



No one is safe

Illegal Indonesian palm oil spreads through global supply chains despite global sustainability commitments and certification



**Investigative Report
Eyes on the Forest**

Published in April 2016

Eyes on the Forest (EoF) is a coalition of environmental NGOs in Riau, Sumatra: Friends of the Earth "Walhi" Riau Office, Jikalahari "Riau Forest Rescue Network" and WWF-Indonesia, Riau Program. EoF monitors the status of the remaining natural forests in Sumatra's Province of Riau and disseminates the information worldwide.

For more news on Eyes on the Forest, go to: <http://www.eyesontheforest.or.id>

For photos and maps, go to: <http://maps.eyesontheforest.or.id>

Email: [editor\(at\)eyesontheforest.or.id](mailto:editor(at)eyesontheforest.or.id)

Front cover

Photo: A truck with FFB illegally produced and harvested inside Tesso Nilo National Park enters a CPO mill of Asian Agri's PT. Inti Indosawit Subur (Ukui 1 mill). Photo taken by Eyes on the Forest at S0°13'24.43" and E102°5'41.40" on 23 January 2015.

Contents

EXECUTIVE SUMMARY	1
INTRODUCTION	3
INVESTIGATION FINDINGS	5
1. Oil palm plantations inside protected areas	5
2. Oil palm encroachment and fires	7
3. Tracking illegally grown FFB from protected areas to CPO mills	9
4. Tracking CPO tainted with illegally grown FFB	12
5. Exposure of committed companies to CPO mills which received illegal FFB	14
5.1. Wilmar	16
5.2. Golden Agri-Resources	20
5.3. RGE (Asian Agri & Apical)	21
5.4. Musim Mas	21
6. CPO mills at risk based on EoF findings of illegality and Unilever commitments	23
6.1. CPO mills inside risk buffer surrounding illegal oil palm plantation	24
6.2. CPO mills inside risk buffer surrounding Unilever no-go zones	25
CONCLUSIONS & RECOMMENDATIONS	28
1. Systemic use of illegal FFB	28
2. Lack of traceability to plantation level	29
3. RSPO Segregated and Identity Preserved products	30
4. Legacy of deforestation and illegal trade	32
Appendix 1. Supply chains of FFB illegally grown inside Tesso Nilo National Park and the ex Dalek area to surrounding CPO mills	33
Appendix 2. Supply chains of CPO tainted by FFB illegally grown inside Tesso Nilo National Park and the ex Dalek area to refineries/ports	40
Appendix 3. Responses to this report	45
REFERENCES	47

Glossary

Illegal palm oil in this report refers to palm oil derived from plantations grown inside Tesso Nilo National Park or inside the “Forest Estate”, such as those investigated by WWF-Indonesia and Eyes on the Forest: the selective logging concessions of PT. Siak Raya Timber and PT. Hutani Sola Lestari adjacent to Tesso Nilo National Park, the Bukit Batabuh Tiger Corridor and part of the expired selective logging concession of PT. Dalek Hutani Esa in Bukit Tigapuluh (ex Dalek) which was zoned for ecosystem restoration concession at the time of investigation.

The “Forest Estate” classifies land managed by the Ministry of Environment and Forestry. It does not allow development for agricultural commodities, such as oil palm plantations.

Encroachment in this report refers to illegal activities such as occupying, controlling and operating inside a “National Park” and/or the “Forest Estate”.

Tainted supplies in this report refer to CPO or other palm oil products which may have been “contaminated” when illegally grown FFB (fresh fruit bunches) were milled and the oil was bulked with other supplies for shipment and/or further processing.

EXECUTIVE SUMMARY

Palm oil has caused dramatic deforestation in Indonesia, particularly in Sumatra. In 2015, Indonesia and neighboring countries suffered one of the most far reaching tangible impacts of deforestation - regional haze and green house gas emissions caused by long-lasting widespread fires. They resulted in estimated emissions of 1.75 billion metric tons CO₂ equivalent, more than all German or Japanese fossil fuel emissions¹. Fires are often used to after deforestation to prepare land for planting with oil palms.

Despite far reaching industry commitments to stop deforestation the remaining ever smaller and ever more precious forest blocks continue to be converted to oil palm plantations whether they are legally protected by government or not.

This report demonstrates how Crude Palm Oil (CPO) tainted by illegally grown Fresh Fruit Bunch (FFB) from government protected areas deep inside Sumatra entered the supply chains of several of the most well-known palm oil suppliers in the world. Eyes on the Forest (EoF) investigations found subsidiaries of the *Royal Golden Eagle (RGE)* group, *Golden Agri-Resources (GAR)* of the *Sinar Mas* group (*SMG*), *Wilmar*, *Musim Mas* and many other smaller companies receiving illegal fresh fruit bunch (FFB) or crude palm oil (CPO) tainted with illegal FFB. Trucks with illegal palm fruit drove up to 128 km and spent up to 5 days on the road, long and far enough to reach dozens of CPO mills along the way. Given the small scale of the investigations, EoF believes its study identified only the tip of an iceberg. The issue appears to be systemic and the majority of the world's palm oil supplies may be tainted with FFB illegally grown in some of the last remaining habitats of critically endangered species like tigers, elephants, and orangutan.

EoF modelled so-called "risky FFB catchment areas" using Unilever's sustainability and EoF's legality parameters. Almost all CPO mills in Sumatra and its dominant producer Riau province were flagged as being "at risk". The location of a CPO mill thus is not a good indicator for the risk of violating voluntary sustainability commitments or of buying illegal product. There are no safe distances in Riau and Sumatra. Tracing supplies to the CPO mill only will not prevent illegally grown FFB from entering the mills. It will not prevent precious remaining tropical forests to be cleared to supply the world with palm oil. In an environment of increasing proliferation of oil palm grown illegally inside protected areas, increasing numbers of "dealers" and increasing numbers of "independent mills" without their own plantations, companies like Unilever will need to focus on tracing all FFB supplies to the plantation level.

EoF found four RSPO Supply Chain Certificate holders from three groups to be involved in the trade of tainted CPO from mills which purchased illegal FFB. RSPO standards need to include verification and transparency on the origins of all FFB supply for a CPO mill, not only for certified but also for non-certified oil. Companies who do not want to be exposed to the legal risks of knowingly dealing with tainted CPO should be able to turn to facilities which are certified to only buy FFB from known and certified sources (RSPO "Identity Preserved (IP)" or "Segregated (SG)" Supply Chain Models). However, today, most CPO mills in Indonesia do not have this certification.

The general lack of governance and enforcement across the country encourages large-scale illegal forest conversion into illegal oil palm plantations. The lack of effective due diligence by companies buying FFB incentivizes it. EoF realizes that fighting the systemic illegality in Indonesia's palm oil sector is not a challenge which can easily be solved by one mill/refinery/company or group alone. If one mill stops purchasing illegal FFB, the supplies will find their way to another mill. Groups need to work together to stop questionable suppliers so they cannot simply divert their products to less concerned customers. Eventually, they will sell their tainted products and incriminate everybody in the tainted downstream supply chain. Groups need to be transparent about their suppliers as EoF showed that tainted CPO from one group easily flows to the refineries of another. The scale

1 | EoF (April 2015) No one is safe.

of the legal issues buyers and sellers of tainted product potentially face is huge as they knowingly or unknowingly purchase and transfer illegal supplies.

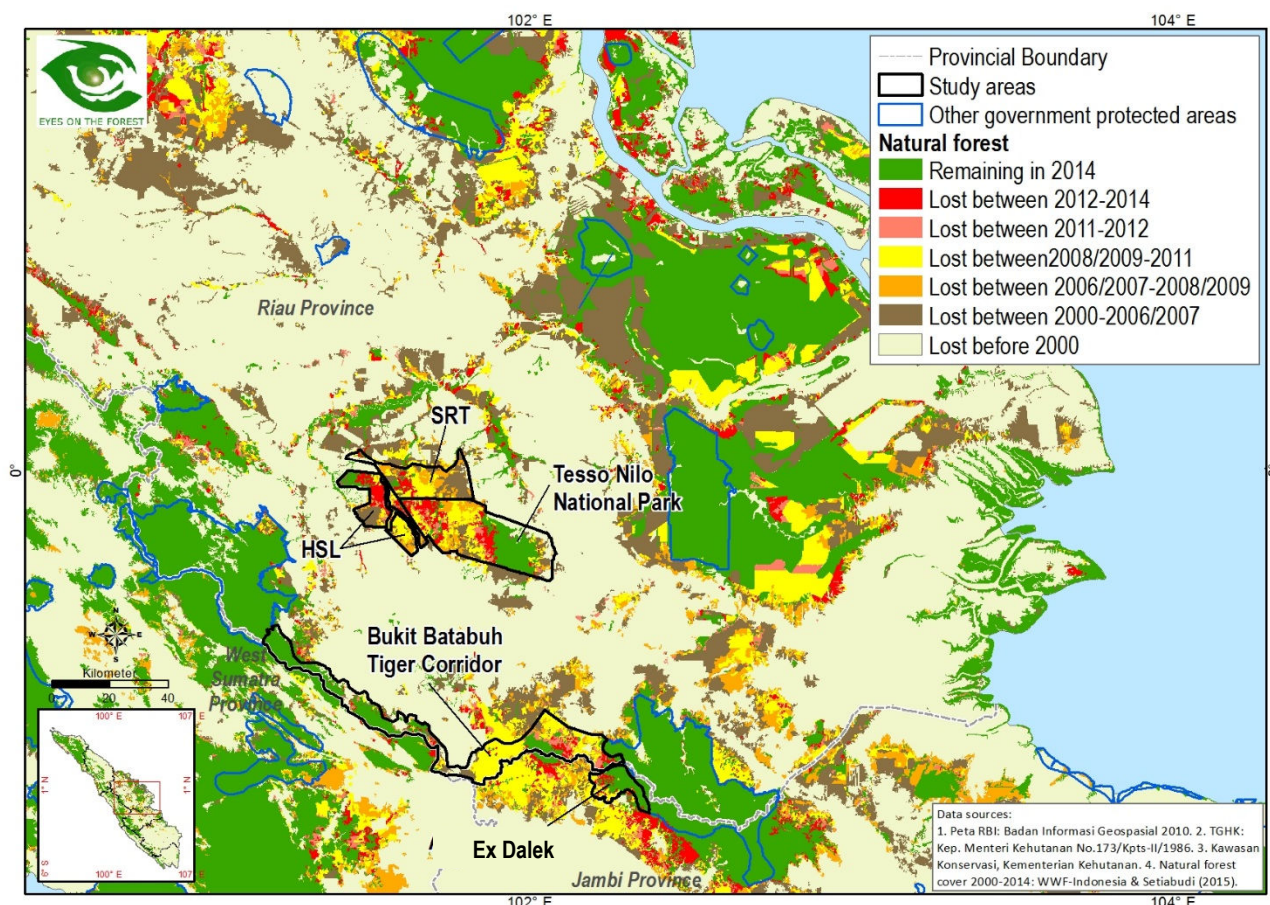
The groups mentioned in this report and the industry in general have been profiting from illegal deforestation of Sumatra's precious ecosystems for years. They provided the market opportunities and access that drove many illegal oil palm plantation developments and their often devastating use of fire. This report focuses on legal issues. But legality is only the minimum requirement for all groups – their commitments aim much higher than that. They are committed to zero deforestation. They need to address their legacy of past deforestation just as Indonesia's two biggest pulp & paper producers, APP and APRIL have committed to do. They need to contribute to the conservation and restoration of the islands' ecosystems.

Of the companies found to be involved in the trade of illegal FFB or tainted CPO, EoF contacted Wilmar, GAR, RGE (Asian Agri and Apical) and Musim Mas asking them to review a final draft of this report and respond to EoF's recommendations. Summaries of their responses are attached in Appendix 3.

INTRODUCTION

Palm oil and paper industries have caused dramatic deforestation in Indonesia. Sumatra's 44 million hectare mainland was covered by 25.4 million ha of natural forests in 1985 (58%) and 11.5 million ha in 2014 (26%). The island lost 55% of its forest over 29 years, cleared at an average rate of 480,000 hectares per year (1.9%)².

Despite far reaching industry commitments to stop deforestation the remaining ever smaller and ever more precious forest blocks continue to be converted to oil palm plantations whether they are protected by government or not. Almost 440,000 hectares, 4% of the forest remaining in 2012 was lost by 2014, mostly in Riau and Jambi provinces in Sumatra (Map 1).



Map 1. Deforestation in central Sumatra and the five areas investigated so far by WWF-Indonesia and Eyes on the Forest where oil palm plantation development is considered illegal: Tesso Nilo National Park and adjacent PT. Hutani Sola Lestari (HSL) and PT. Siak Raya Timber (SRT) selective logging concessions, Bukit Batabuh Tiger Corridor, a part of the expired selective logging concession of PT. Dalek Hutani Esa in Bukit Tigapuluh, zoned for ecosystem restoration concession at the time of investigation (Ex Dalek).

In 2011 and 2012, WWF-Indonesia investigated the supply chain of illegally grown oil palm fruit (FFB) from inside Tesso Nilo National Park and two adjacent logging concessions (Map 1) in Riau Province, Sumatra, to crude palm oil (CPO) mills and refineries operated by the world's largest palm oil trader *Wilmar* and one of Indonesia's lead producers, *Asian Agri* of the *Royal Golden Eagle* (RGE) group³.

The 83,068 hectares national park provided vital habitat for the critically endangered Sumatran elephant and tiger, but its forest cover had declined to only 18% by end 2015 due to rampant illegal encroachment. Tesso Nilo National Park is just one of many examples^{4, 5, 6} where lack of governance has allowed illegal development of oil palm plantations. Riau,

Indonesia's top palm oil producing and exporting province has been plagued with deforestation for development of often illegal oil palm plantations. Indonesia's Forestry Minister admitted in 2014 that 50%, or two million hectares, of all oil palm plantation in Riau is "illegal or has no permit"⁷.

Between 2012 and 2014, EoF investigated the supply chain of illegally grown FFB from inside the "Bukit Batah Tiger Corridor"⁸, another protected key conservation area in Riau that is facing rapid deforestation (Map 1), to CPO mills and on to refineries or ports of *Wilmar* and *Asian Agri*, and six other corporate groups, *Agro Muko* (Belgium *SIPEF Group*⁹), *Darmex*, *Incasi Raya*, *Mahkota*, *Sarimas* and *SK Group*. *SK Group* claims companies like *Astra*, *Cargill*, *Darmex*, *Musim Mas*, *RGE*, *Salim*, *Sarimas* and *GAR* groups as its customers¹⁰. Unless *SK* diligently segregated all the CPO its trucks and barges transported by plantation source, it may have shipped CPO contaminated by illegally grown FFB to its customers.

Since WWF and EoF published these findings, *Wilmar* and *Asian Agri* have made far reaching commitments to sustainability^{11, 12}. Similar commitments have been made by *GAR*¹³ and *Musim Mas*¹⁴. The four companies signed the "New York Declaration on Forests" during the 2014 United Nations Climate Summit¹⁵. *Wilmar*¹⁶, *Asian Agri*¹⁷ and *GAR*¹⁸ also signed the 2014 Indonesian Palm Oil Pledge (IPOP) with the Indonesian Chamber of Commerce and Industry¹⁹. In addition, *Asian Agri* and *Apical* of *RGE* and *Musim Mas* signed the Sustainable Palm Oil Manifesto²⁰. None of these pledges allow them to purchase illegally grown FFB or tainted CPO.

All of the committed companies, except *GAR*, have clear deadlines by which all of their FFB and CPO supplies have to meet their policies (Table 1). However, their progress on tracing supplies to the plantation level appears to be slow. Yet, deforestation – the core of all the companies' commitments – happens at the plantation level. That's where illegally grown palm fruit enters the global supply chains. This report demonstrates the contamination of global palm oil supply chains with illegally produced palm fruit, the very high risk Indonesia's premier palm oil producing province Riau poses to committed companies, and the apparent lack of focus on this issue as some of the world's major palm oil suppliers implement their recent sustainability commitments.

Table 1. Target dates by which all suppliers of FFB and CPO, including third parties, have to comply with sustainability policies and other pledges of each of the four companies.

Company	Suppliers publicly listed	Full compliance to plantation	Full compliance to CPO mill
Wilmar ²¹	Yes, at its dashboard ²²	Yes (by end 2015)	Yes (by end 2015)
GAR ²³	Yes, at its dashboard ²⁴	Yes (no target set ²⁵)	Yes (by end 2015 ²⁶)
RGE/Asian Agri ²⁷	Not yet ²⁸	Yes (by 2016)	Yes (by 2016)
RGE/Apical	Yes, at its dashboard ²⁹	Yes (by 2020) ³⁰	Yes (by end 2015) ³¹
Musim Mas ³²	Yes, at its dashboard ³³	Yes (by end 2016)	Yes (by end 2015)

INVESTIGATION FINDINGS

1. Oil palm plantations inside protected areas

Between January and April 2015, EoF revisited Tesso Nilo National Park to investigate the illegal FFB trade and determine how well the much publicized global zero deforestation commitments are holding up locally. In addition, EoF investigated part of the expired selective logging concession of PT. Dalek Hutani Esa, at that time zoned as ecosystem restoration concession in the Bukit Tigapuluh landscape (hereafter called “ex Dalek area”). The landscape is habitat of Sumatran elephants, tigers and orangutans³⁴.

By 2011, encroachment in Tesso Nilo National Park had reached 43% or 35,416 hectares, of which more than 15,000 hectares had been planted with oil palm³⁵. Since then, encroachment escalated, leaving less than 15,000 hectares of natural forest standing by December 2015. Satellite image analysis and field surveys of the ex Dalek area between February and June 2014 estimated 8,693 ha of encroachment inside the concession, of which almost 40% (3,369 ha) had been planted with oil palm. In December 2015, the area had only 6,560 ha (41%) forest cover.



Picture 1. Oil palm plantation inside Tesso Nilo National Park. Photo taken by Eyes on the Forest at S0°15'32.77" and E101°44'4.43" on 19 January 2015.



Picture 2. Young oil palm plantation inside the ex Dalek area. Photo taken by WWF-Indonesia at S0°57'46.52" and E102°11'28.59" on 3 April 2014.

All oil palm plantations inside Tesso Nilo National Park and the ex Dalek area, part of Government's "Forest Estate", are considered illegal. Transactions of FFB originating from them are considered illegal and anyone involved in the transaction process could face criminal charges in Indonesia (Box 1).

Box 1. *Relevant letters of Law No. 18/2013 "The Prevention and Eradication of Forest Destruction"³⁶ on development of oil palm plantations in forest areas and transaction of products from such plantations (English translation published by FAO³⁷):*

**Chapter IV Eradication of Forest Destruction,
Part Two Provisions on Forest Destruction Acts,
Article 17**

(2) Anybody is banned from:

- b. conducting plantation activities in forest area without a permit from the Minister;
- e. buying, marketing and/or processing plantation products from plantation activities in forest area without a permit.

**CHAPTER X Crime Provisions,
Article 92**

(1) Anybody who knowingly:

- a. conducts plantation activities without a permit from the Minister in forest area as referred to in Article 17 paragraph (2) letter b; and/or
- b. brings heavy duty equipment and/or other equipment commonly used or believed to be used to conduct plantation activities and/or transport plantation products in forest area without a permit from the Minister as referred to in Article 17 paragraph (2) letter a shall be sentenced to a minimum of 3 (three) years and a maximum of 10 (ten) years in jail and be fined a minimum of Rp1,500,000,000.00 (one billion, five hundred million rupiah) and a maximum of Rp5,000,000,000.00 (five billion rupiah).

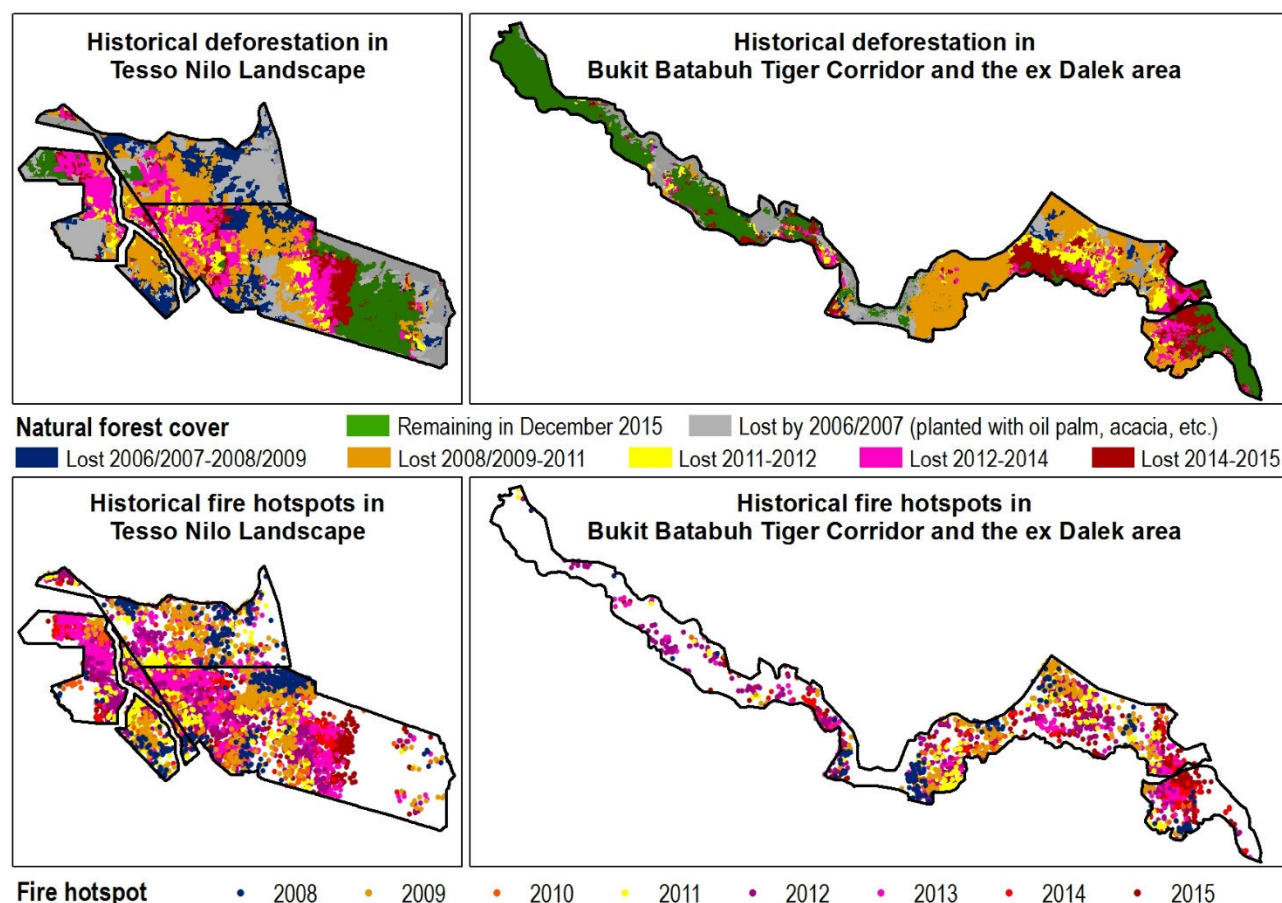
Article 93

(3) Any corporation:

- c. buys, markets and/or processes plantation products from plantation activities in forest area without a permit as referred to in Article 17 paragraph (2) letter e shall be sentenced to a minimum of 5 (five) years and a maximum of 15 (fifteen) years in jail and be fined a minimum of Rp5,000,000,000.00 (five billion rupiah) and a maximum of Rp15,000,000,000.00 (fifteen billion rupiah).

2. Oil palm encroachment and fires

As satellites detect new deforestation in our study areas, they also often detect fire hotspots. EoF compared historical deforestation (up to December 2015) and location of hotspots (between 1 January 2008 and 31 December 2015) and found them to be well correlated. In the investigated areas, Tesso Nilo Landscape, Bukit Batabuh Tiger Corridor and ex Dalek, new illegal oil palm development appears to have been the key cause of fires. No hotspots showed up where forest cover remained or where oil palm and/or pulpwood concessions had been planted long ago (Map 2).



Map 2. Historical deforestation and fires in the areas investigated.

Oil palm was a key driver of fires far beyond our study area. EoF found that 22% of all hotspots detected in Riau between July and October 2015 (4,545) occurred in oil palm concessions, most of them located on peat^{38, 39}. Oil palm development on peat is particularly problematic because of the huge carbon emissions it causes. Yet oil palm continues to be planted on peat, even in protected areas. Giam Siak Kecil UNESCO Biosphere Reserve and Kerumutan Wildlife Reserve in Riau suffered rampant illegal oil palm plantation development and use of fire by encroachers^{40, 41, 42}. Greenomics' recent analysis showed that nearly 1.3 million hectares of Riau's peatland, protected by the Government of Indonesia's "logging moratorium"⁴³, has already been planted with oil palm⁴⁴.

