapes.

#### 5. RESTORATION

- Restoration of natural vegetation on the most vulnerable burned or abandoned peat areas.
- Time-bound plan to phase out all existing drainage affecting peat landscapes by 2040 or earlier.

# 6. TRANSPARENCY AND MONITORING

- Publish all concession maps through Global Forest Watch's online forest monitoring and alert system.
- Require all suppliers to publish concession maps covering their entire operations, prioritising high risk areas by end 2016. Commit to insert transparency clauses in new contracts and to start phasing out producers who do not comply.
- Collaborate on ongoing monitoring of forest cover, peatland subsidence, water table depths and emissions at concession and landscape levels.

# MAPPING SOURCES

Burned area analysis by Greenpeace based on Landsat 7 and Landsat 8 images.

Peat area based on amalgamating:

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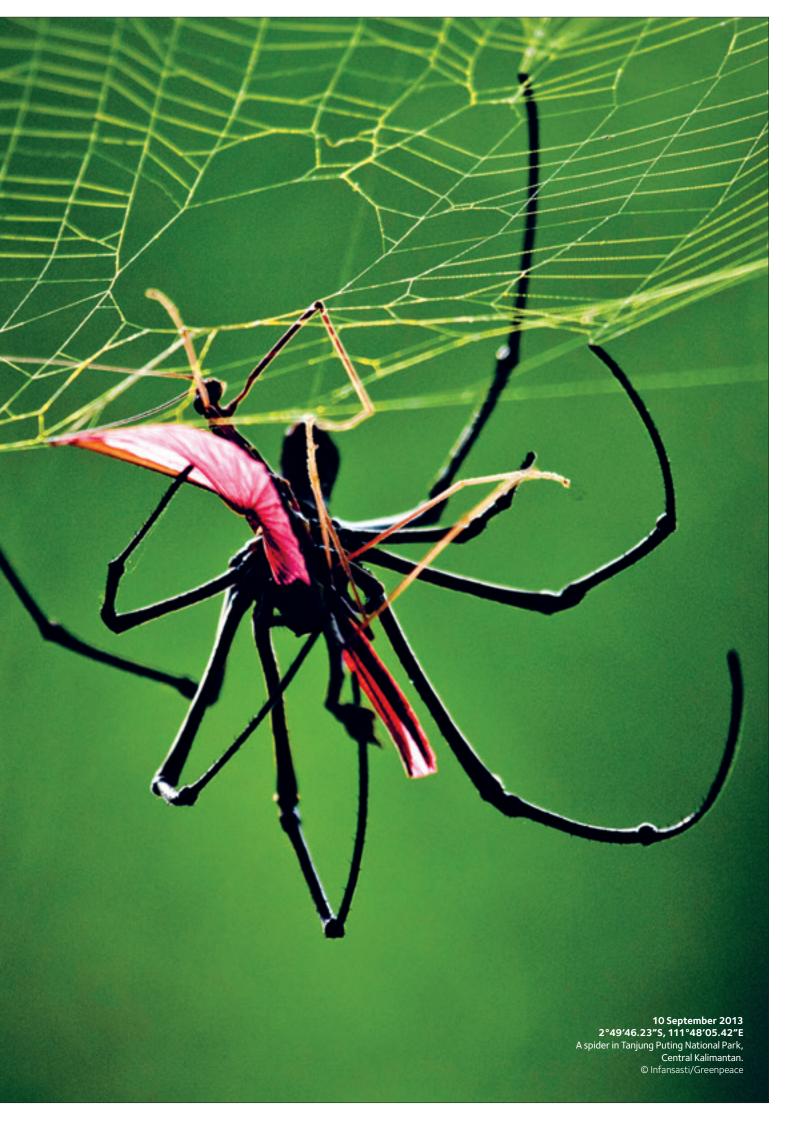
Oil palm concessions 2015: Greenpeace mapping analysis based on agriculture plantation maps provided by the Planning Department of the Ministry of Forestry, Indonesia, downloaded 29 July 2010 (appgis.dephut. go.id/appgis/kml.aspx), supplemented and updated by Greenpeace with data gathered from provincial planning agencies (BAPEDA) and various plantation companies.

Pulpwood plantation (HTI) concessions 2014: Ministry of Forestry Peta indikatif arahan pemanfaatan hutan pada kawasan hutan produksi yang tidak dibebani Izin untuk usaha pemanfaatan hasil hutan kayu / Industrial forestry concession map, indicating areas for future development, 2014. Badan Penelitian, Pengembangan dan Inovasi / Research, Development and Innovation Agency. http://www.forda-mof.org/index.php/berita/post/1913

#### Note:

For the purpose of this report, Greenpeace stands for Greenpeace International except where otherwise stated.





# **ENDNOTES**

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- 8 Around 49,000 hectares of 153,000 hectares. Greenpeace Indonesia mapping analysis 2016.
- 9 For the purpose of this report, the Ketapang peat landscape is defined as the area of peat located in the south of the West Kalimantan district of Ketapang, covering an area of around 214,000 hectares. The peat map used here is a combination of existing peat maps — see box 'What is the Ketapang peat landscape?'
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