In 2015, Indonesia suffered especially serious fires because of El Niño conditions, more than 100,000 man-made fires⁴⁵ burnt an estimated 2.6 million hectares of land between June and October 2015⁴⁶. The World Bank wrote: "Man-made fires – more than 100,000 of them – were used to prepare land for agriculture and to gain access to land cheaply [...] This vast economic and environmental crisis is repeated year after year, as a few hundred business and a few thousand farmers seek to profit from land and plantation speculation practices, while tens of millions of Indonesians suffer health costs and economic disruptions. [...] In

2015, the estimated economic cost of fire to Indonesia (IDR 221 trillion) was larger than the estimated value added from Indonesia's 2014 gross palm oil exports (IDR 115 trillion) and the value added from the country's entire 2014 palm oil production (IDR 168 trillion). While not all fires are set to clear land for oil palm, oil palm – an important and growing sector of the economy – is a large driver of land conversion.⁴⁷

Citing an analysis by the Center for International Forestry Research which concluded that using fire for land acquisition and clearing for oil palm generates a cashflow of at least USD 3,077 per hectare in just three years⁴⁸, the World Bank continued: "Without effective enforcement there is no control; and, given the profitability of crops such as oil palm, there is a strong incentive to continue the practice."⁴⁹

The Bank concluded "The government has pledged to prioritize a response and the president has called for action. Now is the time for Indonesia to address the underlying drivers of man-made fires, enforce laws and revise policies in order to reduce the risk of these economic disasters from recurring."⁵⁰ EoF agrees with this conclusion and urges companies buying oil palm fruit to understand where their fruit is coming from and ensure that it is not linked to fires, to peat drainage and to deforestation.



Picture 3. Around 400 ha inside PT. Hutani Sola Lestari in the Tesso Nilo Landscape were deforested and burnt. Photo taken by Eyes on the Forest at S0°1'52.63" E101°28'9.54" on 19 October 2015.

3. Tracking illegally grown FFB from protected areas to CPO mills

In 2014 and 2015, EoF tracked problematic oil fruit from production to processing. Investigators picked up the trails of loads of FFB at their first collection points inside Tesso Nilo National Park and the ex Dalek area and continuously documented their routes until they entered mill gates (Map 1).

EoF confirmed (Appendix 1, Table 2):

- Eleven chains of custody of illegally grown FFB from seven different encroacher groups operating inside Tesso Nilo National Park to six different CPO mills.
- Two chains of custody of illegally grown FFB from inside the ex Dalek area to one CPO mill.

Illegally grown FFB was bought by:

- **PT. Inti Indosawit Subur (Asian Agri/RGE)** Ukui 1 mill. The company is a repeat offender who's Ukui 1 and Ukui 2 mills had already been found to purchase illegal FFB from TNNP in 2011 and 2012⁵¹. The company has been an RSPO member since 2006. The Ukui 1 and 2 mills were certified against the RSPO Principles and Criteria in March 2014⁵² but still have no RSPO Supply Chain Certificate (SCC).
- **PT. Rigunas Agri Utama (Asian Agri/RGE)** Bungo Tebo mill. The company is a repeat offender. Its Peranap mill had been found to purchase illegal FFB from the Bukit Batabuh Tiger Corridor in November 2012 and May 2013⁵³. The company is not an RSPO member and does not hold any RSPO certificates.
- **PT. Citra Riau Sarana** 3 mill. The company is a repeat offender. Its three mills had been found to purchase illegal FFB from TNNP in 2011 and 2012⁵⁴. At the time, the company was part of the *Wilmar* group which after publication of WWF's "Palming off a national park" report released a far reaching sustainability policy⁵⁵. However, instead of cleaning up the mill's operations, *Wilmar Plantation Limited*, a direct wholly-owned subsidiary of RSPO member *Wilmar International Limited*, disposed of its entire 95% equity interest in *PT. Citra Riau Sarana* to "*Team Ventures Investments Limited*" in December 2014⁵⁶. No information on latter was available online⁵⁷. The company is not an RSPO member and does not hold any RSPO certificates.
- **PT. Gemilang Sawit Lestari, PT. Makmur Andalan Sawit, PT. Peputra Supra Jaya** and **PT. Swakarsa Sawit Raya** mills. No or limited information on corporate group association was found for these mills. The former two are so-called independent mills without their own plantations, the latter two have plantations. None of them are RSPO members and none hold any RSPO certificates.



Picture 4. A truck with FFB illegally produced and harvested inside Tesso Nilo National Park enters a CPO mill of PT. Gemilang Sawit Lestari mill. Photo taken by Eyes on the Forest at S0°27'20.83" and E101°49'33.56" on 20 January 2015.



Picture 5. A truck with FFB illegally produced and harvested inside the ex Dalek area enters a CPO mill of RGE/Asian Agri's PT. Rigunas Agri Utama Bungo Tebo mill. Photo taken by Eyes on the Forest at S0°27'20.83" and E101°49'33.56" on 20 January 2015.

Table 2. Supply chains of FFB, illegally grown by distinct groups of encroachers operating inside Tesso Nilo National Park and the ex Dalek area, to surrounding CPO mills (see Appendix 1 for maps with the chains of custody).

Appendix 1 for maps with the chains of custody).

CoC #	FFB Seller			FFB Buyer			Total travel distance	Date(s) of investigation
	Encroacher group / area / cooperative	Latitude	Longitude	CPO mill	Corporate Group	Operates own plantation?		
Chains of custody originating inside Tesso Nilo National Park								
1	Bagan Limau	S0°17'24.93"	E102°2'29.16"	PT. Inti Indosawit Subur Ukui 1	Asian Agri/RGE	Yes	13 km	22-23 January 2015
2	Air Hitam	S0°13'3.67"	E102°2'41.50"	PT. Inti Indosawit Subur Ukui 1	Asian Agri/RGE	Yes	24 km	14 April 2015
3	Air Hitam	S0°12'45.00"	E102°2'53.28"	PT. Makmur Andalan Sawit	No info	No	48 km	18 February 2015
4	Bagan Limau (source 1)	S0°17'29.05"	E102°2'48.93"	PT. Makmur Andalan Sawit	No info	No	54 km	23-24 February 2015
	Bagan Limau (source 2)	S0°17'24.50"	E102°2'42.36"					
	Bagan Limau (source 3)	S0°17'24.45"	E102°2'46.59"					
	Bagan Limau (source 4)	S0°17'9.43"	E102°3'36.71"					
5	Toro Makmur	S0°15'45.79"	E101°43'48.07"	PT. Citra Riau Sarana 3	No info	Yes	23 km	19-20 January 2015
6	Toro Jaya	S0°16'14.57"	E101°47'47.11"	PT. Gemilang Sawit Lestari	Anugrah	No	31 km	20 January 2015
7	Bukit Mulia	S0°7'29.02"	E101°47'21.88"	PT. Peputra Supra Jaya	No info	Yes	49 km	21 February 2015
8	Bukit Makmur	S0°14'8.69"	E101°45'42.39"	PT. Gemilang Sawit Lestari	Anugrah	No	32 km	24-25 February 2015
9	Tani Maju (source 1)	S0°20'2.45"	E102°2'49.48"	PT. Swakarsa Sawit Raya ⁵⁸	No info	Yes	80 km	8-9 April 2015
	Tani Maju (source 2)	S0°19'37.30"	E102°2'48.65"					
10	Tani Maju	S0°20'15.83"	E102°2'49.62"	PT. Swakarsa Sawit Raya	No info	Yes	75 km	10 April 2015
11	Tani Maju	S0°20'14.58"	E102°3'19.31"	PT. Swakarsa Sawit Raya	No info	Yes	77 km	14 April 2015
Chains of custody originating inside the ex Dalek area								
12	Ex Dalek area	S 1°1'38.99"	E 102°15'4.05"	PT. Rigunas Agro Utama Bungo Tebo Mill	Asian Agri/RGE	Yes	61 km	19-21 January 2015
13	Ex Dalek area (source 1)	S 1°1'51.81"	E102°15'2.42"	PT. Rigunas Agro Utama Bungo Tebo Mill	Asian Agri/RGE	Yes	128 km	2-4 March 2015
	Ex Dalek area (source 2)	S 1°1'48.56"	E102°15'44.30"					
	Ex Dalek area (source 3)	S1°2'18.12"	E102°15'6.91"					

4. Tracking CPO tainted with illegally grown FFB

EoF investigators picked up the trail of CPO trucks from the seven CPO mills identified as having received illegal FFB (Table 2) and documented their routes continuously until their destinations (Appendix 2 and Table 3).

Tainted CPO was transported to:

- A refinery of **PT. Sari Dumai Sejati (RGE)**, an RSPO Supply Chain Certification (SCC) certified facility⁵⁹ belonging to RSPO member *AAA Oil and Fats Pte. Ltd.*⁶⁰ Latter is a trading subsidiary of *Apical*, which, like *PT. Inti Indosawit Subur* of *Asian Agri*, belongs to the RGE group^{61, 62}. The tainted CPO originated at two unbranded mills, *PT. Gemilang Sawit Lestari* and *PT. Peputra Supra Jaya*, as well as an RGE sister company, *PT. Rigunas Agri Utama Bungo Tebo* mill.
- A bulking station and port of **Sumber Kencana (SK) Group**⁶³. This is not an RGE operation. The tainted CPO originated at RGE's *PT. Inti Indosawit Subur* and at unbranded mill *PT. Swakarya Sawit Raya*. SK is the same transport, bulking station and port operator whom EoF found to transport tainted CPO from various CPO mills in 2013⁶⁴, potentially contaminating CPO supplies for the companies it names as its customers, including *Astra*, *Cargill*, *Darmex*, *Musim Mas*, *RGE*, *Salim*, *Sarimas* and *GAR* groups⁶⁵. In response to EoF, GAR wrote: "SK Group provides storage services for two of GAR's mills under terms that GAR oil has to be segregated from oils owned by other parties. This requirement was established in response to the findings in the EoF "Tiger in the Tank" report in 2014"⁶⁶.
- **Wilmar's** integrated manufacturing complex in Pelintung in Riau, **Kawasan Industri Dumai**, where two RSPO SCC holders **PT. Wilmar Nabati Indonesia** and **PT. Wilmar Bioenergi Indonesia** are based⁶⁷. In 2011, trucks with tainted CPO from *PT. Citra Riau Sarana's* mills 1 and 2 (an ex Wilmar company) entered into this complex. This time, the tainted CPO originated at independent mill, *PT. Makmur Andalan Sawit*. *Wilmar International Limited* is "the largest global processor and merchandiser of palm and lauric oils, a major oil palm plantation owner and the largest palm biodiesel manufacturer in the world."⁶⁸
- A refinery of **PT. Pacific Indopalm Industries**, an RSPO SCC certified RSPO member⁶⁹ belonging to *Pacific Inter-Link* group in Malaysia⁷⁰. The CPO originated at *PT. Citra Riau Sarana* mill 3, an ex Wilmar company.

Table 3. Supply chains of CPO tainted with FFB illegally grown inside Tesso Nilo National Park and the ex Dalek area.

CoC #	CPO mills confirmed to have received illegally grown FFB	Corporate Group Association	Final destination: refinery / port	Corporate Group Association	District / Province	Date of investigation
Chains of custody originating inside Tesso Nilo National Park						
1	PT. Gemilang Sawit Lestari	No info	PT. Sari Dumai Sejati	Apical/ RGE	Kotamadya Dumai / Riau	21-23 February 2015
2	PT. Inti Indosawit Subur Ukui 1 Mill	Asian Agri/ RGE	PT. Sumber Kencana	SK	Indragiri Hilir / Riau	10 March 2015
3	PT. Peputra Supra Jaya	No info	PT. Sari Dumai Sejati	Apical/ RGE	Kotamadya Dumai / Riau	9-10 April 2015
4	PT. Makmur Andalan Sawit	No info	PT. Wilmar Nabati Indonesia Pelintung	Wilmar	Kotamadya Dumai / Riau	15-16 April 2015
5	PT. Citra Riau Sarana 3 Mill	No info	PT. Pacific Indopalm Industries	Pacific Inter-Link Group	Kotamadya Dumai / Riau	27-1 March 2015
6	PT. Swakarsa Sawit Raya	No info	PT. Sumber Kencana	SK	Indragiri Hilir / Riau	20 May 2015
Chains of custody originating inside the ex Dalek area						
7	PT. Rigunas Agri Utama Bungo Tebo Mill	Asian Agri/ RGE	PT. Sari Dumai Sejati	Apical/ RGE	Kotamadya Dumai / Riau	9-12 April 2015
8	PT. Rigunas Agri Utama Bungo Tebo Mill	Asian Agri/ RGE	PT. Sari Dumai Sejati	Apical/ RGE	Kotamadya Dumai / Riau	15-17 April 2015



Picture 6. CPO truck threads its way through trucks waiting to discharge their FFB loads at RGE/Asian Agri's PT. Rigunas Agri Utama Bungo Tebo mill en route to RGE/Apical's PT. Sari Dumai Sejati refinery (CPO CoC8). Photo taken by Eyes on the Forest at S1°20'46.55" and E102°27'13.85" on 15 April 2015.

5. Exposure of committed companies to CPO mills which received illegal FFB

Four major palm oil producers mentioned in this report - *Wilmar*, *GAR*, *RGE* and *Musim Mas* - all committed to zero deforestation and full legality of all of their supplies to the plantation level, including all third party suppliers (Table 1). This is a huge challenge as all of them rely heavily on external suppliers to satisfy the demands of their CPO mills, refineries, and trade desks.

All companies except Musim Mas have become *The Forest Trust (TFT)* palm oil members to work with TFT to establish 100% traceability. Since then, *Wilmar* made the following remarks apparently softening their commitments to track FFB supplies to plantation level:

"There are ongoing discussions in the market about the definitions of traceability and debates on whether traceability back to mill would suffice or should the products be traced right back to their origins, namely plantations.⁷¹"

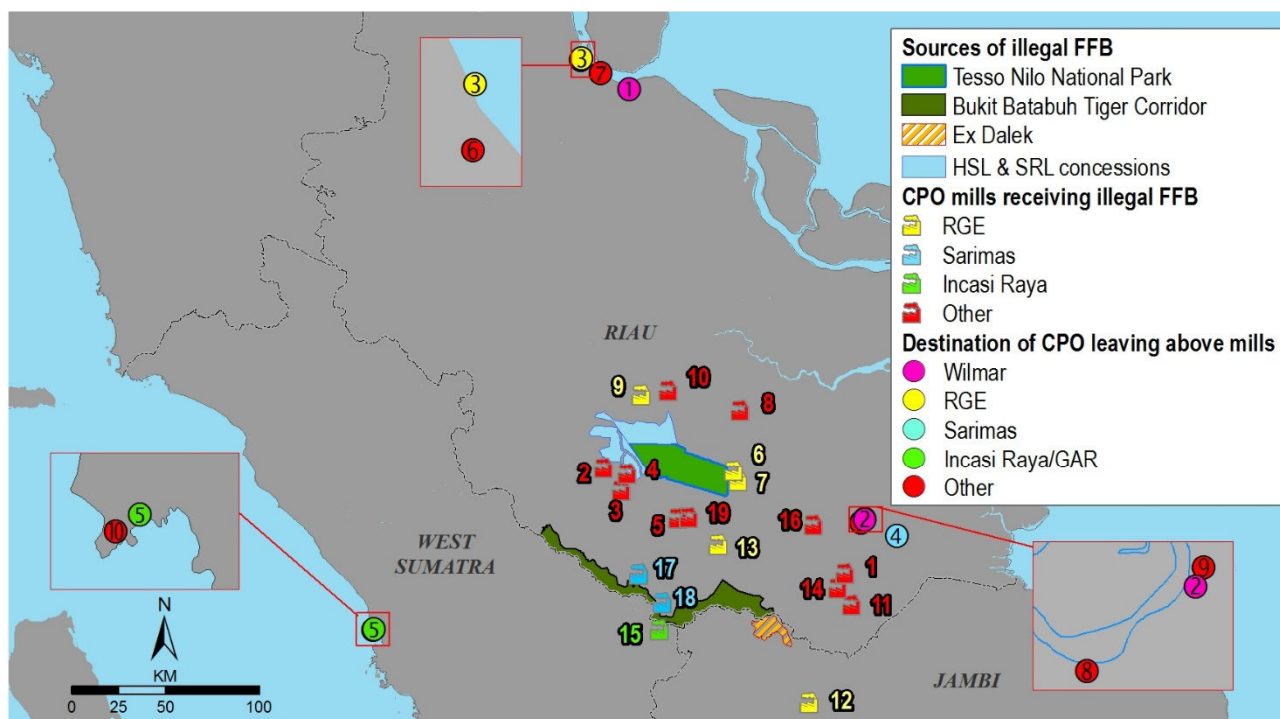
"The definition of traceable to plantation, or fresh fruit bunch (FFB) traceability, is also the subject of considerable debate. As noted previously, Wilmar has focused its attention on traceability to mill, because the mill is a good indicator of the approximate location of its suppliers. [...] While obtaining GPS coordinates and/or maps of each FFB supplier is an objective, it is not the immediate priority. The priority for Wilmar is to engage with mill owners who can reach their own FFB suppliers to ensure the process of transformation can begin across the entire supply shed.⁷²"

Yet, WWF and EoF investigations since 2011 show that traceability systems that do not go back to the plantation level fail to mitigate illegality risk and endanger tropical forests. Investing into CPO mill traceability only, wastes time and money without offering a solution to the issues of illegal product entering the supply chains.

EoF checked whether either of the four companies purchased CPO from the nineteen CPO mills which bought illegal FFB during the three chain of custody investigations conducted in 2011-2012 (WWF 2013), 2012-2014 (EoF 2014) and 2014-2015 (this report) (Table 4, Map 3).

Table 4. Nineteen CPO mills found to receive illegal FFB from Tesso Nilo complex, Bukit Batabuh Tiger Corridor (BBTC) or the ex Dalek area. CPO mills with * are independent mills without own plantation. Each mill is colored using the same group colour as in Map 3.

#	CPO mills which received illegal FFB		Year and source of illegal FFB received		
	CPO Mill (company and mill name)	Group	2011-2012 ⁷³	2012-2014 ⁷⁴	2014-2015
1	PT. Berlian Inti Mekar Rengat*	Mahkota		BBTC	
2	PT. Citra Riau Sarana 1 (Teso Satu)	Ex Wilmar	PT. Hutani Sola Lestari HPH		
3	PT. Citra Riau Sarana 2 (Teso Dua)	Ex Wilmar	TNNP		
4	PT. Citra Riau Sarana 3 (Teso Tiga)	Ex Wilmar	TNNP		TNNP
5	PT. Gemilang Sawit Lestari*	Anugrah			TNNP
6	PT. Inti Indosawit Subur Ukui 1	RGE	TNNP		TNNP
7	PT. Inti Indosawit Subur Ukui 2	RGE	TNNP		
8	PT. Makmur Andalan Sawit*	No info			TNNP
9	PT. Mitra Unggul Pusaka Segati	RGE	PT. Siak Raya Timber HPH		
10	PT. Peputra Supra Jaya	No info			TNNP
11	PT. Putera Keritang Sawit*	No info		BBTC	
12	PT. Rigunas Agri Utama Bungo Tebo	RGE			Ex Dalek
13	PT. Rigunas Agri Utama Peranap	RGE		BBTC	
14	PT. Sugih Riesta Jaya*	No info		BBTC	
15	PT. Sumbar Andalas Kencana Muara Timpeh	Incasi Raya		BBTC	
16	PT. Swakarsa Sawit Raya	No info			TNNP
17	PT. Tri Bakti Sarimas 1 (Bukit Bayung)	Sarimas		BBTC	
18	PT. Tri Bakti Sarimas 2 (Ibul)	Sarimas		BBTC	
19	PT. Wana Jingga Timur	Darmex		BBTC	



Refineries, bulking stations, ports
(supplying CPO mill's #)

Wilmar group

- ① Wilmar Kawasan Dumai Industri Pelintung complex (2, 3, 8)
- ② Wilmar bulking station (1)

RGE group

- ③ PT. Sari Dumai Sejati (6, 10, 12)

Sarimas group

- ④ PT. Agro Sarimas Indonesia (17)

Incasi Raya group / GAR

- ⑤ Incasi Raya Padang bulking station (15)

Other

- ⑥ PT. Pacific Indopalm Industries (PIL) (4)
- ⑦ Dumai Port (7)
- ⑧ SK Group bulking station (6, 11, 13, 14, 16)
- ⑨ PT. Duta Palma harbour (DARMEX) (19)
- ⑩ PT. Agro Muko Tank Terminal (SIPEF) (17, 18)

Map 3. Nineteen CPO mills which received illegal FFB from five protected forest areas (see Table 4 for details) and 10 final destinations of CPO trucks followed from these mills.

5.1. Wilmar

Supply chain structure: Wilmar has 238,600 ha of planted area⁷⁵, 46 CPO mills (26 of them RSPO certified)⁷⁶, 15 refineries in Indonesia, 9 refineries in Malaysia, and many more around the world⁷⁷. *"The majority of palm oil produced and traded by Wilmar comes from plantations and processing facilities in Indonesia and Malaysia"*.^{78, 79} Wilmar's traceability work has treated Indonesia and Malaysia as the priority.

Company's traceability work progress so far: Wilmar produces and trades almost half the world's palm oil^{80, 81}, thus its performance in ensuring full traceability should be of concern to many buyers. Wilmar's traceability work has been the most advanced and transparent of all five companies. On traceability back to mill, its dashboard stated that *"Wilmar has identified all the mills supplying each of its refineries in Indonesia and Malaysia. There are 889 mills in total supplying Wilmar refineries in these countries alone, with each refinery typically having 50-100 mills in its supply network, providing crude palm oil (CPO) and/or palm kernels (PK); not all mills supply products every period."*⁸²

For the January – December 2014 period, most of the CPO and PK oil supplied to Indonesian and Malaysian refineries was "at least traceable to mills": 9 million MT of CPO and 1.1 million MT of PKO from its Indonesian refineries and 5.5 million MT of CPO and 0.5 million MT of PKO from Malaysian refineries are traceable to supplies and shipments from individual mills, Wilmar's own and third party refinery transfers, traders and bulking installations⁸³. However, for a mill and its CPO and PK supply to be considered "traceable", the mill only needs to provide the following information: parent company name, mill name, address, longitude and latitude and shipping volumes.

On traceability back to plantation, Wilmar wrote: *"most mills in the Wilmar supply chains are 0% traceable to FFB, except those owned by Wilmar and some RSPO certified mills."*⁸⁴ Wilmar's current approach to tracing its supplies back to the plantation level does not require "dealers" to report "GPS" or "planted area" of the FFB they supply⁸⁵. Yet as "dealers" are trying to find as much and as cheap FFB as possible in the shortest amount of time, they are probably more likely to supply controversial FFB than FFB from legal and sustainable sources. Wilmar also says *"obtaining GPS coordinates and/or maps of each FFB supplier is an objective, it is not the immediate priority"*⁸⁶.

EoF findings: The list of all palm and lauric oil suppliers to Wilmar's 13 Indonesian facilities during the January-December 2014 period published at the Wilmar/TFT dashboard⁸⁷ revealed (Table 5):

1. **Palm oil supply chain** - three facilities of PT. Wilmar Nabati Indonesia (WINA) (Dumai, Pelintung and Padang facilities) received palm oil from some of the 19 tainted suppliers identified in Table 5. Then WINA Pelintung supplied its tainted palm oil to three other Wilmar facilities (WINA Gresik and PT. Multimas Nabati Asahan [MNA]'s Kuala Tanjung and Pulo Gadung facilities). Then WINA Gresik and MNA Kuala Tanjung supplied their tainted palm oil to yet another facility (PT. Wilmar Cahaya Kalbar [WICA] Pontianak facility). As a result, seven out of Wilmar's ten Indonesian facilities processing palm oil could have traces of illegal FFB from the three areas EoF investigated.
2. **Lauric oil supply chain** - four facilities (WINA Pelintung, MNA's Kuala Tanjung and Paya Pasir facilities, and PT. Usaha Indah Padang [UIP] Padang facility) received lauric oil from some of the 19 tainted suppliers identified in Table 5. Then these facilities supplied their tainted lauric oil to three other Wilmar facilities (WINA's Dumai and Gresik facilities and WICA Pontianak). As a result, seven out of Wilmar's ten facilities processing lauric oil could have traces of illegal FFB from the three areas EoF investigated.

Table 5. *PT. Wilmar Nabati Indonesia's three facilities and 19 CPO mills found to buy illegal FFB from Tesso Nilo complex, Bukit Batabuh Tiger Corridor (BBTC) or ex Dalek area. CPO mills marked with * are independent mills without own plantations.*

#	CPO mills which purchased illegal FFB		Wilmar facilities receiving PO and/or LO					
	CPO Mill (company and mill name)	Group	WINA Dumai	WINA Pelintung	WINA Padang	MNA Kuala Tanjung	MNA Paya Pasir	UIP Padang
1	PT. Berlian Inti Mekar Rengat*	Mahkota	PO	PO & LO				
2	PT. Citra Riau Sarana 1 (Teso Satu)	Wilmar*	PO	PO & LO				
3	PT. Citra Riau Sarana 2 (Teso Dua)	Wilmar*	PO	PO & LO				
4	PT. Citra Riau Sarana 3 (Teso Tiga)	Wilmar*	PO	PO & LO				
5	PT. Gemilang Sawit Lestari*	Anugrah						
6	PT. Inti Indosawit Subur Ukui 1	RGE		LO				
7	PT. Inti Indosawit Subur Ukui 2	RGE		LO				
8	PT. Makmur Andalan Sawit*	No info	PO	PO & LO		LO	LO	
9	PT. Mitra Unggul Pusaka Segati	RGE						
10	PT. Peputra Supra Jaya	No info						
11	PT. Putera Keritang Sawit*	No info						
12	PT. Rigunas Agri Utama Bungo Tebo	RGE						LO
13	PT. Rigunas Agri Utama Peranap	RGE		LO				
14	PT. Sugih Riesta Jaya*	No info						
15	PT. Sumbar Andalas Kencana Muara Timpeh	Incasi Raya			PO			LO
16	PT. Swakarsa Sawit Raya	No info		PO				
17	PT. Tri Bakti Sarimas 1 (Bukit Bayung)	Sarimas			PO			LO
18	PT. Tri Bakti Sarimas 2 (Ibul)	Sarimas			PO			LO
19	PT. Wana Jingga Timur	Darmex						

* PT. Citra Riau Sarana was a Wilmar company until December 2014.

The *Wilmar/TFT* dashboard⁸⁸ shows that 24 of *Wilmar's* facilities outside Indonesia received palm oil from five of the seven Indonesian facilities listed above in calendar year 2014, possibly contaminating their supplies (Figure 1). A quick internet search revealed some examples of major global traders and users of palm oil whose supply chains may have been contaminated by the seepage of illegal FFB into *Wilmar's* production and processing facilities:

- Unilever*, *Nestle* and *IKEA* are listed as buyers of *WINA* Gresik⁸⁹ who buy CPO from *WINA* Pelintung (Figure 1);
- Cargill* purchased palm oil from *WINA* Pelintung for its operations in the US and Pakistan^{90, 91} (Figure 2);
- Archer Daniels Midland (ADM)*, the second biggest shareholder of *Wilmar International*^{92, 93}, sources much of its palm oil supply from *Wilmar*⁹⁴. In March 2015, ADM published its "Commitment to No-Deforestation" to build traceable and transparent palm supply chains and wrote: "We therefore expect our suppliers to develop action plans to achieve compliance by Dec. 31, 2015" but *Wilmar* is unlikely to meet this deadline.

Wilmar/TFT do not include *PT. Wilmar Bioenergi Indonesia* in their traceability report. *Wilmar International Limited* is "the largest global processor and merchandiser of palm and lauric oils, a major oil palm plantation owner and the largest palm biodiesel manufacturer in the world"⁹⁵. "The bulk of *Wilmar's* biodiesel capacity in FY2007 has been pre-sold to buyers in Europe and the USA."⁹⁶ Europe's biodiesel imports are heavily regulated with laws specifying that supplies have to be legal and cannot come from areas where high biodiversity high carbon stock forests were converted⁹⁷. *Wilmar's* biodiesel manufacturing capacity comprises three biodiesel plants with a capacity of 350,000 MT per annum each located in *Wilmar's Kawasan Industri Dumai* Pelintung complex, together with *WINA's* Pelintung refinery. *Wilmar Bioenergi Indonesia* may thus have received tainted CPO or products made

from tainted CPO originating at the 9 CPO mills found to have received illegal FFB (Table 5). Yet, Wilmar/TFT do not include *PT. Wilmar Bioenergy Indonesia* in their traceability report. In response to EoF's inquiry, Wilmar stated: "*Wilmar Bioenergi Indonesia received most of their feedstock from WINA, Pelintung and a small volume through Wilmar's interrefinery's transfer. For this reason, the traceability percentage of PT. Wilmar Bioenergi Indonesia is in line with our Malaysia and Indonesia operations, which is about 95%.*"⁹⁸

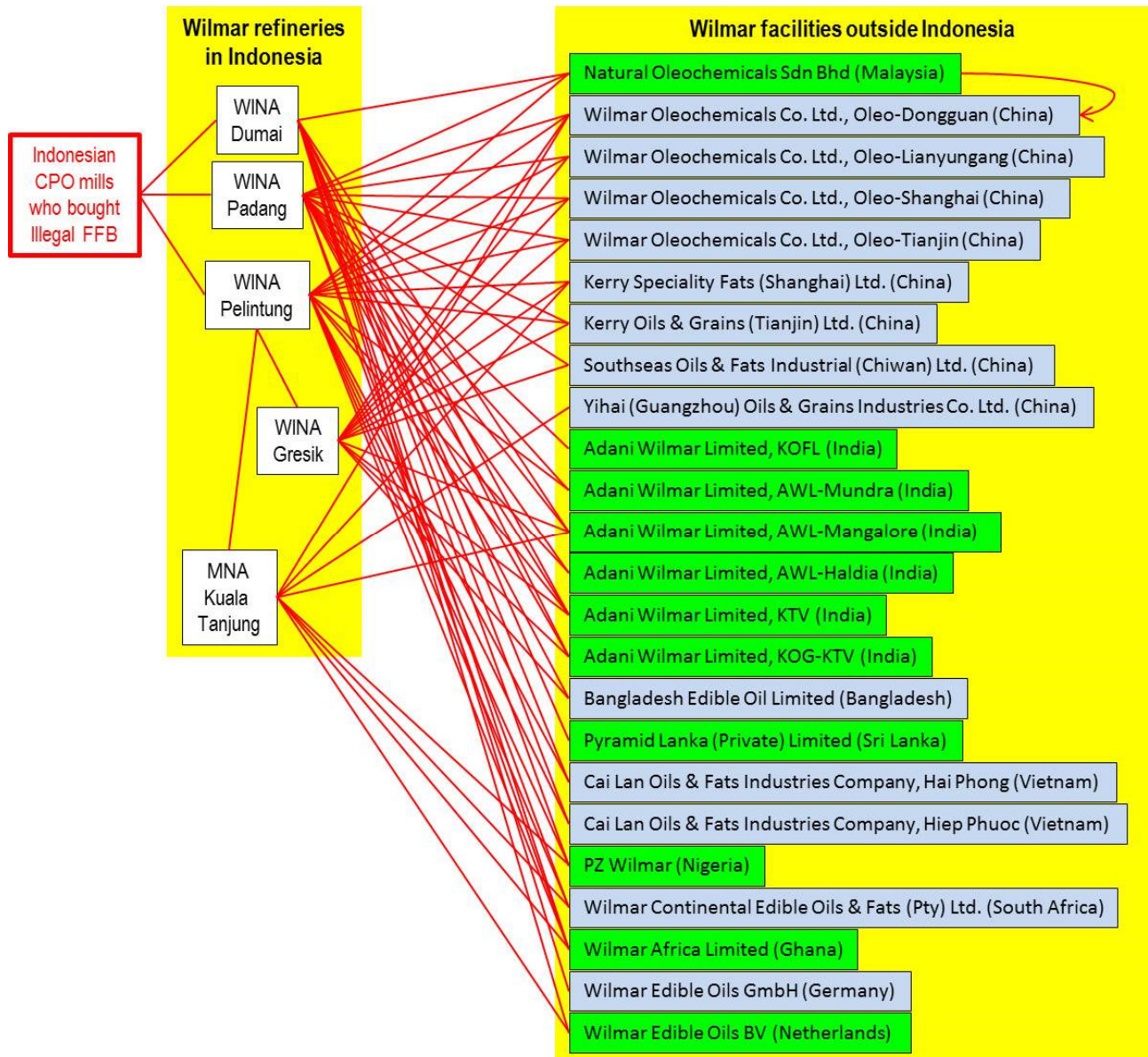


Figure 1. Chain of custody through Wilmar's global facilities originating from the CPO mills which WWF/EoF found to buy illegal FFB.

Pt Wilmar Nabati Indonesia

Track Shipments

Shipment Profile

18 Export Shipments

Gedung B & G Lantai 9jl. Putri Hijau No. 10

Export History
18 Shipments

Exporter	Importer	Description	Departure	Arrival
Pt Wilmar Nabati Indonesia	Cargill Inc. Dressings, Sauces And	4,000(ET) - 1pieces Rbd Palm Oil	Dumai	2014-03-25 Savannah, Georgia
Pt Wilmar Nabati Indonesia	Cargill Inc. Dressings, Sauces And	1,000(ET) - 1pieces Rbd Palm Oil	Dumai	2014-03-25 Savannah, Georgia
Pt Wilmar Nabati Indonesia	Cargill Inc. Dressings, Sauces And	1,001(ET) - 1pieces Rbd Palm Oil	Dumai	2014-03-25 Savannah, Georgia

View more shipments

3 Shipping Routes

Origin Port		Shipments		Destination Port
Dumai	»	10	»	New Orleans, Louisiana
Dumai	»	3	»	Savannah, Georgia
Dumai	»	2	»	Houston, Texas

View more routes

Figure 2. Example of seepage of contaminated Wilmar supplies: In 2014, WINA sold palm oil to Cargill Dressings, Sauces & Oils according to <http://www.tradesparq.com/100>, accessed on 1 September 2015.

5.2. Golden Agri-Resources

Supply chain structure: In Indonesia, GAR owns 472,800 ha planted area, 42 mills¹⁰¹ and eight downstream facilities (refineries and pre-export bulking stations)¹⁰² which procured 6.6 million tons of CPO and PK from the own mills or third party mills¹⁰³. Unlike *Wilmar*, its dashboard provides no information on facilities outside Indonesia.

Company's traceability work progress so far: GAR started its traceability work earlier than the other four groups, on 9 February 2011 with the publication of its Forest Conservation Policy (FCP). It started with its own mills and estates and began tracing downstream operations only in February 2014¹⁰⁴. Overall progress has been slow, even when compared to *Wilmar*, which started its traceability work in December 2013 only.

On "traceability back to mill", GAR writes: *"Ensuring traceability is more challenging in the downstream business, as compared to the upstream business where about 90 percent of the fresh fruit bunches (FFB) come from our own plantations and the balance from third party suppliers"*, and *"As an initial step, GAR is working to achieve full traceability to mills for all the eight facilities we operate in Indonesia"*¹⁰⁵. However, GAR could only *"trace 41% of the CPO and PK that it procured in 2014 to its own mills and plantations"*¹⁰⁶. The rest was either traceable to 3rd party mills or was from "unknown" sources (almost 10%) (see second bullet below).

On "traceability back to plantations":

- For GAR owned mills: 42 GAR owned mills processed 11 million MT of FFB in 2014, 88% of which originated from GAR plantations. The remainder came from independent smallholders and third party producers¹⁰⁷. GAR/TFT dashboard provides an "FFB traceability report" for each of the mills showing the proportion of total FFB procured by source type (GAR owned estates, GAR plasma smallholders or third party suppliers), though without geographic information for each of the sources. In response to EoF's inquiry, GAR wrote: *"GAR mills are able to trace 88% of all FFB they process to estates that GAR owns and to scheme smallholders. The remaining 12% are from third party producers and independent smallholders, all which is traceable."*¹⁰⁸
- For 3rd party mills (total number unclarified) and "unknown" sources: the dashboard states *"We are working with third party supplying mills to map traceability of their respective supply bases, including their own estates and independent smallholders. GAR understands that achieving supply chain transparency is more challenging for mills with exposure to large numbers of small estates and independent smallholders, where transactions are often made via networks of transporters and intermediaries."*¹⁰⁹ GAR's current approach to traceability back to plantation has a serious flaw even worse than that of *Wilmar*: to be considered "traceable", third party supplier mills do not need to provide data on the origin of the sources for FFB they purchased from dealers, small growers and smallholders¹¹⁰. GAR writes: *"We recognize that there is scope for debate on what an acceptable definition of FFB traceability is. Our approach is to target this basic level of traceability simply as a means to quickly identify the issues to focus on as we look to bring about policy compliance across the whole supply sheds of our refineries."*¹¹¹ This approach is very problematic as for GAR "quickly" has already taken 4 years and the company only now announced *"GAR is developing an action plan to achieve traceability to the plantation level for this supply"* and *"This action plan will be published at the end of Q1 2016"*.¹¹²

EoF findings: The GAR/TFT dashboard¹¹³ shows all palm oil and palm kernel suppliers for GAR's eight Indonesian facilities in calendar year 2014 (Table 6):

1. **Palm oil supply chain** – two facilities (*PT. SMART Tbk's* Belawan Refinery and Kernel Crushing Plant and *PT. Ivo Mas Tunggal's* Dumai Bulking Station) bought palm oil from some of the tainted 19 suppliers (Table 6). 7% of the CPO volume for the *Incasi Raya* Padang bulking station, rented by *PT Leidong West Indonesia* of GAR, came from 4 "unknown" CPO mills¹¹⁴. EoF (2014) had confirmed one chain of custody from the *Incasi*

Raya group's PT. Sumbar Andalas Kencana CPO mill to the Incasi Raya bulking station in 2013. When asked whether the 4 "unknown" suppliers in 2014 included this CPO mill, GAR wrote "GAR rents dedicated tanks from Incasi Raya Bulking Facility thus segregating it from oil owned by other parties. [...] we can confirm we have not entered any transactions with the legal entity PT Sumbar Andalas Kencana¹¹⁵." Unlike Wilmar, GAR does not transfer CPO among the eight downstream facilities in Indonesia. Regarding facilities outside Indonesia, GAR told EoF: "GAR acknowledges we have facilities outside Indonesia. Our priority to date has been to report on our commitments and practices within Indonesia and we are considering expanding that reporting to include facilities outside of Indonesia."¹¹⁶

2. **Palm Kernel supply chain** - one GAR facility, PT. Ivo Mas Tunggal's Lubuk Gaung Refinery and Kernel Crushing Plant, bought Palm Kernel from one of the 19 tainted suppliers.

5.3. RGE (Asian Agri & Apical)

Supply chain structure: Apical has three refineries in Indonesia (PT. Sari Dumai Sejati, PT. Asianagro Agungjaya Marunda and PT. Asianagro Agungjaya Tanjung Balai) and one in China with a total capacity of 3.7 million MT/year, plus one biodiesel, one oleochemical and one kernel crushing plant each^{117, 118}. Asian Agri has 20 CPO mills and a total oil palm plantation area of 160,000 ha, including 60,000 ha developed with smallholders under the Plasma/KKPA schemes¹¹⁹.

Company's traceability work progress so far: The group announced a partnership with TFT to help them build full traceability into their palm oil supply chains by 2016¹²⁰. RGE launched a dashboard on 18 December 2015.

On "traceability back to mill", Apical wrote that as of September 2015, it had "achieved full traceability to our supplying oil mills for all of our refineries in Indonesia"¹²¹.

On "traceability back to plantations", Apical commits to achieve full FFB traceability only by 2020 and says it "will progress to large third party estates, before tackling the difficult task of verifying the networks of dealers and small FFB suppliers"¹²². It states "total average for Asian Agri FFB traceability is 71%"¹²³.

EoF findings: Asian Agri was found to purchase illegal FFB as well as tainted CPO more often than any of the other groups during the three WWF/EoF investigations. Based on the list of 221 palm oil and 258 palm kernel suppliers to Apical's Indonesian refineries published at its dashboard, 12 suppliers to PT. Sari Dumai Sejati¹²⁴ and one supplier to PT. Asianagro Agungjaya Marunda refinery¹²⁵ were among the 19 tainted suppliers identified in Table 6. Asian Agri reported that PT. Inti Indosawit Subur's Ukui 1 mill had 100% FFB traceability between January and September 2015 although EoF found illegal FFB from Tesso Nilo entering the mill twice. Apparently, 100% FFB traceability does not mean 100% legality.

5.4. Musim Mas

Supply chain structure: The group has its operations in 12 countries. It has plantations (16), CPO mills (13) and kernel crushing plants (9) only in Indonesia; refineries in Indonesia (11), Malaysia, China, India and Vietnam; biodiesel plants in Indonesia, Italy and Spain and oleochemical/specialty fats plants in Indonesia, India and the Netherlands. The group sources about 90% of its CPO from external suppliers¹²⁶. Riau, North Sumatra and Central Kalimantan provide approximately 60% of Musim Mas' supply of CPO and PK¹²⁷.

Company's traceability work progress so far: The group committed in December 2014 to have full FFB traceability by the end of 2016.

On "traceability back to mill" of Indonesia's 11 refineries, Musim Mas reported: "we have mapped out 100% of our supply chain right up to the mills, including the third-party ones. However, we would like to stress that verification on the information is still ongoing"¹²⁸. Information on supply chains of other Asian refineries was not yet available on the dashboard at the time of writing this report.

On "traceability back to plantations", there was no information on the dashboard.

EoF findings: Musim Mas published a list of 455 CPO suppliers including 13 Musim Mas mills at its dashboard¹²⁹. During the three WWF/EoF investigations, no trucks with illegal FFB or tainted CPO were tracked to Musim Mas group facilities. However, 14 of the 19 CPO mills buying illegal FFB during the three investigations (Table 6) were listed among the 455 Musim Mas suppliers.

Table 6. GAR, RGE and Musim Mas' downstream facilities and 19 CPO mills found to buy illegal FFB from Tesso Nilo complex, Bukit Batabuh Tiger Corridor (BBTC) or ex Dalek area. CPO mills with * are independent mills without own plantation.

#	CPO mills which purchased illegal FFB		GAR facilities receiving PO and/or PK (Palm Kernel) in 2014			RGE/Apical refineries in 2015		Musim Mas suppliers of PO and/or PK
	CPO Mill (company and mill name)	Group	PT. SMART Tbk, Belawan	PT. Ivo Mas Tunggal, Dumai	PT. Ivo Mas Tunggal, Lunuk Gaung	PT. Sari Dumai Sejati	AAJ Marunda	
1	PT. Berlian Inti Mekar Rengas*	Mahkota		PO		PO		PO & PK
2	PT. Citra Riau Sarana 1 (Teso Satu)	Ex Wilmar*						PK
3	PT. Citra Riau Sarana 2 (Teso Dua)	Ex Wilmar*						PO & PK
4	PT. Citra Riau Sarana 3 (Teso Tiga)	Ex Wilmar*						PK
5	PT. Gemilang Sawit Lestari*	Anugrah				PO & PK		PO & PK
6	PT. Inti Indosawit Subur Ukui 1	RGE				PO & PK		
7	PT. Inti Indosawit Subur Ukui 2	RGE				PO & PK		PK
8	PT. Makmur Andalan Sawit*	No info		PO		PO & PK		PO & PK
9	PT. Mitra Unggul Pusaka Segati	RGE				PO & PK		PK
10	PT. Peputra Supra Jaya	No info		PO	PK	PO & PK		PO & PK
11	PT. Putera Keritang Sawit*	No info				PO & PK		
12	PT. Rigunas Agri Utama Bungo Tebo	RGE				PO & PK	PO	PK
13	PT. Rigunas Agri Utama Peranap	RGE				PO & PK		PK
14	PT. Sugih Riasta Jaya*	No info	PO	PO				
15	PT. Sumbar Andalas Kencana Muara Timpeh	Incasi Raya						PO & PK
16	PT. Swakarsa Sawit Raya	No info				PO & PK		
17	PT. Tri Bakti Sarimas 1 (Bukit Bayung)	Sarimas				PO		PK
18	PT. Tri Bakti Sarimas 2 (Ibul)	Sarimas						PK
19	PT. Wana Jingga Timur	Darmex						

* PT. Citra Riau Sarana was a Wilmar company until December 2014.

6. CPO mills at risk based on EoF findings of illegality and Unilever commitments

Unilever is one of the world's largest buyers of palm oil purchasing around 1.5 million tonnes/year (about 3% of global production)¹³⁰ from approximately 75% of the global palm oil market (108 suppliers) and more than two-thirds of the global number of CPO mills (more than 1,800 mills) as of September 2014¹³¹. It has great exposure in Riau and Jambi, Sumatra where EoF investigated deliveries of illegally grown FFB and tainted CPO. It is also one of the pioneers of the zero deforestation movement¹³² and has a goal to have all of the palm oil it buys to come from traceable and certified sources by 2020¹³³.

Cargill, one of the world's biggest traders and processors of palm oil, also has a zero deforestation policy¹³⁴, but other than Wilmar (2015), Musim Mas (2016) and RGE (2016) 100% FFB traceability is targeted only for 2020^{135, 136}. A quick internet search revealed Cargill's vulnerability to tainted product that enter its supply chain via directly implicated companies like Wilmar and RGE's PT. Sari Dumai Sejati for its operations in the US (Cargill Dressings, Sauces & Oils) and Pakistan (Cargill Pakistan Agri Foods) since 2013^{137, 138, 139}.

As of September 2014, Unilever could trace 58% of the palm oil in its supply chain and geo-locate 1,844 CPO mills to specific countries, of which 824 (45%) were in Indonesia with a majority in Sumatra's Riau and North Sumatra (Figure 3)¹⁴⁰. In November 2014, Unilever announced a *"supply base risk profiling methodology"* to assess environmental and social risks of associated plantations within a 30-50 km radius of suppliers' CPO mills to allow "prioritization of focus areas based on combined risk factors and the non-compliance with Unilever's policy"¹⁴¹. As of the fourth quarter of 2015, Cargill could trace 96% of the palm oil they sourced to CPO mills¹⁴². In 2014, Cargill explained its FFB traceability approach as "Each mill is analyzed through desktop research and satellite mapping to identify potential environmental and social risks in its draw area. Risk indicators include forest cover loss, peat, proximity to protected areas, fire alerts and certification status"¹⁴³.

But what about identifying the actual sources of all FFB for all these mills, sources that might provide illegal product? Can these desk-top assessments really help companies avoid purchasing illegal FFB and/or tainted CPO?

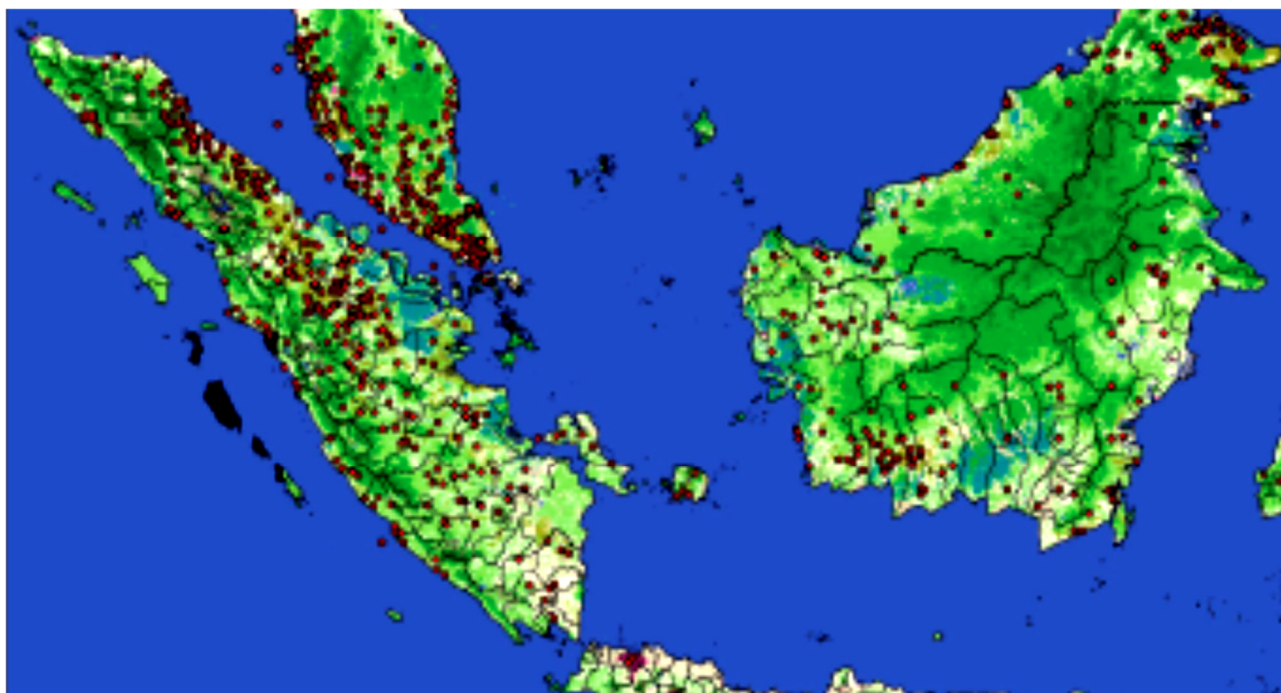


Figure 3. Distribution of Unilever's CPO mill supply base in Indonesia and Malaysia (taken from Unilever Sustainable Palm Oil Progress Report 2014, page 9).

EoF evaluated Unilever's risk based on its own methodology and Cargill's "draw areas" thinking, applying baseline data posted at EoF's interactive map (<http://maps.eyesontheforest.or.id>):

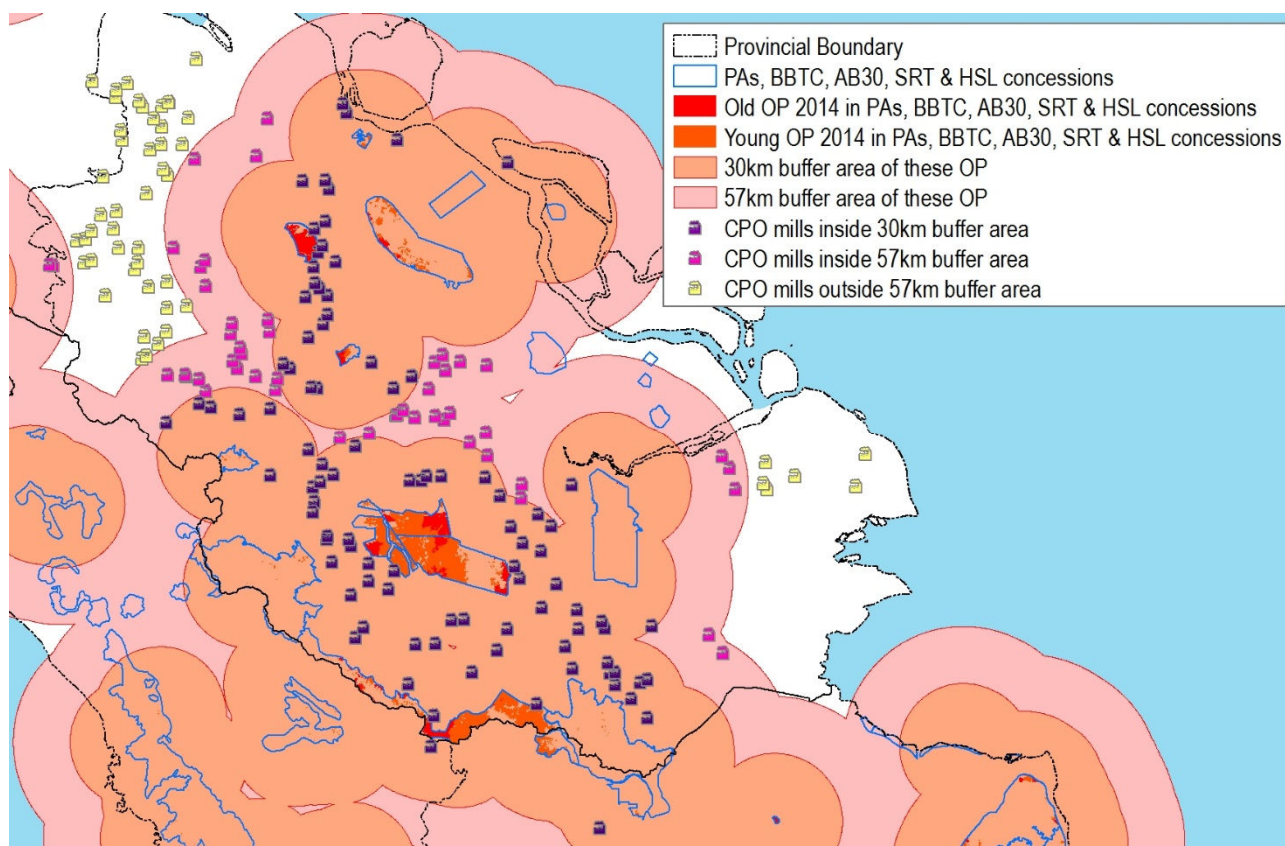
- 196 CPO mills in Central Sumatra, owned by and / or supplying the who-is-who of the world's palm oil industry. 194 mills are in Riau province, the remaining two are in Jambi and West Sumatra provinces.
- Government protected areas.
- Sumatra's land cover change 1985 – 2014 database, produced by WWF-Indonesia & Setiabudi delineating natural forest, oil palm plantations and also young/potential oil palm plantation areas which show up as "burned", "cleared areas with young vegetation" and "cleared areas on historical Landsat images."
- Peat area based on Wahyunto *et al.* (2003)¹⁴⁴ and Laumonier, Y. (1997)¹⁴⁵.

6.1. CPO mills inside risk buffer surrounding illegal oil palm plantation

To identify which of the 196 CPO mills are at risk of purchasing illegal FFB, EoF assumed a minimum risk buffer of 30km (based on Unilever's risk model) and a maximum risk buffer of 57km (based on the maximum straight line distance between illegal FFB source and CPO mill EoF investigators have identified so far). This is close to Unilever's 50km maximum risk buffer. But it is also a conservative estimate of the maximum distance illegal FFB travels given that the furthest distance EoF found trucks with illegal FFB to drive was 128 km and the longest time EoF found trucks to be on the road until dropping off their FFB loads was almost 5 days.

EoF projected the minimum and maximum risk buffer around old or young/potential oil palm plantations identified in 2014 inside government protected areas as well as areas where WWF/EoF investigated illegal oil palm plantation development - the Bukit Batabuh Tiger Corridor, and ex Dalek, PT. Siak Raya Timber (SRT) and PT. Hutani Sola Lestari (HSL) concessions. 96 and 146 of the 196 CPO mills mapped by EoF, respectively, were within the 30km and 57km risk buffer around the illegal oil palm plantations mapped in 2014 (Map 4).

The number of CPO mills within 30km or 57km risk buffer would increase if we also were to map oil palm plantations illegally located inside other Forest Estates, for example, industrial timber plantation concessions. Considering that Indonesian government admitted that 50%, or two million hectares, of all oil palm plantation in Riau is "illegal or has no permit", we believe that all Riau's CPO mills would likely fall within the "theoretical illegal FFB catchment area".



Map 4. 196 CPO mills in relation to 30 km or 57 km risk radius of illegal oil palm plantations inside government protected areas (PAs), Bukit Batabuh Tiger Corridor (BBTC), ex Dalek area, PT. Siak Raya Timber (SRT) and PT. Hutani Sola Lestari (HSL) concessions.

6.2. CPO mills inside risk buffer surrounding Unilever no-go zones

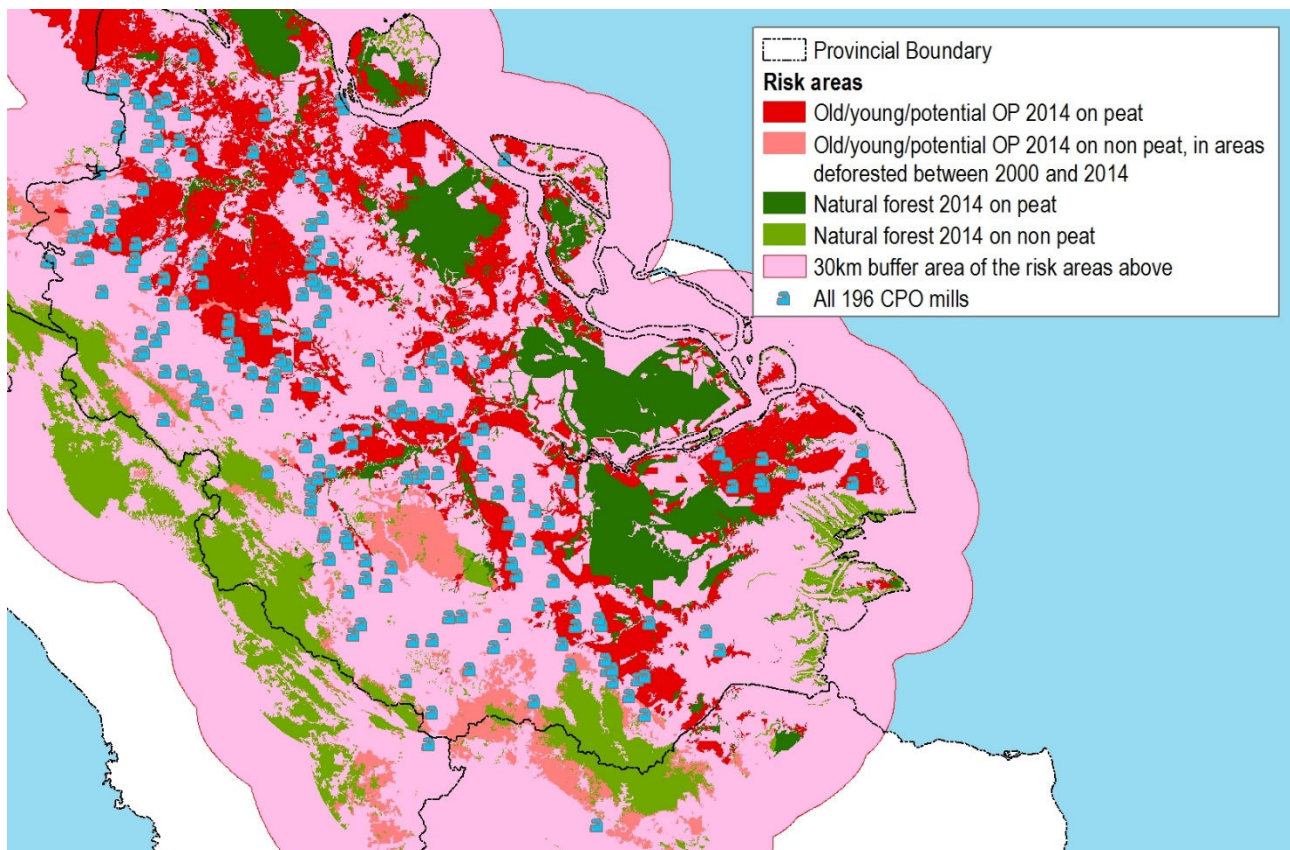
Unilever's risk profiling methodology does not look at legality, but combine environmental risk factors and non-compliance with Unilever's policy, including no-go zones based on:

- Forest cover including primary forest cover,
- Peat land extent,
- Deforestation between 2000-2012,
- Deforestation trends,
- Fire hotspots, and
- Identified number of mills supplying Unilever in the focus area¹⁴⁶.

EoF found that all of the 196 CPO mills mapped by EoF fall inside the 30km minimum risk buffer based on Unilever criteria a, b and c (Map 5) and the following data published at <http://maps.eyesontheforest.or.id>:

- Old/young/potential oil palm plantations in areas with deforestation between 2000 and 2014, on peat or non peat
- Other old/young/potential oil palm plantations on peat
- Natural forest in 2014, on peat or non peat.

WWF-Indonesia & Setiabudi (2015) analysis of Landsat images shows over 8 million hectares of mature oil palm plantations in Sumatra, over a quarter of them located on peat soil. In addition, there are over 2 million hectares of young and what likely are oil palm plantations, close to half of them are on peat soil. In total, more than 3 million hectares of oil palm plantations may be located on Sumatra's peat soils.

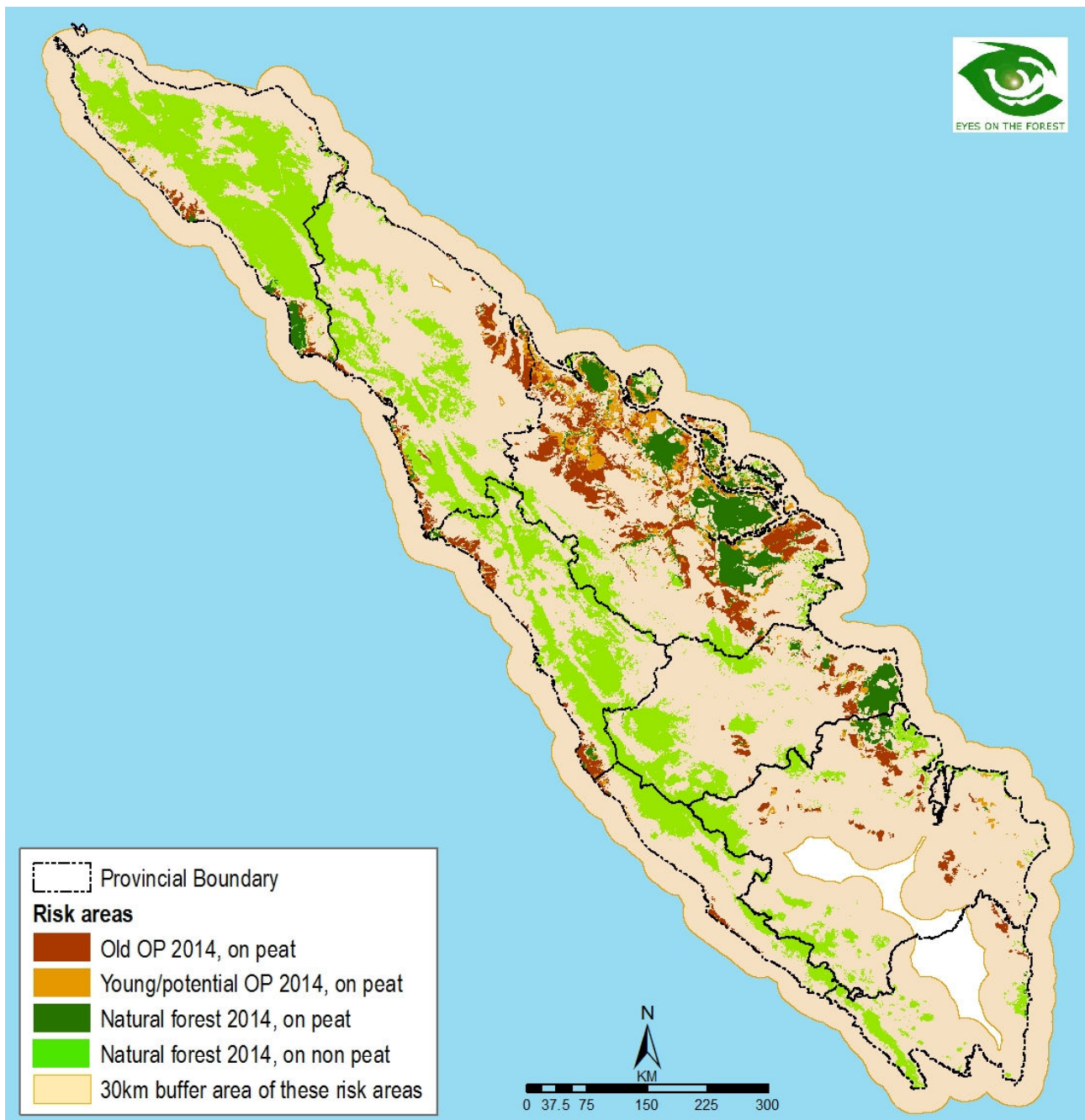


Map 5. 196 CPO mills in relation to 30 km or 57 km risk radius of Unilever's risk areas – natural forest, oil palm plantation in non peat areas with deforestation 2000-2014 and oil palm plantation on peat.

"Deforestation 2000-2014" maybe too tough a criterion for many. Thus, EoF also calculated risk based on only two of the Unilever's criteria: a. *Forest cover including primary forest cover*, b. *Peat land extent*. EoF found that all of Riau and almost all of Sumatra island is within the 30km radius of old, young and potential oil palm plantations on peat and natural forest in 2014 (Map 6).

EoF concludes that a "supply base risk profiling methodology" using environmental and legality buffers to identify safe supplier mills based on "draw areas" or "theoretical FFB catchment areas" seems too coarse and indiscriminatory to be used for prioritization. All CPO mills in Riau and Sumatra are high risk mills. In an environment with increasing proliferation of oil palm grown illegally inside protected areas, increasing number of "dealers" and increasing number of "independent mills" without their own plantations, companies like Unilever will need to switch from desk-top, GIS based risk assessments of CPO mills to tracing all FFB supplies to the plantation level. Clearly, CPO mills with the highest percentage of dealers pose the highest risk.

Cargill appears to have reached a similar conclusion in its 2016 Progress Update, reporting that "risk assessments conducted among 18 palm oil mills within the Cargill supply chain [...] revealed that 17 of the 18 mills were found to exceed a threshold for several risk indicators".



Map 6. 30km risk buffer around old, young and potential oil palm plantations on peat and natural forest in 2014 covering almost the whole Sumatra island.

CONCLUSIONS & RECOMMENDATIONS

1. Systemic use of illegal FFB

CPO tainted by illegally grown FFB from government protected forests deep inside Sumatra entered the supply chains of several of the most well-known palm oil suppliers in the world. Given the small scale of the investigations, EoF believes its study identified only the tip of an iceberg. The issue appears to be systemic and the majority of the world's palm oil supplies may be tainted with FFB illegally grown in some of the last remaining habitats of critically endangered species like tigers, elephants, and orangutan and on flammable, carbon rich peatlands:

- The three small areas investigated by EoF are by no means the only sources of illegal FFB in Indonesia – 50% of the oil palm plantations in the country's jurisdiction with the highest production, Riau province in central Sumatra, were considered illegal by the government itself in 2014¹⁴⁷. Even inside the three small investigation sites, EoF did not even come close to identifying the destination of all the illegal FFB produced there.
- EoF did not target any specific companies and simply followed illegally produced FFB. Still, it confirmed three of the world's top producers, *Wilmar*, *RGE* and *GAR*, and many other smaller producers to receive illegal FFB and/or tainted CPO.
- EoF also confirmed that another major player, *Musim Mas*, was supplied by CPO mills which WWF/EoF found to have received illegal FFB.
- All the groups mentioned above source very large amounts of FFB and CPO from external suppliers, have yet to verify FFB sources for these supplies and to screen for full compliance with their own sustainability commitments and at least legality, and have yet to make screening for illegally produced FFB a priority component of their traceability work.

Persistent systemic illegality in the palm oil industry in Indonesia, the world's biggest producer and exporter^{148, 149}, has been well known to palm oil users for a long time. In 2008, Unilever staff was quoted as saying *"We found that, in one way or another, all of our suppliers have technically infringed either RSPO standards or Indonesian law. It isn't as easy as saying just pick the best, we can't. We are not in a position to do that. The industry almost certainly has to go through fundamental change."*¹⁵⁰ In 2014, a Forest Trends report estimated the rate of illegality in all palm concessions in Indonesia at 80% based on a compilation of various governmental and NGO audits¹⁵¹.

The general lack of governance and enforcement across the country encourages large-scale illegal forest conversion into illegal oil palm plantations. The lack of effective due diligence by companies buying FFB incentivises it. EoF realizes that fighting the systemic illegality in Indonesia's palm oil sector is not a challenge which can easily be solved by one mill/refinery/company or group alone. If one mill stops purchasing illegal FFB, the supplies will find their way to another mill. Groups need to work together to stop questionable suppliers so they cannot simply divert their products to less concerned customers. Eventually, they will sell their tainted products and incriminate everybody in the tainted downstream supply chain. Groups need to be transparent about their suppliers as EoF showed that tainted CPO from one group easily flows to the refineries of another. The scale of the legal issues the four corporate groups discussed in this study and their customers potentially face is huge as they knowingly or unknowingly purchase and transfer illegal supplies.

For the palm oil sector to continue to prosper, Indonesia needs to actively enforce existing laws. Failure to do so, will only continue to erode the reputation of Indonesian palm oil in the global marketplace where access to markets and license to operate is of growing importance. Consumers of global brands do not want to be contributing to the continued illegal destruction of protected areas and habitats of high profile critically endangered species.

Eyes on the Forest recommends:

- ⇒ Groups highlighted by this study and all other mills and refineries collaborate in the identification and rejection of questionable FFB and CPO so illegal growers no longer have a market for their products.
- ⇒ Groups actively support legally operating smallholders and independent suppliers to improve practices and achieve certification so they can differentiate themselves from rogue operators.
- ⇒ NGOs diligently monitor much publicized global sustainability commitments by the oil palm sector, not take them by face value, and inform companies and the public about the mills and refineries buying products that are illegal and/or non-compliant with the groups' policies.
- ⇒ Authorities stop giving out licenses to CPO mills without a documented legal supply base.
- ⇒ Authorities enforce existing legislation and regulations and protect forests from illegal deforestation.

2. Lack of traceability to plantation level

The groups highlighted in this report have committed to trace all of their CPO and FFB until the plantation level to ensure they are compliant with their various commitments. Mills and refineries that feed the tainted products into the global economy have known about the systemic legality issues in Indonesia for a long time. However, they have failed to tackle the issue until now.

FFB traceability work by the groups mentioned in the report has not made much progress. They seem reluctant to make this task a priority. *Wilmar's* Progress Report states: "*Wilmar has focused its attention on traceability to mill, because the mill is a good indicator of the approximate location of its suppliers [...] While obtaining GPS coordinates and/or maps of each FFB supplier is an objective, it is not the immediate priority.*"

All companies EoF looked at seem to seriously misjudge the likelihood of illegal FFB reaching their suppliers' CPO mills. WWF/EoF investigations showed that trucks with illegal FFB travelled between 13 to 128 km (average 49km) for 1.5 hours to close to 5 days to reach their destination CPO mills. 17 of the 36 CoCs lasted more than one day, more than enough time to reach most of Riau's almost 200 CPO mills¹⁵². With such a big range in distance and time, the theoretical FFB catchment area¹⁵³ for a CPO mill is huge.

EoF found all of Riau and most of Sumatra to fall within Unilever's minimum risk buffer based on the company's commitments. 75% of Riau's CPO mills fell within a maximum risk buffer calculated based on EoF's investigations of illegal FFB sources. There are no safe distances in Riau and Sumatra. Traceability verification based solely on geographic criteria of CPO mills will not prevent illegally grown FFB from entering the mills. More importantly, it will not prevent precious remaining tropical forests to be cleared to supply the world with palm oil. EoF agrees with Cargill that desk top risk assessments are "not a substitute for on the ground assessments and certification¹⁵⁴."

This study highlighted how a company like *Wilmar's* global supply chain can be tainted with illegal product from just a few illegal operators (Figure 1). Considering that companies like *Wilmar* are responsible for complex downstream operations affecting numerous major customers around the world, many of which may be receiving product contaminated with illegal FFB, one would think that FFB traceability were treated with much more urgency than appears to be the case today.

Eyes on the Forest recommends:

- ⇒ Groups no longer accept supplies from dealers and so-called independent CPO mills without own plantations if they cannot prove location, legality and sustainability of all their FFB sources.

- ⇒ Groups stop “topping off” their mills’ supplies through third parties they do not understand, when they run under capacity.
- ⇒ Groups change the focus of their traceability work to the plantation rather than only the mill level and begin focusing on where illegal supplies are most likely to enter the system so they can be stopped, rather than on what supplies are the most easy to trace.
- ⇒ Groups require companies specializing in the transportation of CPO, such as SK Group, to join their effort by segregating supplies from different mills to prevent tainted CPO to contaminate supplies around the world.



Picture 7. A truck with FFB illegally produced and harvested inside Tesso Nilo National Park enters a CPO mill of PT. Peputra Supra Jaya (CPO CoC7). Photo taken by Eyes on the Forest at N0°9'41.92" and E101°46'57.59" on 21 February 2015.

3. RSPO Segregated and Identity Preserved products

Given the systemic seepage of illegal FFB into the global economy, how can buyers of palm oil products protect themselves from purchasing tainted goods?

Currently, RSPO is considered the most credible certification available for sustainable palm oil¹⁵⁵. RSPO writes: “To ensure the credibility of the sustainability claim at the end of the supply chain, all organizations that take legal ownership and physically handle RSPO certified sustainable oil palm products need to be supply chain certified. Transparency and credibility are assured through RSPO Supply Chain Certification [SCC] and RSPO Principles and Criteria Certification”¹⁵⁶.

However, one of today’s criticisms of the RSPO is that its *Supply Chain Standard* only covers operations downstream from the CPO mill but not upstream from the mill to plantations. A joint letter¹⁵⁷ by a group of global investors representing \$5 trillion in assets under management and major global brands including five of the world’s top 10 palm oil buyers - Colgate-Palmolive, Kao, PepsiCo, Procter & Gamble, and Johnson & Johnson - called on RSPO for stronger certification standards and practices, recommending that RSPO improves its standard so producers “ensure palm oil originates from known sources”.

Our findings highlight the importance of exactly that. RSPO standards need to include verification and transparency on the origins of all FFB, not only for certified but also for non-certified oil. We found four RSPO SCC holders from three groups to be involved in the trade

of tainted CPO from mills which purchased illegal FFB (Table 7). In addition, another RSPO member, Musim Mas, with many RSPO certified facilities, bought tainted CPO from many mills (Table 6).

Companies who do not want to be exposed to the legal risks of knowingly dealing with tainted CPO should be able to turn to facilities which are certified to only buy FFB from known and certified sources (RSPO “Identity Preserved (IP)” or “Segregated (SG)” Supply Chain Models, see below)¹⁵⁸. However, today, most CPO mills in Indonesia are not¹⁵⁹.

Table 7. *RSPO SCC holders involved.*

Name of facility	Group	Location address	Certificate validity period	Supply chain model		
				IP	SG	MB
PT. Pacific Indopalm Industries ¹⁶⁰	Pacific Inter-Link	Jl. Raya Dumai, Basilam Baru KM 14, Kel. Lubuk Gaung, Kec. Sungai Sembilan, Dumai 28882, Riau, Indonesia	19/06/2014 – 18/06/2019	No	No	Yes
PT. Sari Dumai Sejati ¹⁶¹	RGE	Jl. Raya Lubuk Gaung, Kelurahan Lubuk Gaung, Kecamatan Sungai Sembilan, Dumai 28882 Riau, Indonesia	30/08/2012 – 29/08/2017	No	No	Yes
PT. Wilmar Bioenergi Indonesia ¹⁶²	Wilmar	Jl. Sumatera Kawasan Industri Dumai, Kelurahan Pelintung, Medan Kampai District, Dumai, Riau 28816 Indonesia	19/08/2014 – 18/08/2019	No	Yes	Yes
PT. Wilmar Nabati Indonesia, Pelintung ¹⁶³	Wilmar	Jl. Sumatera Kawasan Industri Dumai, Kelurahan Pelintung, Medan Kampai District, Dumai, Riau 28816 Indonesia	19/08/2014 – 18/08/2019	No	Yes	Yes

None of the four facilities found to be implicated in the trade of tainted CPO has been certified to do this (Table 7). All are certified only for the Mass Balance (MB) supply chain system, which allows a facility to mix RSPO Certified Sustainable Palm Oil (CSPO) with non-certified oil without separating the two. Because of this, the purchased Mass Balance product is likely tainted with illegal FFB.

“GreenPalm¹⁶⁴” certificates from RSPO-certified growers based on another RSPO Supply Chain Model, “Book & Claim”, also do not ensure the actual presence or lack of CSPO or unsustainable/illegal palm oil in the actual oil purchased. Because of this, the purchased “GreenPalm” and “Book & Claim” oil could be based on 100% illegal FFB.

Eyes on the Forest recommends:

- ⇒ RSPO finalizes its FFB due diligence tool as soon as possible.
- ⇒ RSPO audits compliance of its members and certified clients.
- ⇒ CPO mills start disclosing percentages of FFB received from owned plantations, plasma and scheme small-holders, and traders and independent growers.
- ⇒ NGOs monitor RSPO members and SCC certified mills and inform RSPO about purchases of illegal and/or non-compliant products.
- ⇒ Buyers not waste their resources on “mills to end user” traceability schemes but use that money to buy segregated oil based on RSPO “Identity Preserved (IP)” or “Segregated (SG)” Supply Chain Models as:
 - “Identity Preserved Supply Chain Model” ensures that CSPO from a single identifiable certified source is kept separately from non-certified oil throughout the supply chain.
 - “Segregated Supply Chain Model” ensures that CSPO from different certified sources is kept from non-certified oil throughout the supply chain.



Picture 8. CPO truck from RGE/Asian Agri's PT. Rigunas Agri Utama Bungo Tebo mill arrives at RGE/Apical's PT. Sari Dumai Sejati refinery (CPO CoC8). Photo taken by Eyes on the Forest at N1°45'25.04" and E101°21'35.97" on 17 April 2015.

4. Legacy of deforestation and illegal trade

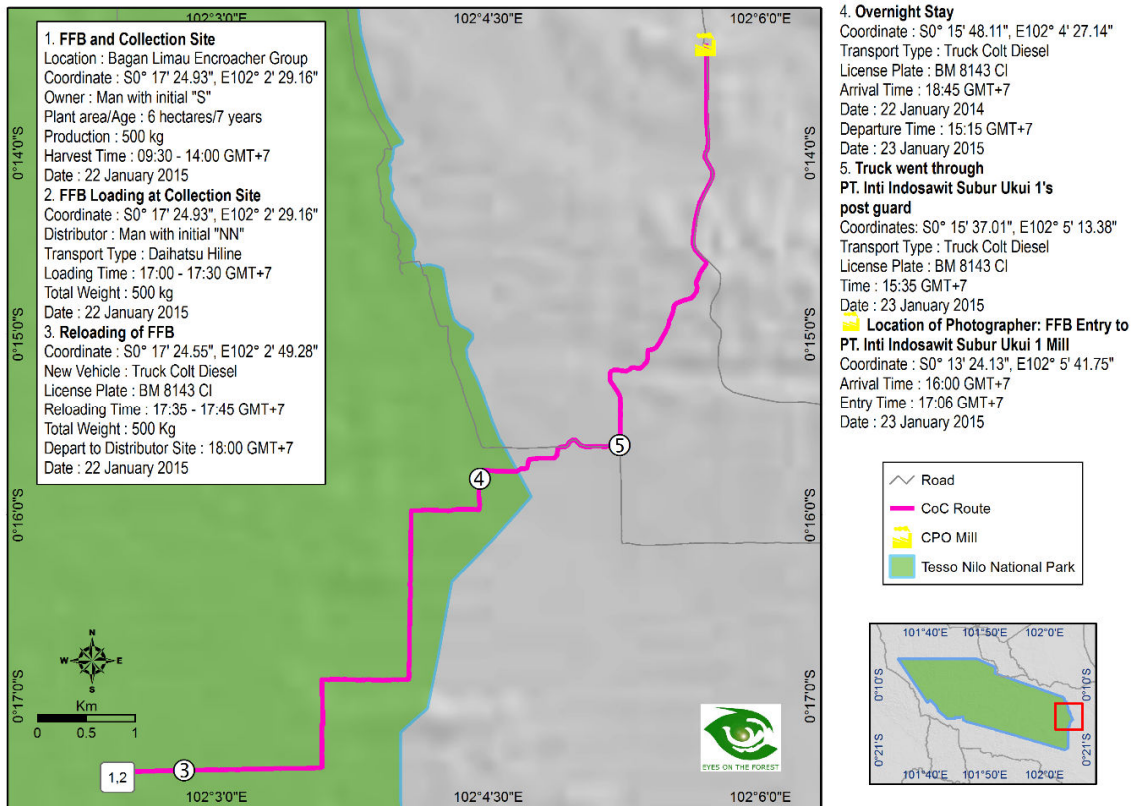
The groups mentioned in this report have been profiting from illegal deforestation of Sumatra's precious ecosystems. This report focuses on legal issues. But legality is only the minimum requirement for all groups – their commitments aim much higher than that. They are committed to zero deforestation. They need to address their legacy of past deforestation just as Indonesia's two biggest pulp & paper producers, APP and APRIL have committed to do.

Eyes on the Forest recommends:

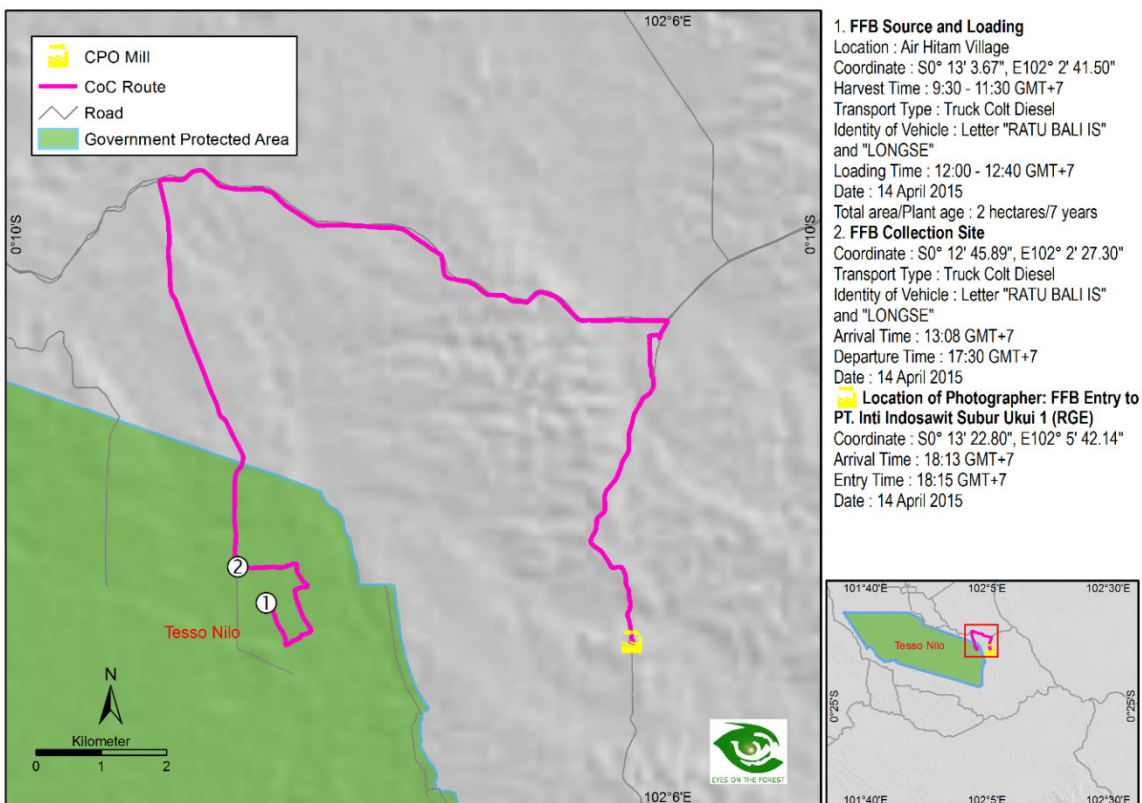
- ⇒ All groups address their legacy and contribute to the restoration of the precious conservation forests they helped destroy.
- ⇒ Groups stop divesting of "toxic assets", like *Wilmar* did with *PT. Citra Riau Sarana* and *PT. Asiatic Persada*¹⁶⁵, and invest in cleaning up such facilities so they no longer facilitate illegal deforestation and contaminate global supply streams.
- ⇒ Authorities convene stakeholders of Tesso Nilo National Park to address its palm oil driven encroachment and restore the functionality of the park.

Appendix 1. Supply chains of FFB illegally grown inside Tesso Nilo National Park and the ex Dalek area to surrounding CPO mills.

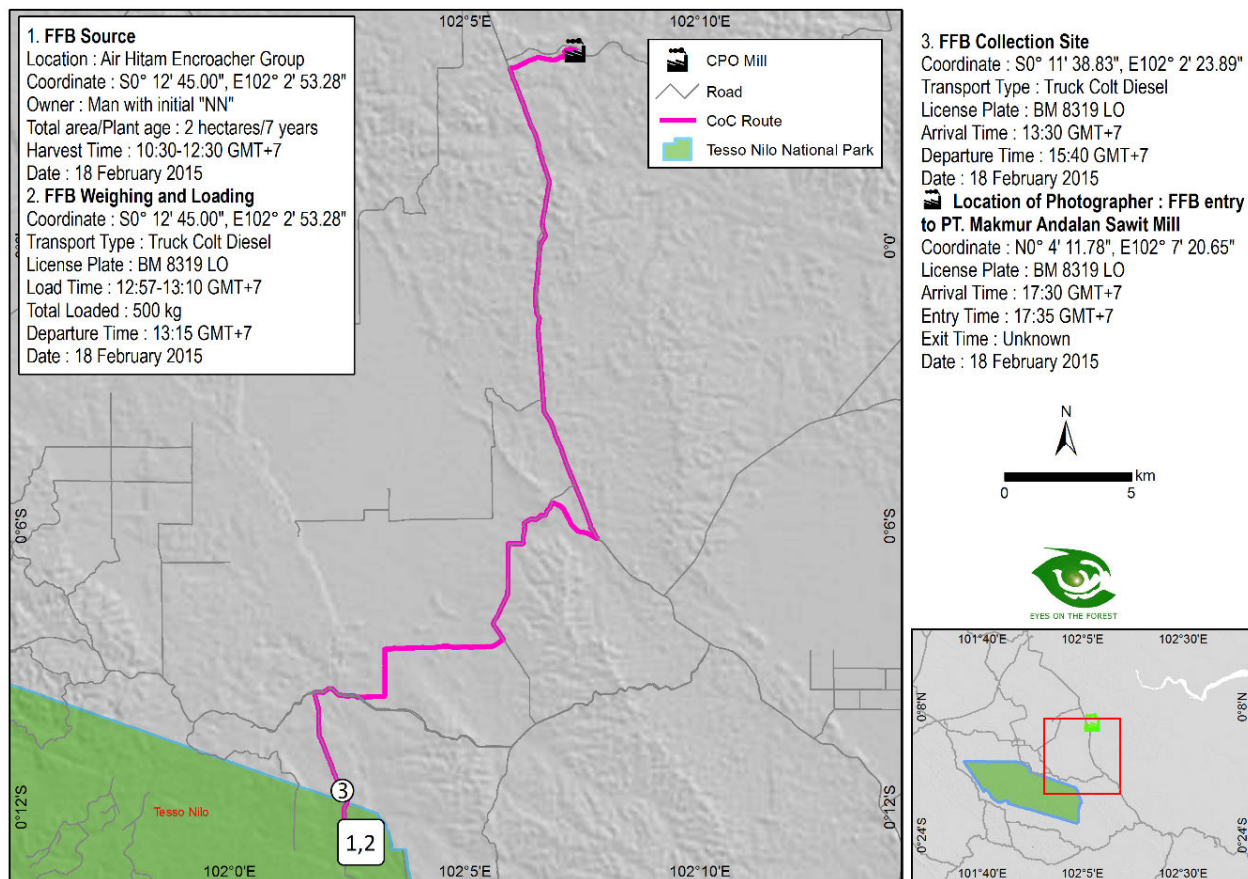
CoC 1 – Bagan Limau group to PT. Inti Indosawit Subur Ukui 1 (RGE) CPO mill.



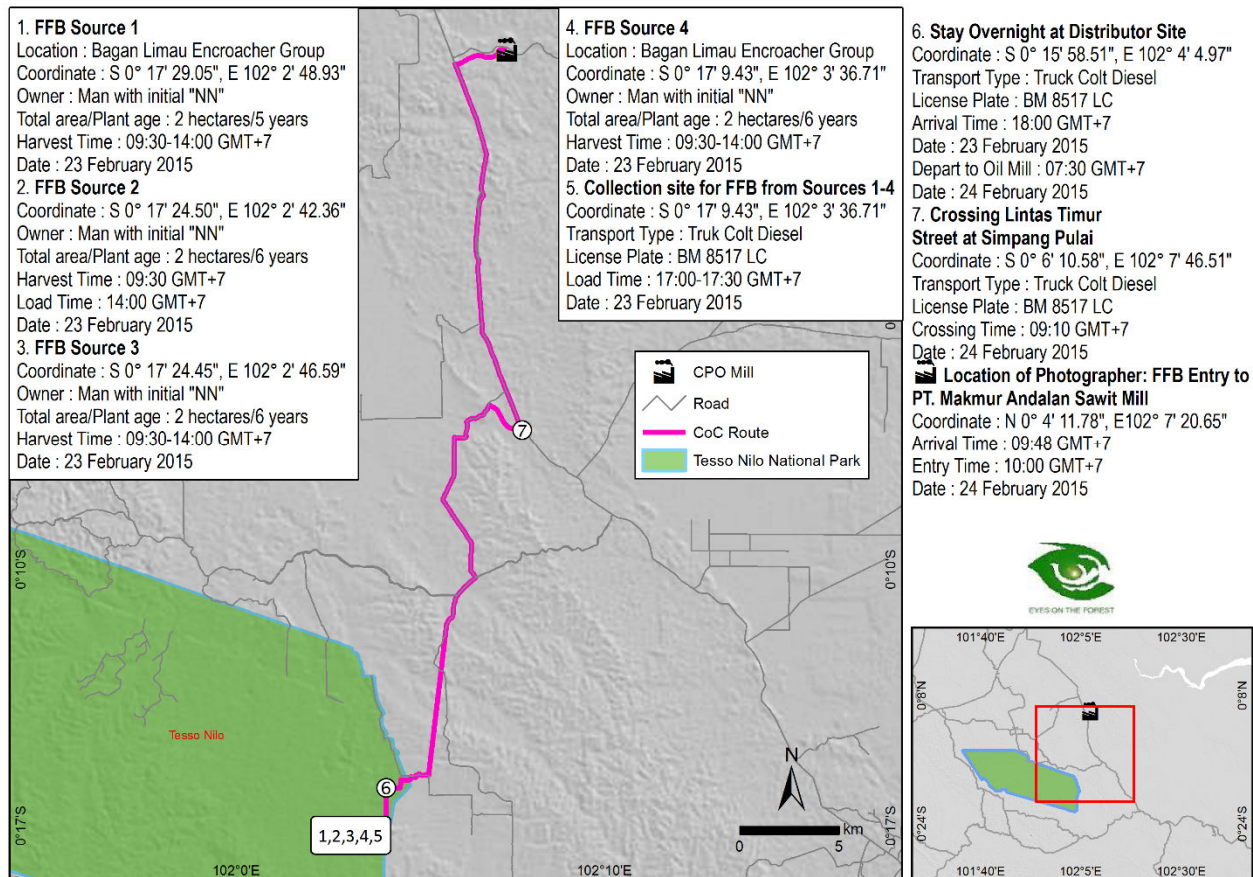
CoC 2 – Air Hitam group to PT. Inti Indosawit Subur Ukui 1 (RGE) CPO mill.



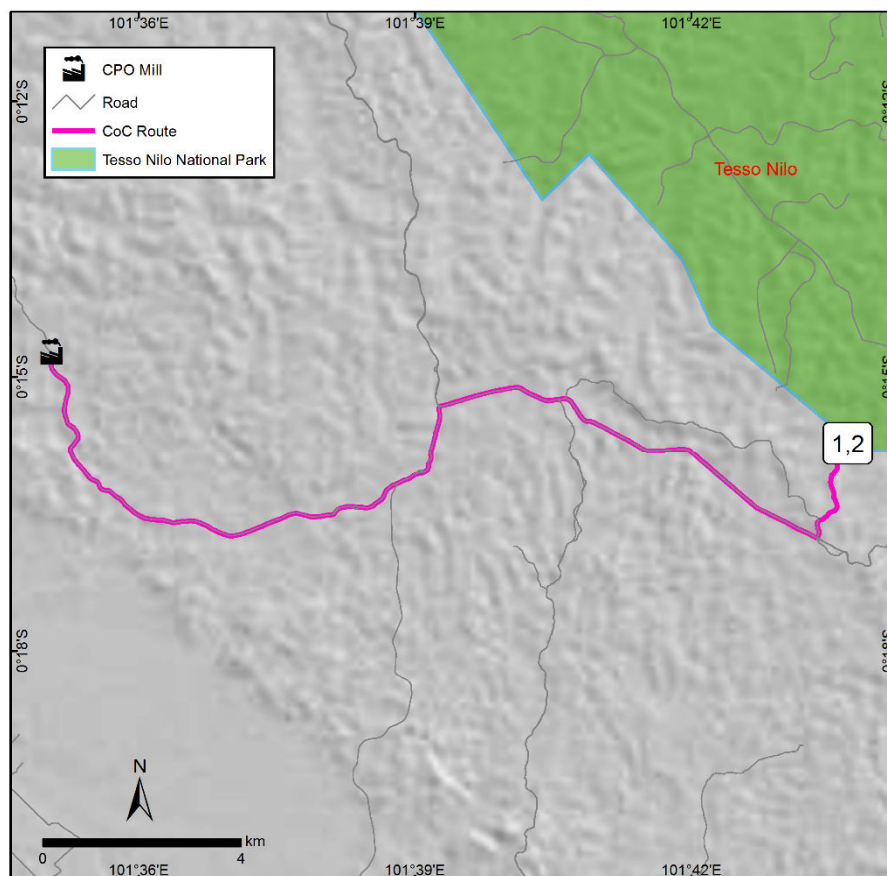
CoC 3 – Air Hitam group to PT. Makmur Andalan Sawit CPO mill.



CoC 4 – Bagan Limau group to PT. Makmur Andalan Sawit CPO mill.



CoC 5 – Toro Makmur group to PT. Citra Riau Sarana 3 CPO mill.



1. FFB Source

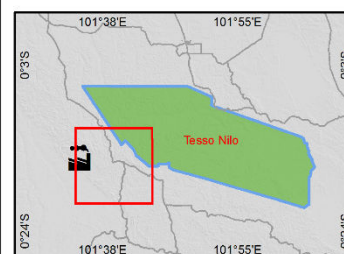
Location : Toro Makmur Encroacher Group
 Coordinate : S 0°15'45.79" E101°43'48.07"
 Owner : Man with initial "HT"
 Total area/Plant age : 70 hectares/6-7 years
 Harvest Time : 08:30 - 15:20 GMT+7
 Date : 19 January 2015

2. FFB Loading and overnight at Collection Site

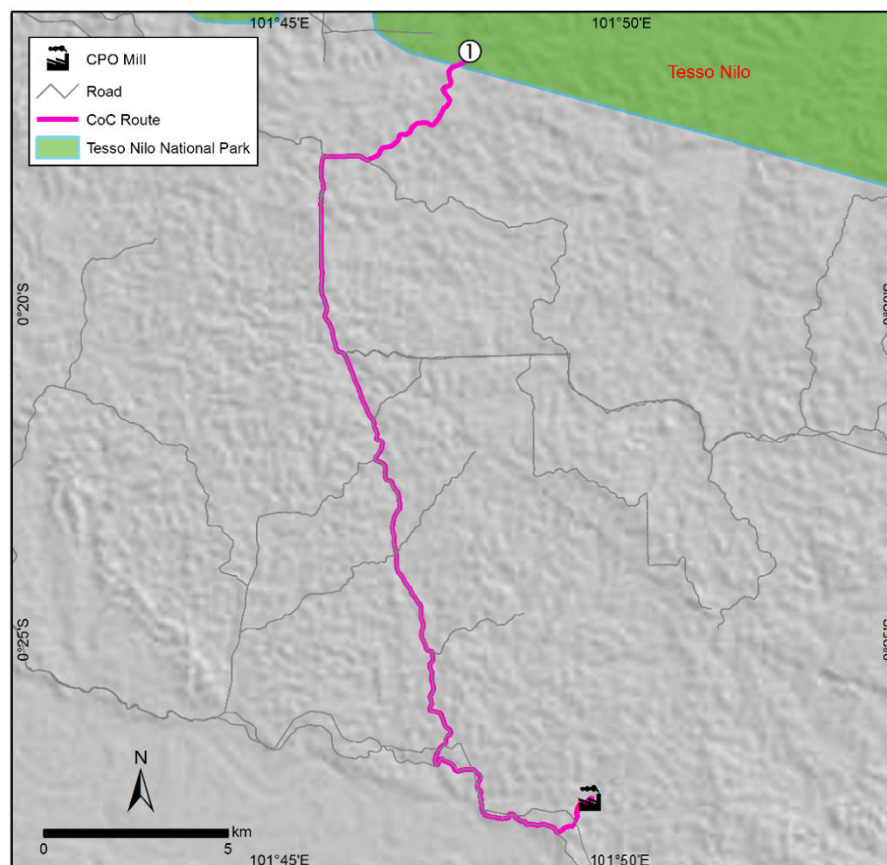
Coordinate : S0°15'41.75" E101°43'45.52"
 Transport Type : Truck
 License Plate : BM 6841 RO
 Load Time : 16:00 - 18:30 GMT+7
 Date : 19 January 2015
 Departure Time : 07:30 GMT+7
 Date : 20 January 2015

Location of Photographer : FFB Entry to

PT. Citra Riau Sarana 3 Mill
 Coordinate : S 0°14'43.43" E 101°35'3.06"
 Entry Time : 09:43 GMT+7
 Exit Time : 10:15 GMT+7
 Date : 20 January 2015



CoC 6 – Toro Jaya group to PT. Gemilang Sawit Lestari CPO mill.

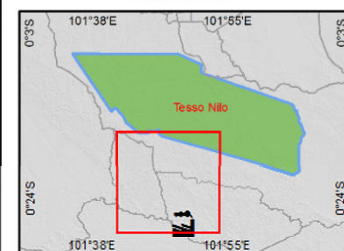


1. FFB Source

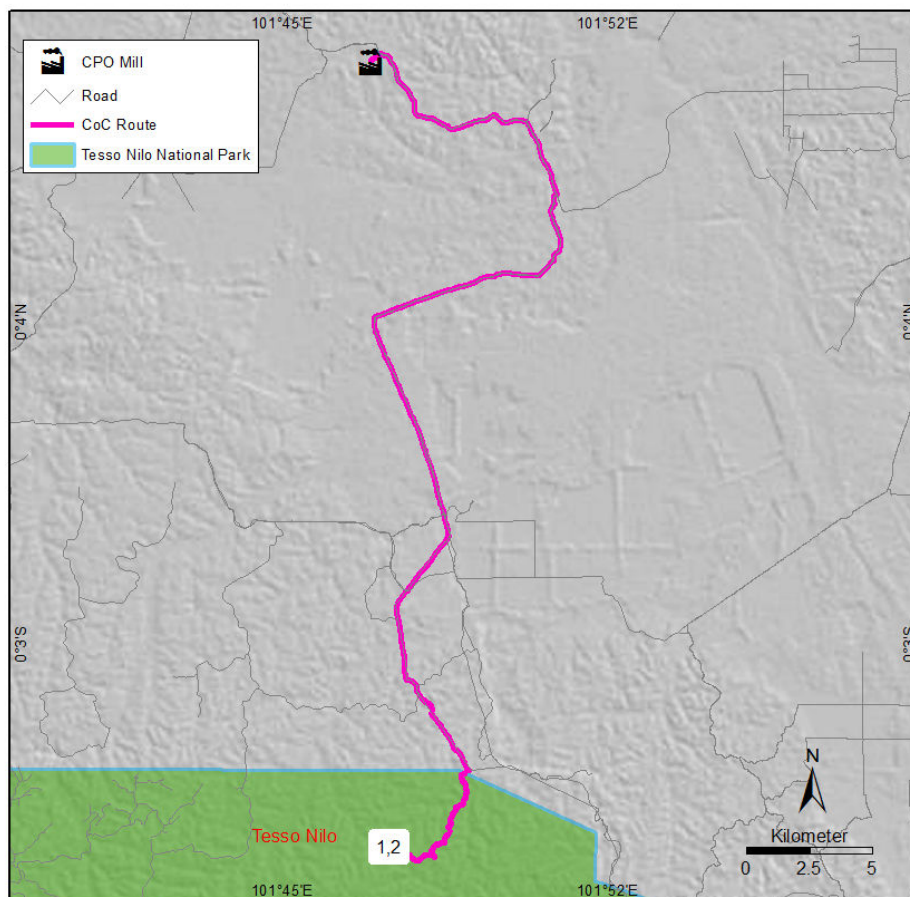
Location : Toro Jaya Encroacher Group
 Coordinate : S0°16'14.57" E101°47'47.11"
 Owner : Man with initial "T"
 Transport Type : Truck
 Driver : Man with initial "B"
 License Plate : BM 8094 LE
 Harvest Time : 08:07 GMT+7
 Load Time : 13:00 - 14:00 GMT+7
 Depart to Mill : 14:20 GMT+7
 Date : 20 January 2015
 Plant area/age : 4 hectares/6-7 years

Location of Photographer : FFB Entry to

PT. Gemilang Sawit Lestari Mill
 Coordinate : S0° 27' 21.30", E101° 49' 33.55"
 Arrival Time : 15:30 GMT+7
 Entry Time : 15:40 GMT+7
 Exit Time : 16:10 GMT+7
 Date : 20 January 2015



CoC 7 – Bukit Mulia group to PT. Peputra Supra Jaya CPO mill.



1. FFB Source

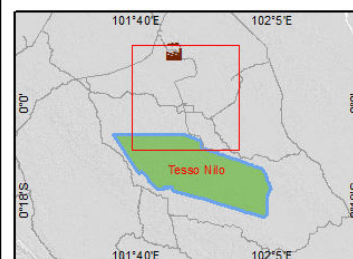
Location : Bukit Mulia Encroacher Group
 Coordinate : S 0° 7' 29.02" E 101° 47' 21.88"
 Owner : Man with initial "A"
 Total area/Plant age : 50 hectares/4-5 years
 Harvest Time : 08:30 - 12:00 GMT+7
 Date : 21 February 2015

2. FFB Loading at Collection Site

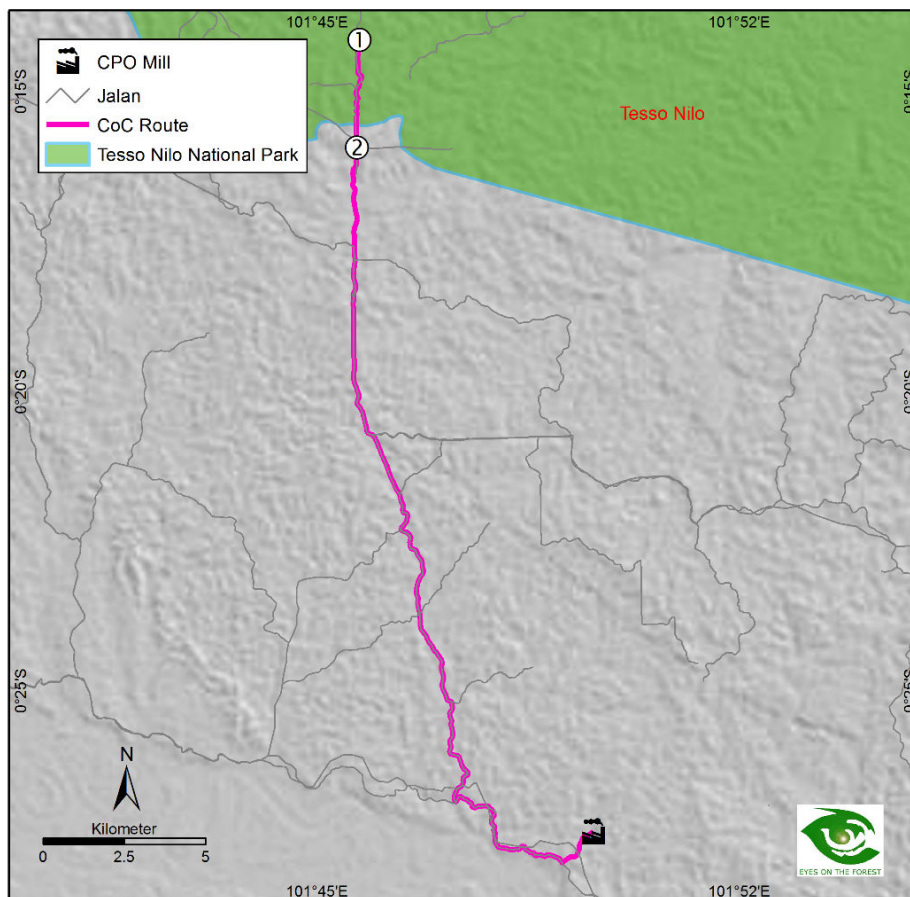
Coordinate : S 0° 7' 29.02" E 101° 47' 21.88"
 Transport Type : Truck
 Driver : Man with initial "S"
 License Plate : BM 9592 SU
 Load Time : 13:00 - 15:00 GMT+7
 Departure Time : 15:30 GMT+7
 Date : 21 February 2015

Location of Photographer: FFB Entry to PT. Peputra Supra Jaya Mill

Coordinate : N 0° 9' 36.89" E 101° 46' 54.48"
 Entry Time : 17:43 GMT+7
 Exit Time : 18:15 GMT+7
 Date : 21 February 2015



CoC 8 – Bukit Makmur group to PT. Gemilang Sawit Lestari CPO mill.



1. FFB Source and Overnight Stay

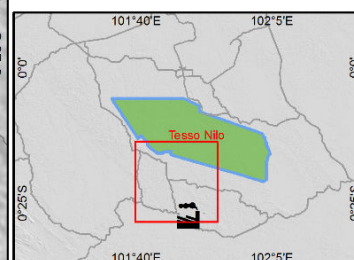
Location : Bukit Makmur Encroacher Group
 Coordinate : S 0° 14' 8.69" E 101° 45' 42.39"
 Owner : Man with initial "S"
 Harvest Time : 09:00 - 14:20 GMT+7
 Date : 24 February 2015
 Departure Time : 08:45 GMT+7
 Date : 25 February 2015
 Total area/Plant age : 4 hectares/3-5 years

2. FFB Loading at Collection Site

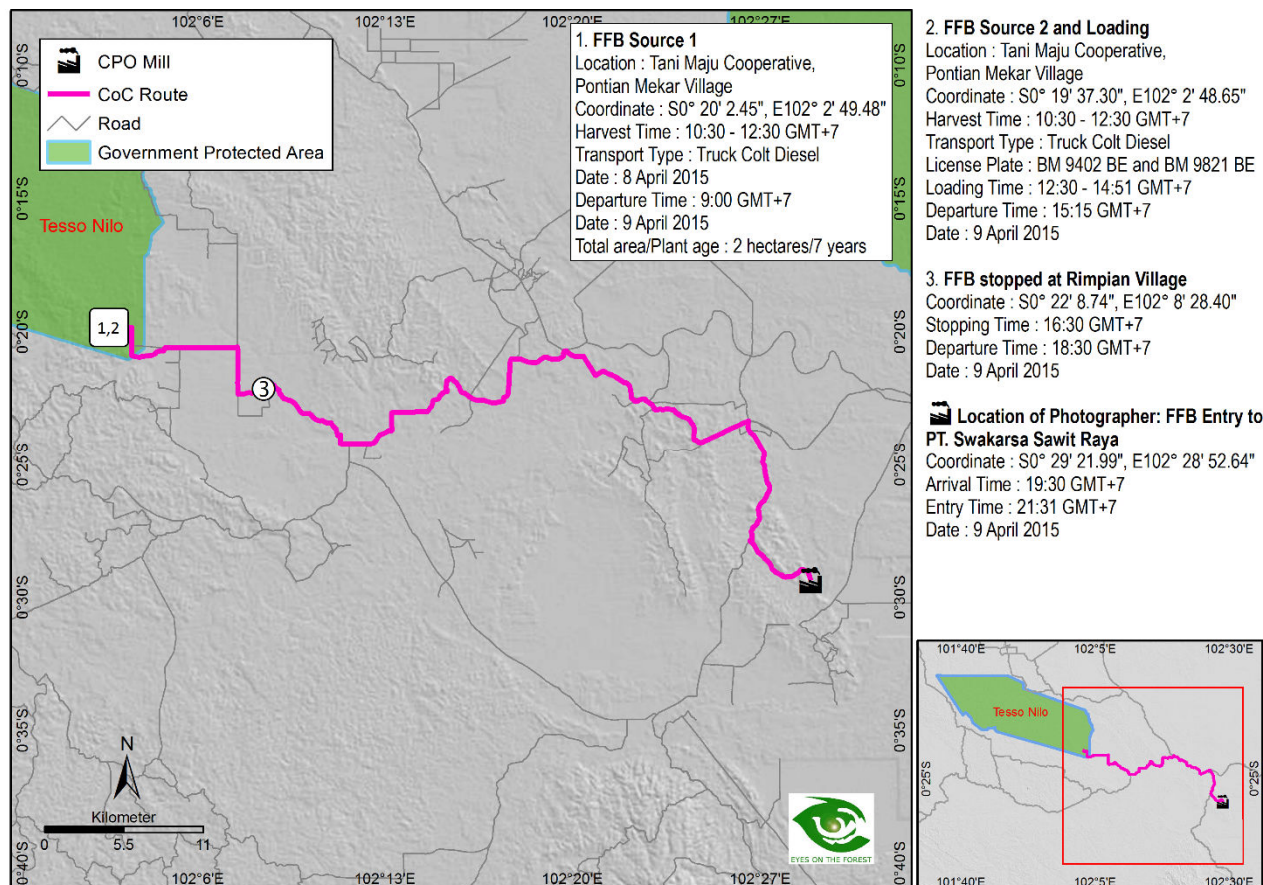
Coordinate : S 0° 15' 56.29" E 101° 45' 39.67"
 Transport Type : Truck
 Driver : Man with initial "J"
 License Plate : BM 8471 QU
 Load Time : 15:00 - 16:20 GMT+7
 Departure Time : 16:30 GMT+7
 Date : 25 February 2015

Location of Photographer: FFB Entry to PT. Gemilang Sawit Lestari Mill

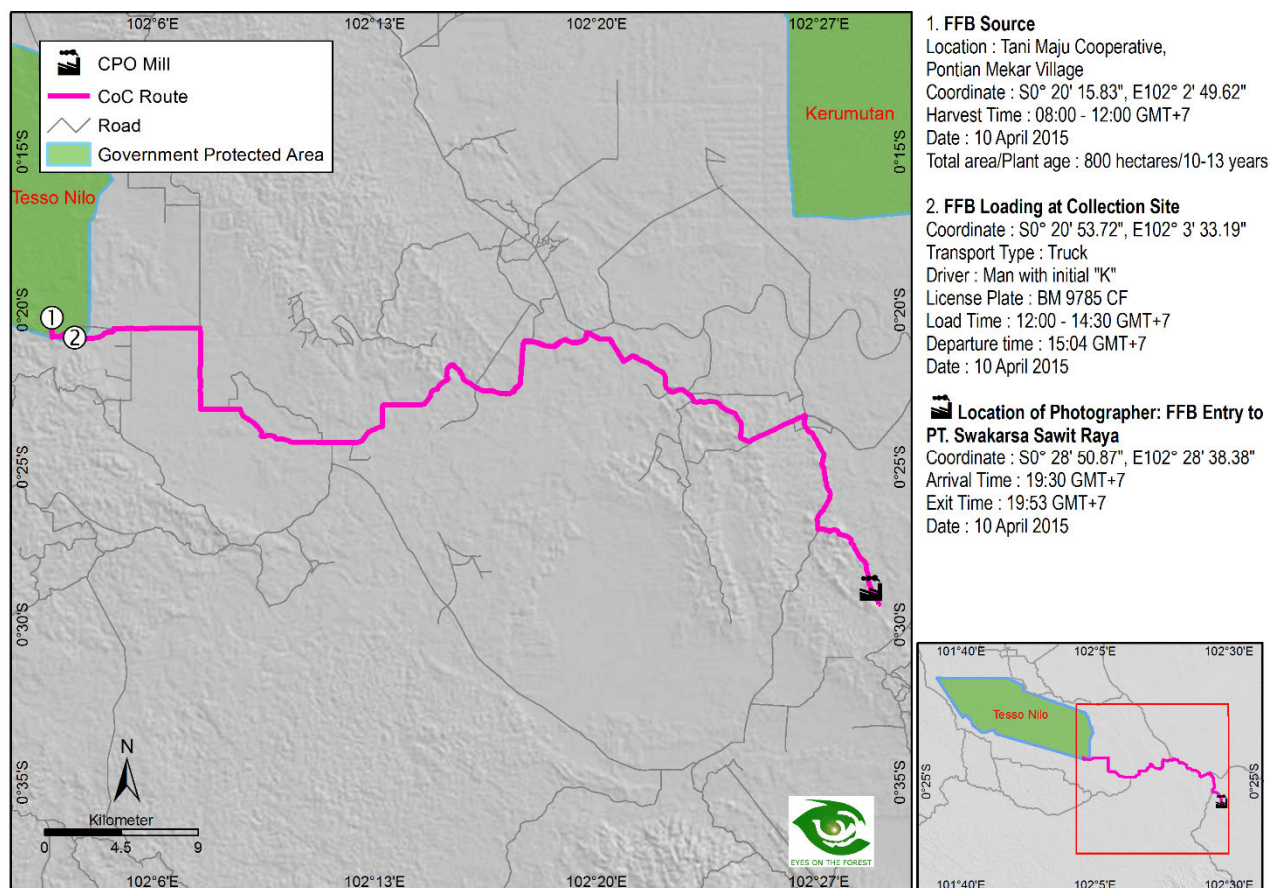
Coordinate : S 0° 27' 20.86" E 101° 49' 34.82"
 Arrival Time : 17:45 GMT+7
 Entry Time : 17:47 GMT+7
 Exit Time : 18:00 GMT+7
 Date : 25 February 2015



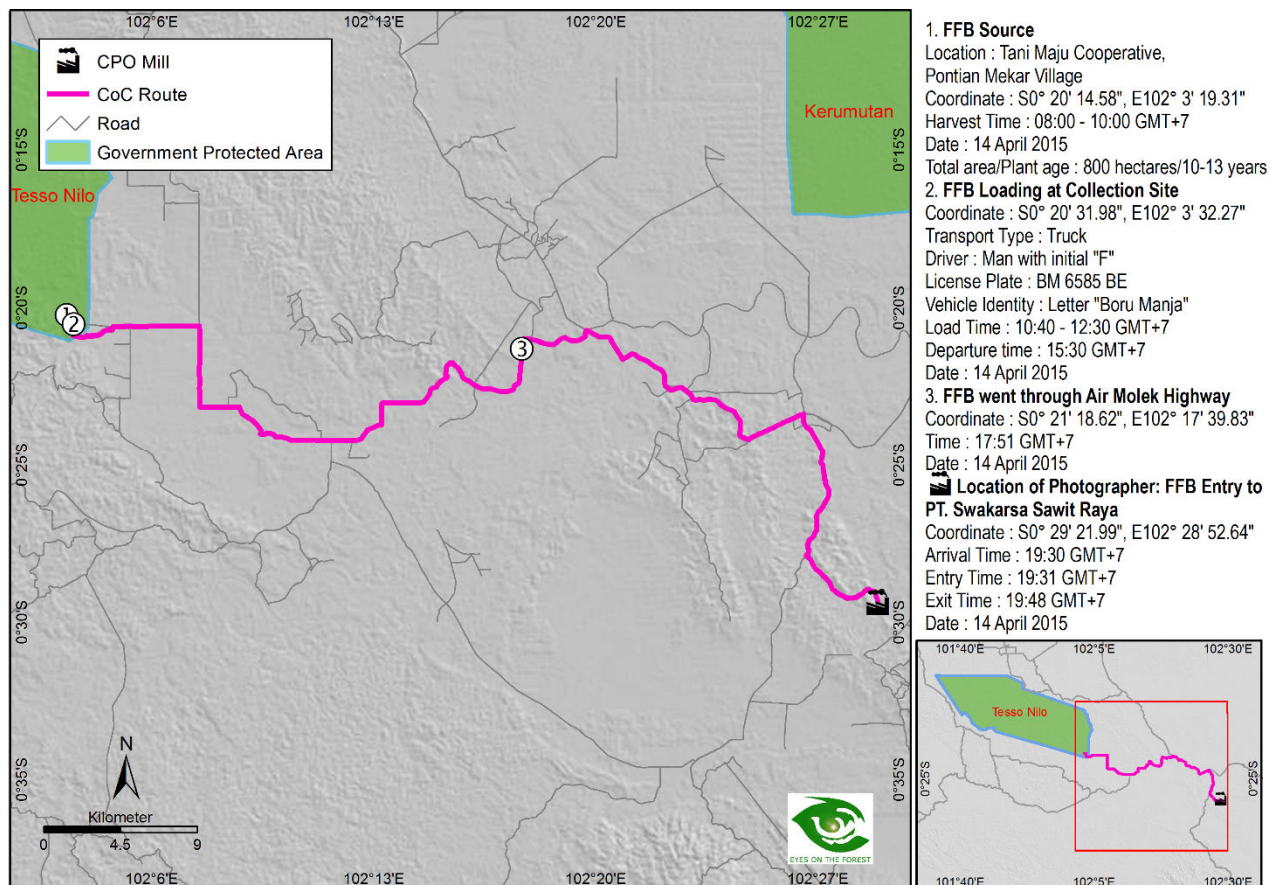
CoC 9 – Tani Maju cooperative to PT. Swakarsa Sawit Raya CPO mill.



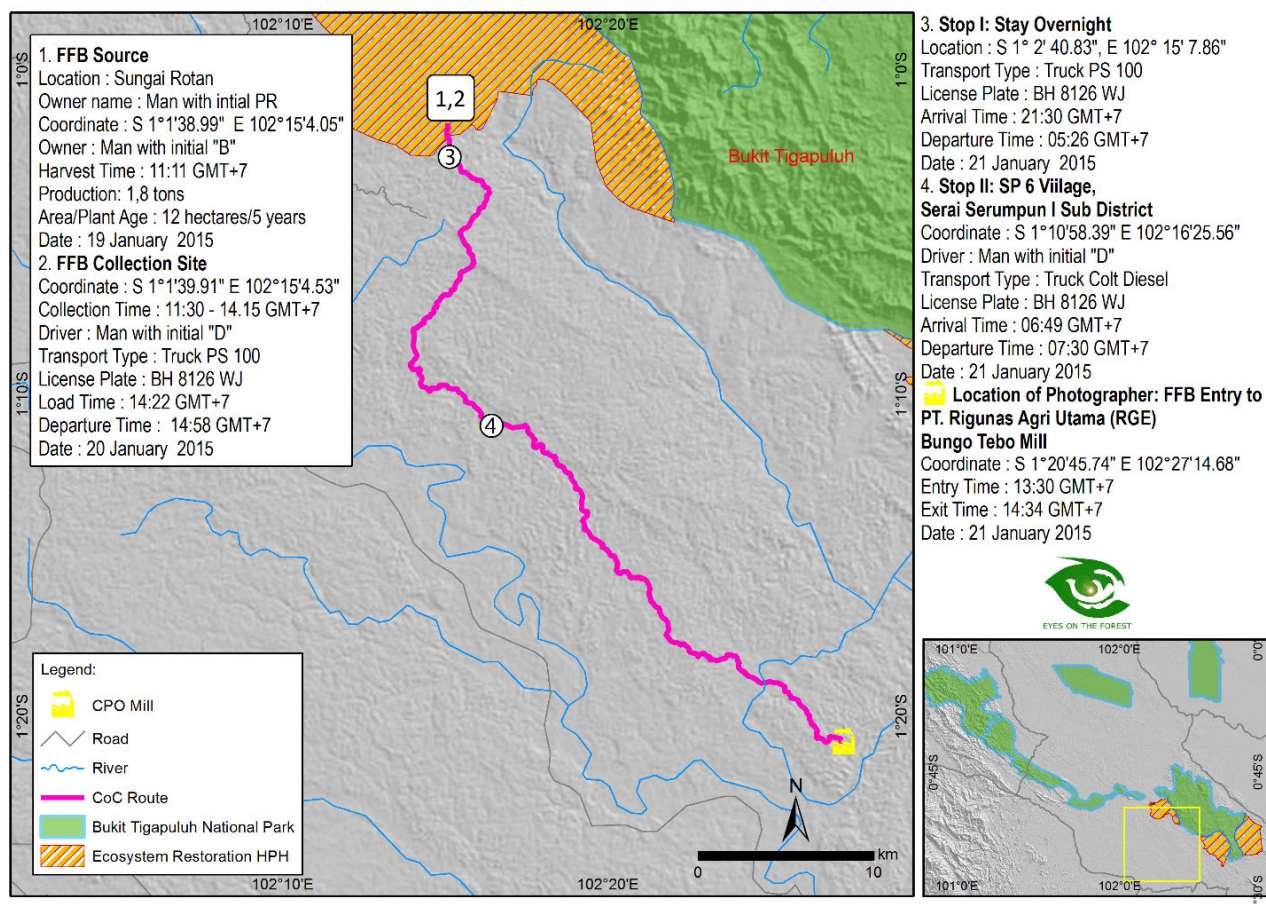
CoC 10 – Tani Maju cooperative to PT. Swakarsa Sawit Raya CPO mill.



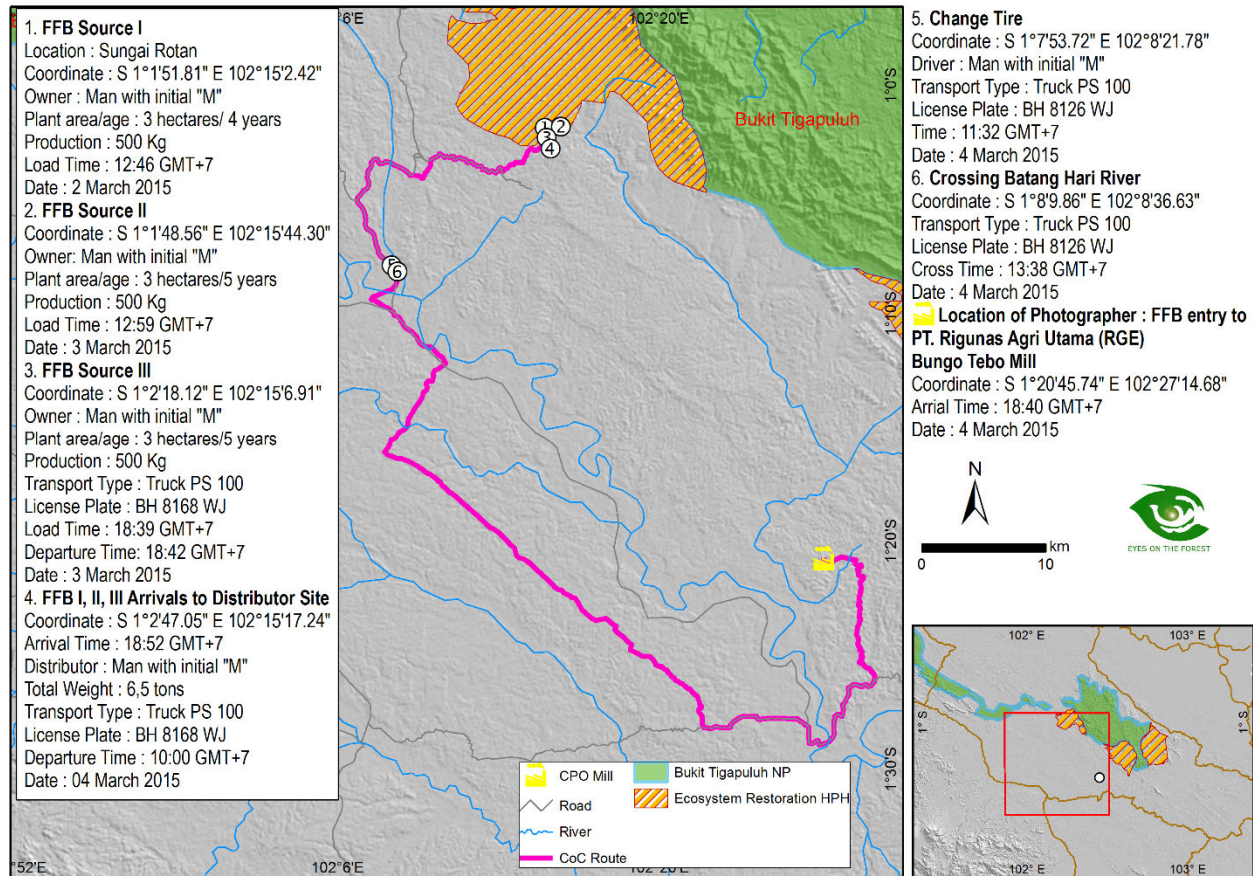
CoC 11 – Tani Maju cooperative to PT. Swakarsa Sawit Raya CPO mill.



CoC 12 – Ex Dalek to PT. Rigunas Agri Utama (RGE) Bungo Tebo CPO mill.

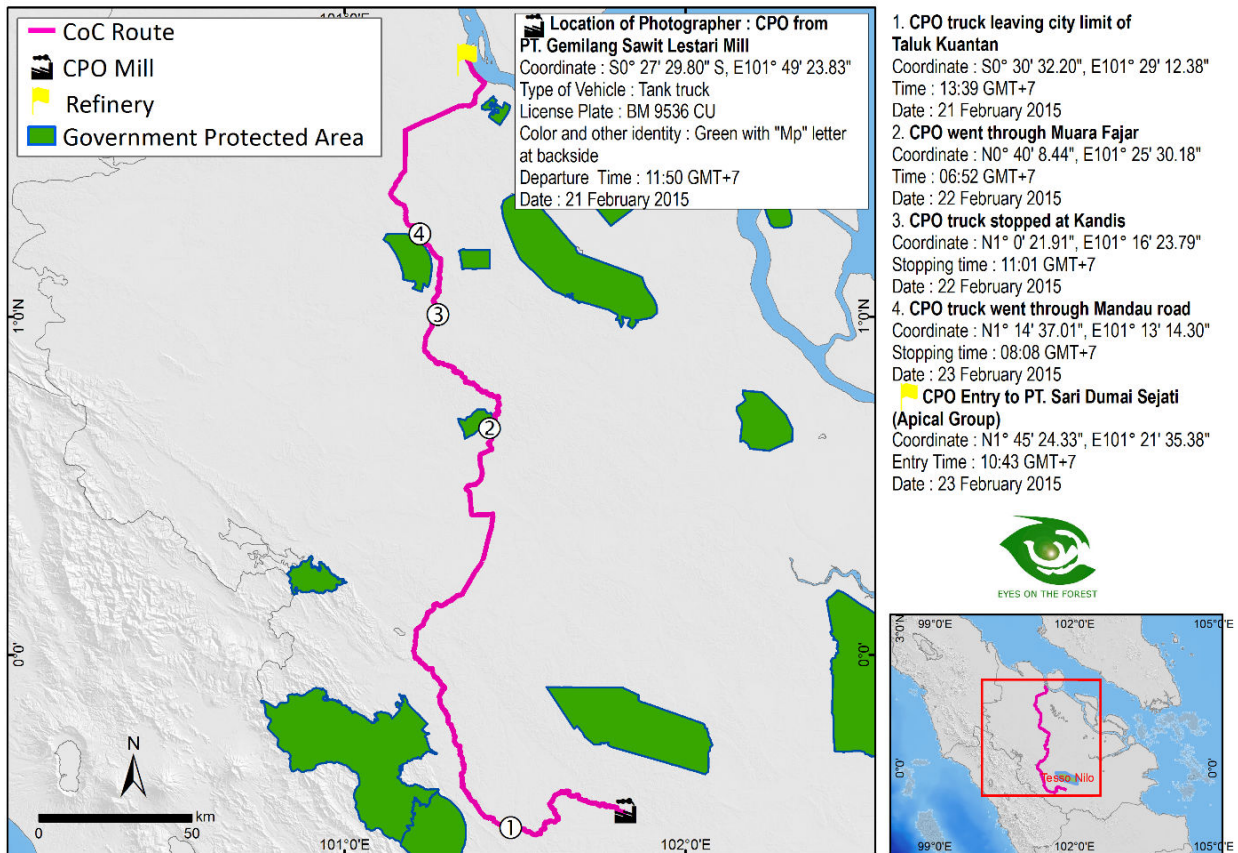


CoC 13 – Ex Dalek to PT. Rigunas Agri Utama (RGE) Bungo Tebo CPO mill.

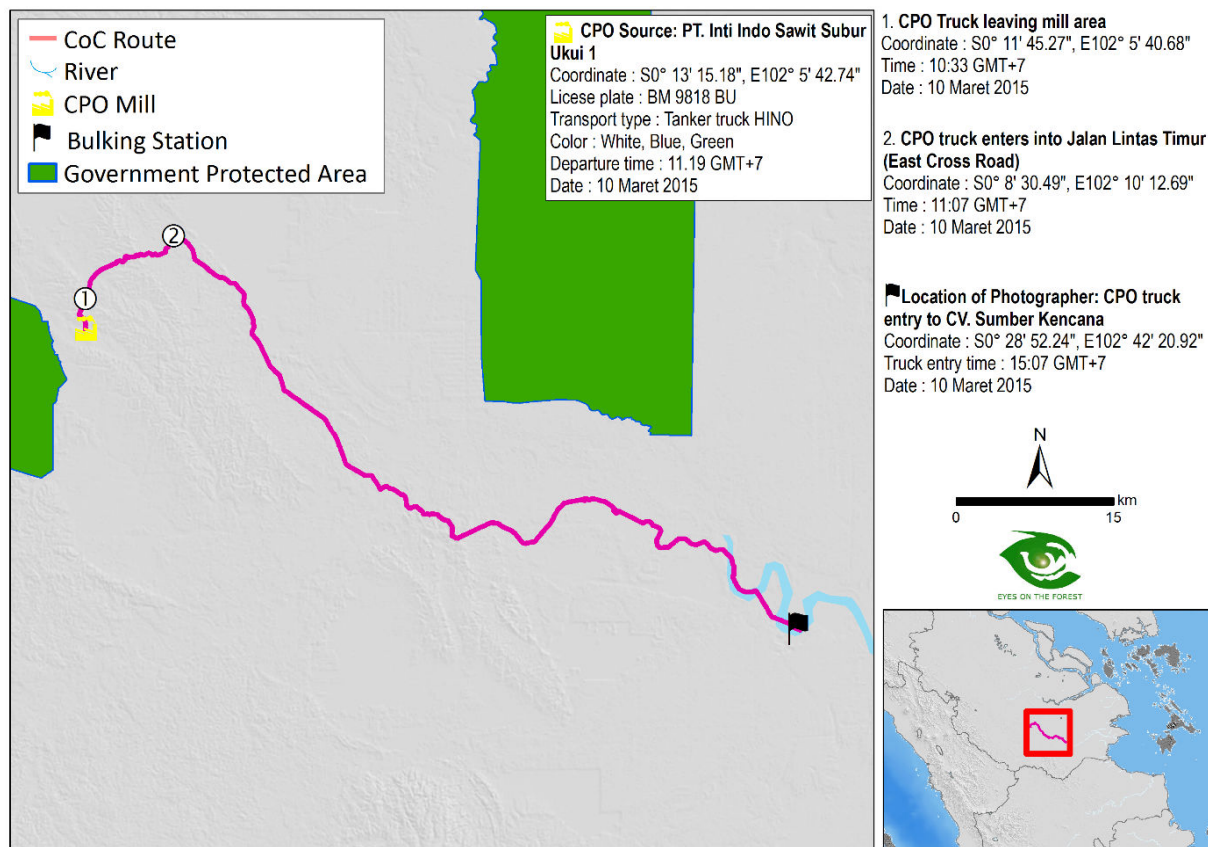


Appendix 2. Supply chains of CPO tainted by FFB illegally grown inside Tesso Nilo National Park and the ex Dalek area to refineries/ports.

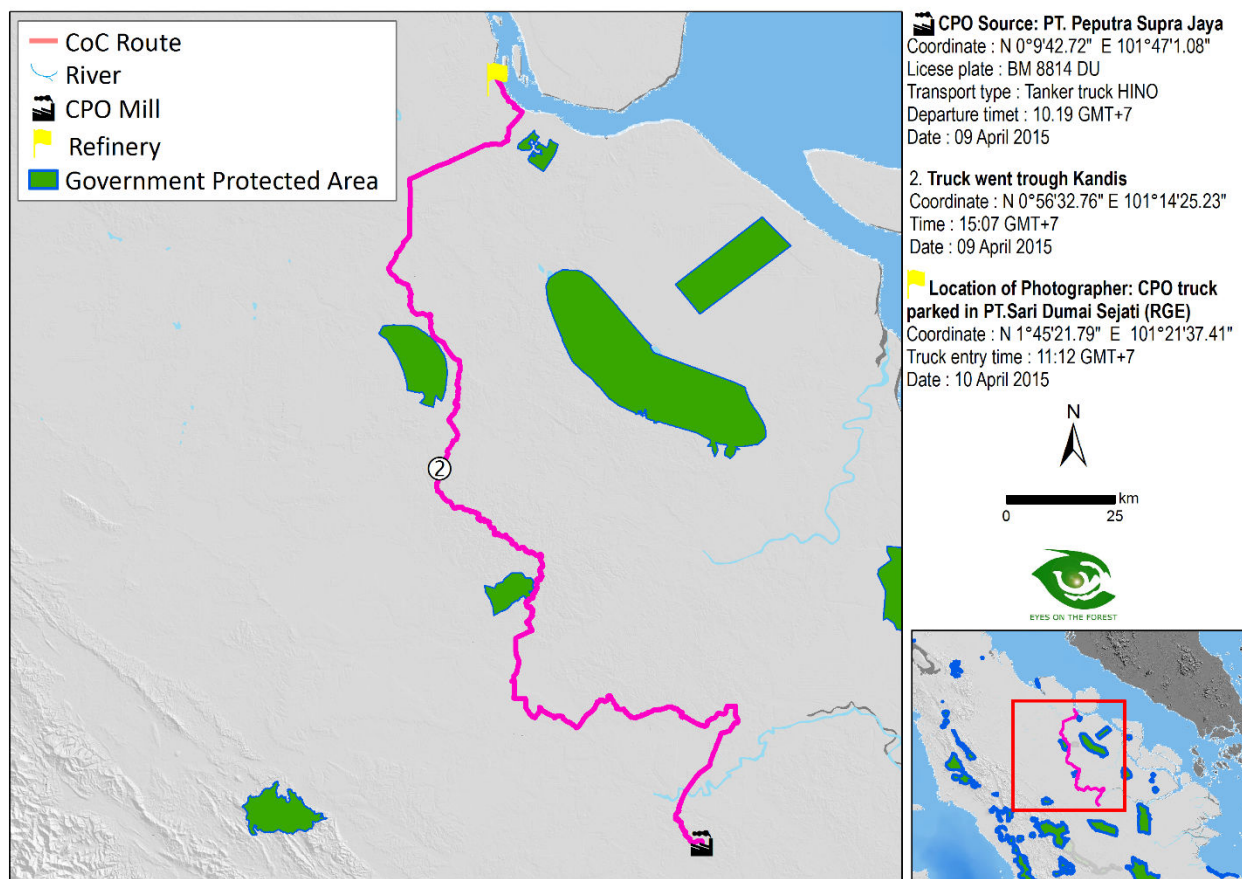
CoC 1 – PT. Gemilang Sawit Lestari CPO mill to PT. Sari Dumai Sejati (RGE).



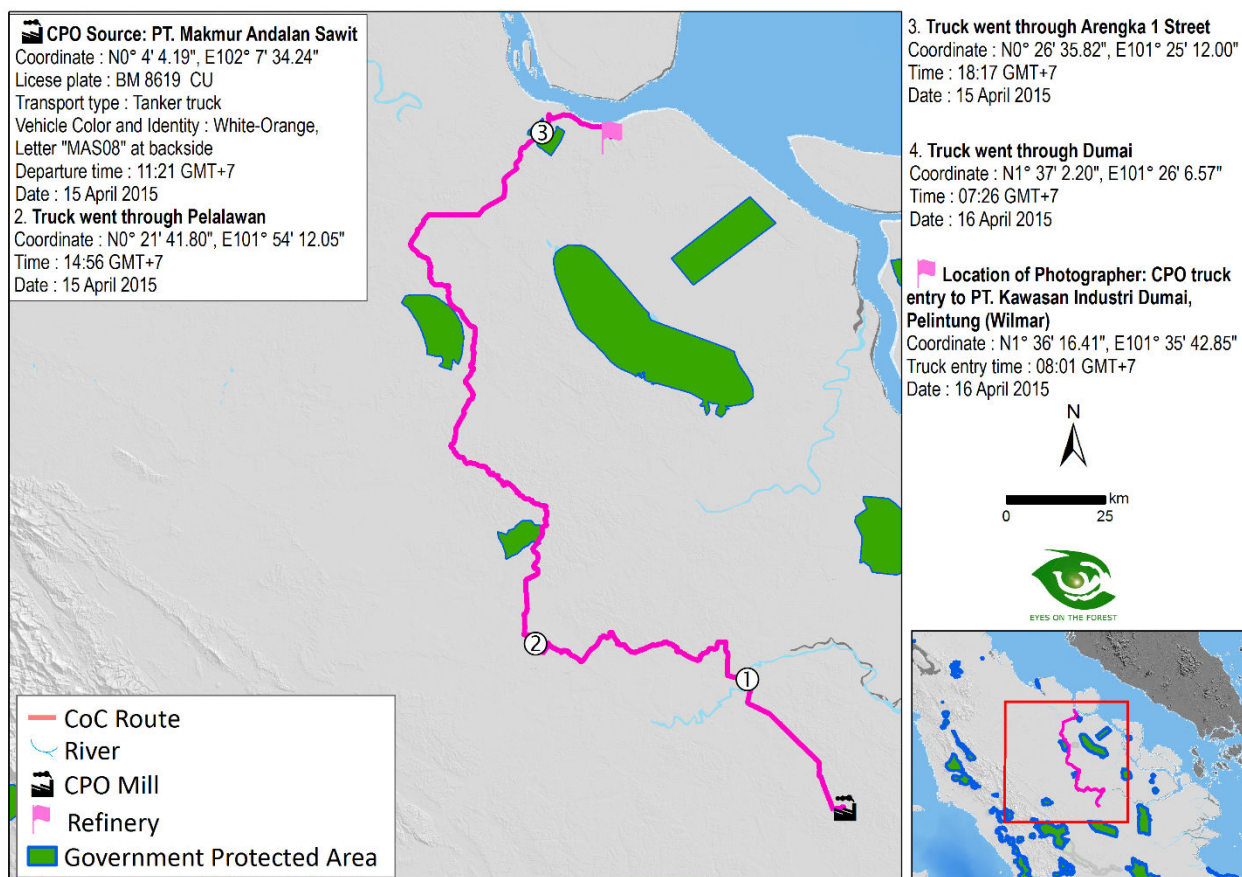
CoC 2 – PT. Inti Indosawit Subur Ukui 1 (RGE) to CV. Sumber Kencana (SK).



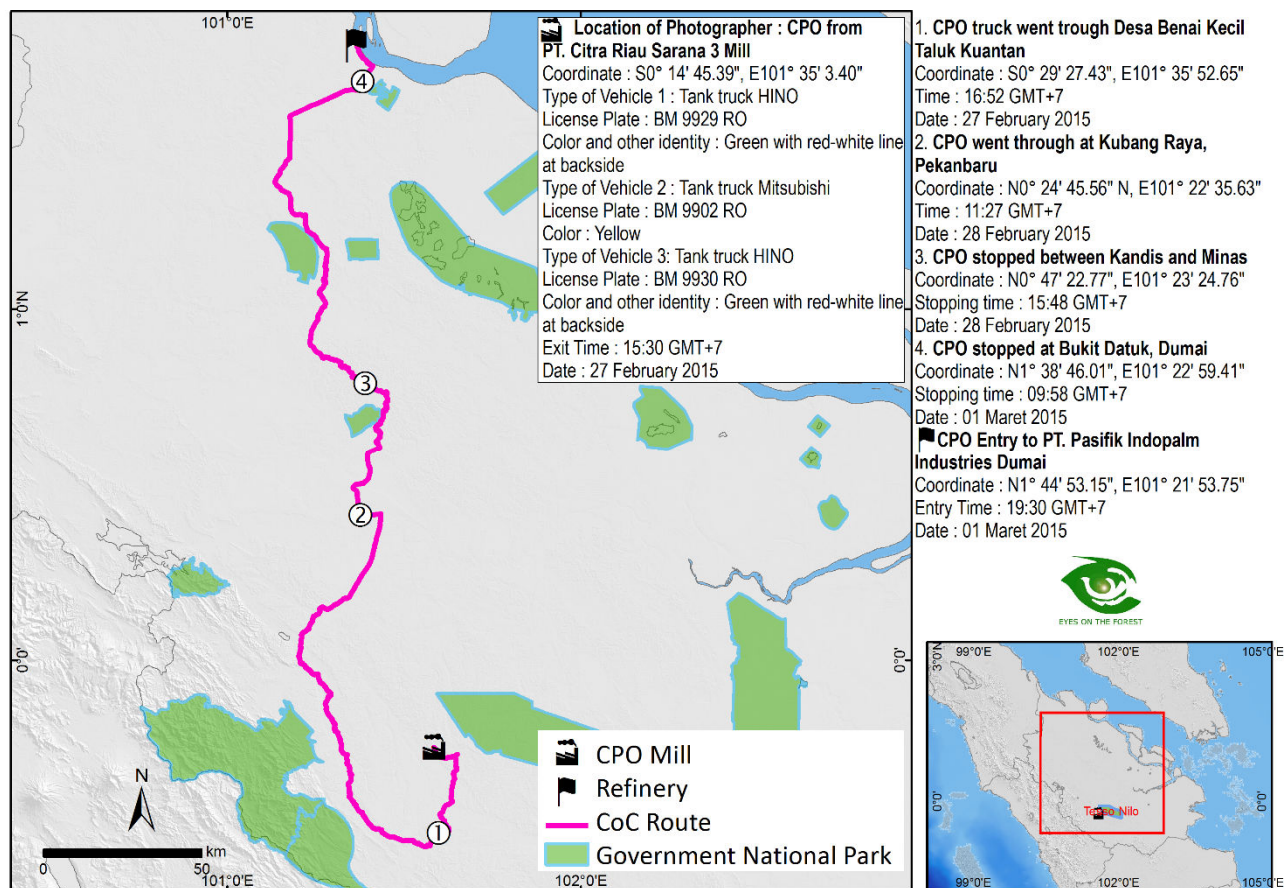
CoC 3 – PT. Peputra Supra Jaya CPO mill to PT. Sari Dumai Sejati (RGE).



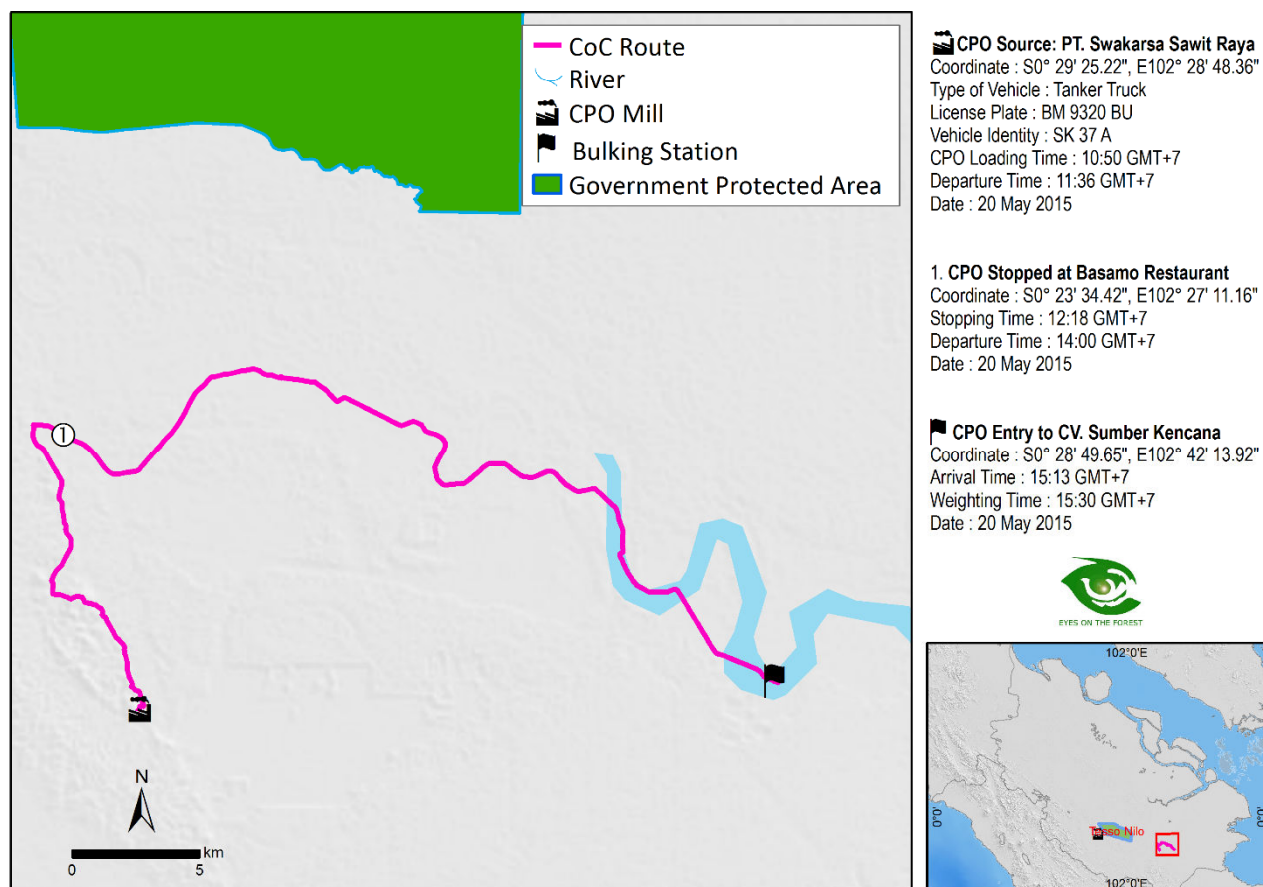
CoC 4 – PT. Makmur Andalan Sawit CPO mill to PT. Kawasan Industri Dumai Pelintang (Wilmar).



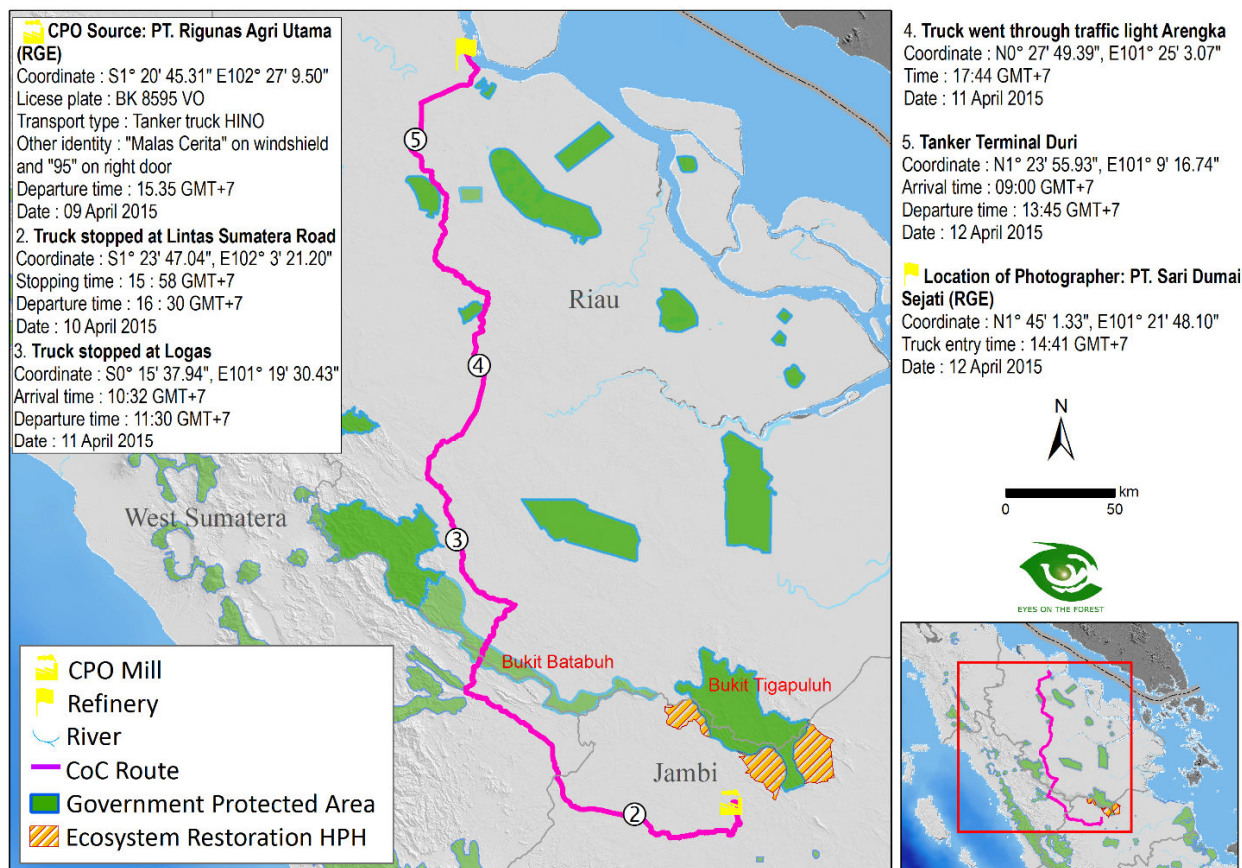
CoC 5 – PT. Citra Riau Sarana 3 CPO mill to PT. Pacific Indopalm Industries (Pacific Inter-Link).



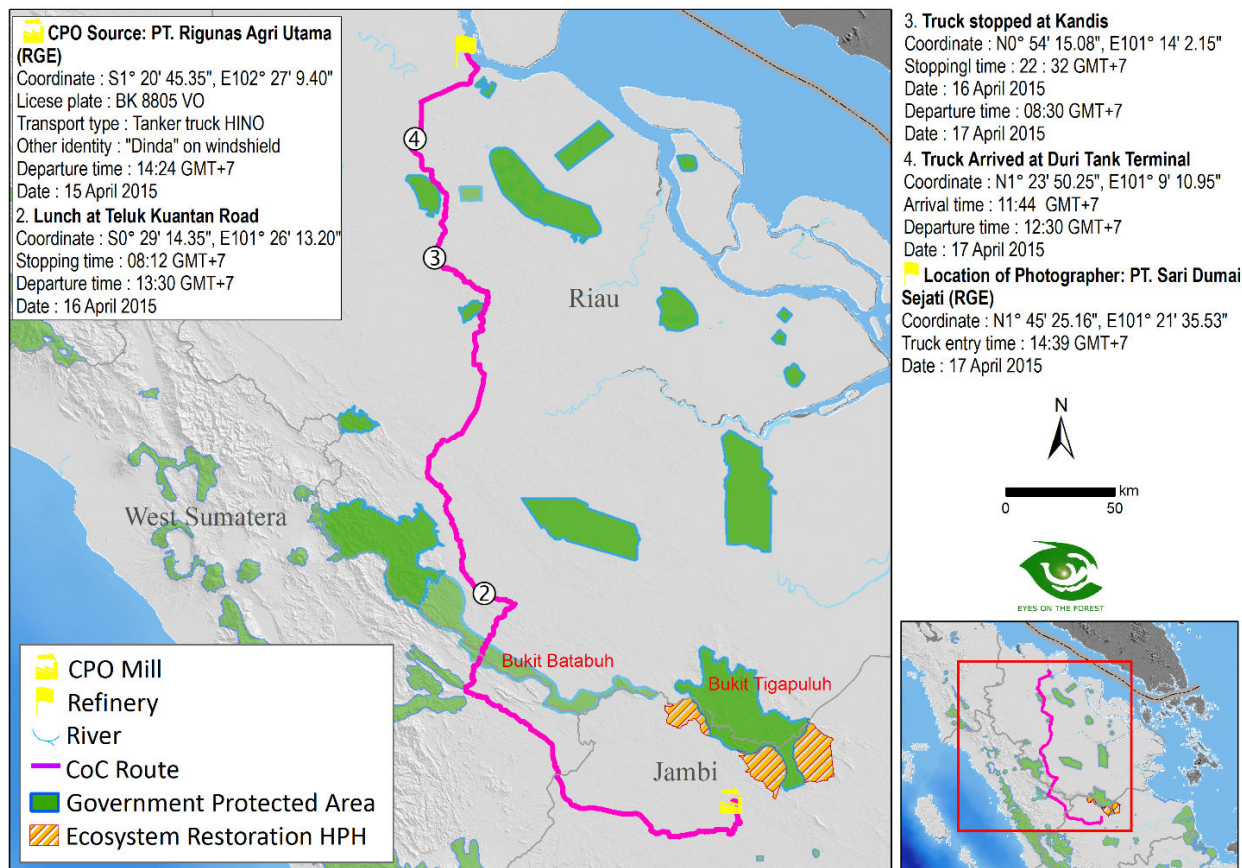
CoC 6 – PT. Swakarsa Sawit Raya CPO mill to CV. Sumber Kencana (SK).



CoC 7 – PT. Rigunas Agri Utama (RGE) Bungo Tebo CPO mill to PT. Sari Dumai Sejati (RGE).



CoC 8 – PT. Rigunas Agri Utama (RGE) Bungo Tebo CPO mill to PT. Sari Dumai Sejati (RGE).



Appendix 3. Responses to this report

EoF sent a draft of this report to the four palm oil groups highlighted by the investigations, asking for comments. All groups commented on the complexity of achieving 100% FFB traceability and filtering illegal FFB supplies out of their supply chains and suggested that this has to be a multi-stakeholder effort. EoF fully agrees about the great complexity of the issue, but warns that some of those difficult to trace FFB supplies are also the most damaging to the country's natural resources. Dealers aggregating FFB from different "third party plantations" potentially responsible for illegal and/or environmentally damaging oil palm plantation development need full attention by all mill managers. Latter should consider a "leave it out if in doubt" approach if dealers cannot prove and mills cannot verify location, legality and sustainability of all their FFB sources.

In summary, Wilmar

- has not yet fully traced third party FFB to the source in Indonesia (EoF conclusion: global supplies including biofuel exports continue to be contaminated by illegally grown FFB);
- stated that avoiding deforestation is more important than restoration and did not commit to address its own deforestation legacy in Tesso Nilo or elsewhere (EoF: the world's largest palm oil company's devastating history of deforestation remains without remedy);
- said it continued to guide and monitor PT. CRS' sourcing after disposing of the company and had found that the company enforced Wilmar's sourcing guidelines (EoF: Wilmar's sourcing guidelines apparently did not detect the illegally grown FFB the company bought);
- entered PT. CRS and other issues raised by this report in its grievance procedure;
- did not provide specific response to many of the report's recommendations and referred to its dashboard and website for more information on the company's efforts.

In summary, GAR

- stated that by December 2015 all CPO to its refineries and all FFB to its CPO mills was traced and it will publish an action plan for full FFB traceability at the end of Q1 2016;
- said it is fast tracking FFB tracing for mills for which issues have been reported like those in EoF reports and entered the four companies mentioned in this report into its grievance procedure;
- stated that, in response to the EoF's "Tiger in Your Tank?" report in 2014, it has required SK Group to segregate CPO from of GAR mills from CPO of other parties;
- agreed in principle with the report's recommendations, including addressing its legacy of deforestation.

In summary, RGE, Asian Agri and Apical

- promised to investigate the indicated illegal supplies and take action;
- stated they informed all suppliers that their mills would only accept legal supplies (EoF confirmed this has led illegal growers to look for alternative buyers or look for alternative – non oil palm - commodities to generate income. EoF believes that if groups work closely together and all practice RGE's approach, illegal planting of oil palms would cause much less destruction of natural resources);
- requires dealers of third party FFB to – among others – provide GPS location and size of the planted area they buy FFB from;
- referred to its new dashboard which, among others, states that the company's Ukui 1 CPO mill had 100% FFB traceability as early as 2014 (EoF: RGE's traceability system clearly is not good enough as purchases of illegal FFB by the mill repeatedly recorded);
- did not provide specific response to many of the report's recommendations.

In summary, Musim Mas

- stated that it has identified all CPO suppliers to its Indonesian refineries and informed its third party CPO suppliers of its policy and disseminated questionnaires to indicate the source of FFB;

- promised to investigate indicated issues;
- did not provide specific response to many of the report's recommendations.

REFERENCES

- ¹ German and Japanese emissions are for 2013. Global Fire Emissions Database (16 November 2015) Indonesian fire season progression, Last and final update: November 16, 2015.
<http://www.globalfiredata.org/updates.html>
- ² Based on WWF-Indonesia & Setiabudi data (2015), published at <http://maps.eyesontheforest.or.id>
- ³ WWF-Indonesia (2013) Palming Off a National Park.
http://awsassets.wwf.or.id/downloads/wwf_indonesia_palming_off_a_national_park_final.pdf
- ⁴ Eyes on the Forest (18 April 2006) Forest to Paper, Forest to Palm Oil and No Place to Live for Riau's Elephants. http://www.wwf.or.jp/activities/upfiles/EoFElephant18Apr06_.pdf
- ⁵ The Economist (24 June 2010) The other oil spill. <http://www.economist.com/node/16423833>
- ⁶ Rainforest Action Network (11 November 2014) The Last Place on Earth. Exposing the Threats to the Leuser Ecosystem.
http://www.ran.org/report_global_biodiversity_hotspot_threatened_fate_of_sumatra_s_leuser_ecosystem_depends_on_actions_by_indonesian_president_and_palm_oil_giant_musim_mas
- ⁷ Antara News (6 August 2014) Riau's two million hectares of oil palm plantation illegal.
<http://www.antaranews.com/en/news/95203/riau-s-two-million-hectares-of-oil-palm-plantation-illegal-minister>
- ⁸ Eyes on the Forest (4 September 2014) Tiger in your tank?
[http://eyesontheforest.or.id/attach/EoF%20\(04Sep14\)%20Tiger%20in%20your%20tank%20EN.pdf](http://eyesontheforest.or.id/attach/EoF%20(04Sep14)%20Tiger%20in%20your%20tank%20EN.pdf)
- ⁹ PT. Agro Muko Indonesia is wholly owned by the SIPEF NV Group of Belgium.
<http://www.sipec.be/continents.html>
- ¹⁰ SK Group website, Our Valued Customers:
http://www.skgroup.co.id/customers.php?customers&language=en_US, checked on 12 June 2015.
- ¹¹ Wilmar's "No Deforestation, No Peat, No Exploitation Policy" <http://www.wilmar-international.com/wp-content/uploads/2012/11/No-Deforestation-No-Peat-No-Exploitation-Policy.pdf>
- ¹² Asian Agri (September 2014) Sustainability Policy.
<http://www.asianagri.com/index.php?option=content/03&head=head/03&view=sub/07>
- ¹³ Golden Agri-Resources (9 February 2011) Golden Agri-Resources Initiates Industry Engagement for Forest Conservation.
<http://www.goldenagri.com.sg/pdfs/News%20Releases/2011/110209%20Golden%20Agri-Resources%20Initiates%20Industry%20Engagement%20for%20Forest%20Conservation.pdf>
- ¹⁴ Musim Mas Sustainability Policy.
http://www.musimmas.com/qws/slot/u50045/style/Sustainability/2.%20Sustainability%20Policy/MM%20sustainability%20policy_final.pdf
- ¹⁵ United Nations Headquarters (23 September 2014) Governments, Business, Civil Society and Indigenous Leaders Pledge to End Loss of Forests. <http://www.un-redd.org/portals/15/documents/ForestsPressRelease.pdf>
- ¹⁶ US Department of State (25 September 2014) Signing of Indonesia Palm Oil Pledge.
<http://www.state.gov/r/pa/prs/ps/2014/09/232104.htm>
- ¹⁷ Asian Agri (24 September 2014) Promoting Sustainability through Environmental Protection and Community Enhancement – Asian Agri to Sign Indonesia Palm Oil Pledge.
<http://www.asianagri.com/index.php?option=content/06&head=head/06&view=sub/08&id=40>
- ¹⁸ Golden Agri-Resources (23 September 2015) Golden Agri Declares Strong Commitment to the New York Declaration on Forests at the UN Climate Summit 2014.
<http://www.goldenagri.com.sg/pdfs/SGX%20Filings/2014/Press%20Release%20-%20Golden%20Agri%20Declares%20Strong%20Commitment%20to%20the%20New%20York%20Declaration%20on%20Forests%20at%20the%20UN%20Climate%20Summit%202014.pdf>
- ¹⁹ Text is posted at:
http://awsassets.wwf.or.id/downloads/indonesia_palm_oil_pledge_in_un_climate_summit_ny_240914_final.pdf
- ²⁰ <http://www.carbonstockstudy.com/The-Manifesto/About>

- ²¹ Wilmar (5 December 2013) No Deforestation, No Peat, No Exploitation Policy writes: "All provisions in this policy, with no exception, apply to: All Wilmar operations worldwide, including those of its subsidiaries, any refinery, mill or plantation that we own, manage, or invest in, regardless of stake. All third party suppliers from whom we purchase or with whom we have a trading relationship." It also writes *"In addition to immediately shifting development activities away from HCS, HCV, and peatland areas upon announcement of this policy, we expect suppliers to be fully compliant with all provisions of this policy by December 31, 2015"*
- ²² Wilmar dashboard, <http://www.wilmar-international.com/sustainability/dashboard/>
- ²³ Golden Agri-Resources Dashboard on Traceability, accessed on 3 August 2015.
- ²⁴ Golden Agri-Resources Dashboard, http://www.goldenagri.com.sg/sustainable_dashboard.php
- ²⁵ Golden Agri-Resources Dashboard on Traceability writes: "We aim to achieve 100% traceability to palm oil mills by end 2015." Accessed on 19 January 2016.
- ²⁶ Golden Agri-Resources Dashboard on Traceability writes: "We aim to achieve 100% traceability to palm oil mills by end 2015." Accessed on 3 August 2015.
- ²⁷ Asian Agri (September 2014) Sustainability Policy, 3rd bullet point under "Our Roadmap" writes: *"We will progressively build our supply chain for full traceability by 2016. We will appoint an independent third party verifier to assess compliance of this policy. All our third party FFBs and oil will be verified to meet this policy by 2016."*
- ²⁸ The Foest Trust (16 June 2015) TFT pleased to announce palm oil membership of one of Indonesia's largest palm oil exporters and suppliers. <http://www.tft-earth.org/stories/news/asian-agri-aa-and-apical-have-joined-tft/>
- ²⁹ Asian Agri & Apical Dashboard, Supply Chain Map, checked on 9 February 2016. <http://www.tftmemberdashboard.com/asianagri-apical/progress/supply-chain-map/>
- ³⁰ Asian Agri & Apical Dashboard, Traceability, checked on 9 February 2016. <http://www.tftmemberdashboard.com/asianagri-apical/progress/traceability/>
- ³¹ Apical, Action Plan to Build Full Fresh Fruit Bunch (FFB) Traceability, saved on 9 February 2016. <http://www.tftmemberdashboard.com/asianagri-apical/download/ffb-traceability-action-plan-2/>
- ³² Musim Mas (2014) Sustainability Policy writes: *"We will build a fully traceable and transparent supply chain which include smallholders. Full traceability means tracing oil back to the plantations. We commit to 100% traceability to palm oil mills by the end of 2015 and 100% traceability to plantations by the end of 2016. We will appoint an independent third party verifier to assess compliance of all our own and all third party FFB and oil to this policy."*
- ³³ Musim Mas dashboard, <http://www.musimmas.com/others/register?opg=%2Fsustainability%2Fprogress-on-policy>
- ³⁴ Definitive license for this ecosystem restoration concession was issued in August 2015, See <http://savethirtyhills.org/>, WWF-Indonesia (2015) Bold Conservation Project to Save Sumatra's Thirty Hills. <http://www.wwf.or.id/?40902/Bold-Conservation-Project-to-Save-Sumatras-Thirty-Hills>
- ³⁵ WWF-Indonesia (2013)
- ³⁶ Undang-Undang Republik Indonesia Nomor 18 Tahun 2013 tentang Pencegahan Dan Pemberantasan Perusakan Hutan. http://www.dpr.go.id/dokjdi/document/uu/UU_2013_18.pdf English translation "The Prevention and Eradication of Forest Destruction (Law No. 18/2013 dated August 6, 2013) is available at: <http://faolex.fao.org/docs/pdf/ins137703.pdf>
- ³⁷ <http://faolex.fao.org/docs/pdf/ins137703.pdf>
- ³⁸ Eyes on the Forest (December 2015) Terlibat kejahatan kemanusiaan, para pelaku layak diseret ke pengadilan. Pengecekan lapangan di 37 lokasi terdeteksi titik api 2015. Investigasi Oktober – November 2015. [http://eyesontheforest.or.id/attach/Laporan%20Ringkas%20EoF%20\(Dec2015\)%20Pembakaran%20hut an%20lahan%20di%2037%20lokasi%20Riau%20FINAL2.pdf](http://eyesontheforest.or.id/attach/Laporan%20Ringkas%20EoF%20(Dec2015)%20Pembakaran%20hut an%20lahan%20di%2037%20lokasi%20Riau%20FINAL2.pdf)
- ³⁹ For EoF investigation of oil palm concessions on peat, see <http://eyesontheforest.or.id/attach/PT.Duet%20Rija%20Laporan%20EoF%20Cek%20Lapangan%20Karhutla%20Des2015.pdf>, <http://eyesontheforest.or.id/attach/PT.Bumi%20Reksa%20Nusa%20Sejati%20Laporan%20EoF%20Cek%20Lapangan%20Karhutla%20Des2015.pdf>, <http://eyesontheforest.or.id/attach/PT.Panca%20Surya%20Agrindo%20Laporan%20EoF%20Cek%20Lapangan%20Karhutla%20Des2015.pdf>, <http://eyesontheforest.or.id/attach/PT%20Bertuah%20Aneka%20Yasa%20Laporan%20EoF%20Cek%20>

[Lapangan%20Karhutla%20Des2015.pdf](#),
<http://eyesontheforest.or.id/attach/PT%20Alam%20Sari%20Lestari%20Laporan%20EoF%20Cek%20Lapangan%20Karhutla%20Des2015.pdf>,
<http://eyesontheforest.or.id/attach/PT%20Agroraya%20PT%20Gematrans%20Laporan%20EoF%20Cek%20Lapangan%20Karhutla%20Des2015.pdf>,
<http://eyesontheforest.or.id/attach/CV.%20NIRMALA%20Laporan%20EoF%20Cek%20Lapangan%20Karhutla%20Des2015.pdf>,
<http://eyesontheforest.or.id/attach/KUD%20Bina%20Jaya%20Langgam%20-%20Laporan%20EoF%20Cek%20Lapangan%20Karhutla%20Des2015.pdf>

⁴⁰ Riau Corruption Trial website (28 May 2015) Suparno Dihukum 3 Tahun Penjara dan Denda Rp. 1,5 Miliar. <http://rct.or.id/index.php/pantau/kasus-perambahan-lahan-suparno/327-suparno-dihukum-3-tahun-penjara-dan-denda-rp-1-5-miliar>

⁴¹ Riaupos.co (2 September 2015) Api Kian Membesar di Cagar Biosfir Giam Siak Kecil <http://riaupos.co/83902-berita-api-kian-membesar-di-cagar-biosfer-giam-siak-kecil.html#.Vp1x51I2U-J>

⁴² Kompas.com (30 October 2015) Akhirnya Kebakaran Suaka Margasatwa Kerumutan Diselidiki Polisi. <http://regional.kompas.com/read/2015/10/30/18410051/Akhirnya.Kebakaran.Suaka.Margasatwa.Kerumutan.Diselidiki.Polisi>; Kompas.com (29 October 2015) Kisah Pohon Kelapa Sawit di Tengah Tunggul Kayu yang Terbakar. http://regional.kompas.com/read/2015/10/29/18035761/Kisah.Pohon.Kelapa.Sawit.di.Tengah.Tunggul.Kayu.yang.Terbakar?utm_source=RD&utm_medium=inart&utm_campaign=khiprd

⁴³ Letter of Intent between the Government of the Kingdom of Norway and the Government of the Republic of Indonesia on "Cooperation on reducing greenhouse gas emissions from deforestation and forest degradation". 26 of May 2010. https://www.regjeringen.no/globalassets/upload/SMK/Vedlegg/2010/Indonesia_avtale.pdf

⁴⁴ Greenomics Indonesia (18 January 2016) The Climate Scandal? Indonesia's peatland moratorium areas dominated by a significant expanse of palm oil plantations. <http://www.greenomics.org/docs/Greenomics-report-on-the-climate-scandal-18012016.pdf>

⁴⁵ Global Fire Emissions Database: <http://www.globalfiredata.org/index.html>, quoted in The World Bank (December 2015) Indonesia Economic Quarterly: Reforming amid uncertainty. <http://pubdocs.worldbank.org/pubdocs/publicdoc/2015/12/844171450085661051/IEQ-DEC-2015-ENG.pdf>

⁴⁶ Communicated by Indonesia's Ministry of Environment and Forestry at the Meeting of Communication Forum for Disaster Data and Information in Jakarta November 10, 2015. Quoted in The World Bank (December 2015)

⁴⁷ The World Bank (December 2015)

⁴⁸ Purnomo, H., Shantiko, B., Gunawan, H. 2015, Political economy study of fire and haze, presented at the International Seminar "Toward a sustainable and resilient community: Co-existence of oil palm plantation, biodiversity and peat fire prevention", August 5, 2015, University of Riau, Pekanbaru, Bogor, Indonesia: Center for International Forestry Research. 26 October 2015 version of the presentation is published at <http://www.slideshare.net/CIFOR/political-economy-of-fire-and-haze/>

⁴⁹ The World Bank (December 2015)

⁵⁰ The World Bank (December 2015)

⁵¹ WWF-Indonesia (2013)

⁵² RSPO Certificate Number SPO 565807 of PT. Inti Indosawit Subur. Certificate of Registration. Expiry date 29/02/2016: http://www.rspo.org/sites/default/files/RSPO_cert_IIS_Ukui_-_SPO_565807-60.pdf

⁵³ Eyes on the Forest (4 September 2014)

⁵⁴ WWF-Indonesia (2013) Palming Off a National Park.

⁵⁵ Wilmar's "No Deforestation, No Peat, No Exploitation Policy"

⁵⁶ Wilmar International Limited (29 December 2014) Asset Acquisitions and Disposals :: Notification on Wilmar subsidiaries and associated companies. http://media.corporate-ir.net/media_files/IROL/16/164878/SGX/2014/SGX_Announcement_Notification_on_WIL_subs_and_asso_cos_dd_29Dec2014.pdf

⁵⁷ Last checked on 1 July 2015

-
- ⁵⁸ Riaupos.co (25 March 2014) Hari Ini, PKS PT Swakarsa Sawit Raya Diresmikan. <http://www.riapos.co/45237-berita-hari-ini,-pks-pt-swakarsa-sawit-raya-diresmikan.html#.VbsMRPkt-4o>
- ⁵⁹ http://www.rspo.org/sites/default/files/PT_Sari_Dumai_Sejati_certificate_2_C821960CU_RSP0_SCCS_02_2014-95.pdf
- ⁶⁰ <http://www.rspo.org/members/836/AAA-Oils-Fats-Pte.-Ltd>
- ⁶¹ <http://www.apicalgroup.com/>
- ⁶² <http://www.rgei.com>
- ⁶³ http://www.skgroup.co.id/index.php?index&language=en_US
- ⁶⁴ Eyes on the Forest (4 September 2014)
- ⁶⁵ SK Group website, Customers. <http://www.skgroup.co.id/customers.php>, accessed on 4 September 2015.
- ⁶⁶ Response from Golden Agri-Resources to Eyes on the Forest, 18 January 2016.
- ⁶⁷ <http://www.rspo.org/members/88/Wilmar-International-Limited>
- ⁶⁸ Wilmar International Limited Profile, at RSP0 website, accessed on 10 June 2015. <http://www.rspo.org/members/88/Wilmar-International-Limited>
- ⁶⁹ <http://www.rspo.org/members/714/pt-pacific-indopalm-industries>
- ⁷⁰ <http://www.pacificinter-link.com.my/>
- ⁷¹ Wilmar dashboard, Traceability, accessed on 19 June 2015.
- ⁷² Wilmar dashboard, Traceability, accessed on 19 June 2015.
- ⁷³ WWF-Indonesia (2013)
- ⁷⁴ Eyes on the Forest (4 September 2014)
- ⁷⁵ Wilmar Dashboard (<https://tft.chainfood.com/>), accessed on 9 February 2016.
- ⁷⁶ Wilmar Dashboard (<https://tft.chainfood.com/>), accessed on 9 February 2016.
- ⁷⁷ Wilmar Dashboard (<https://tft.chainfood.com/>): Traceability, Country Statistics and Supply Chain Map, accessed on 10 February 2016.
- ⁷⁸ Wilmar Dashboard (<https://tft.chainfood.com/>): Traceability, Country Statistics, accessed on 10 February 2016.
- ⁷⁹ Wilmar writes: “However, products are often further refined in other countries. Wilmar is committed to tracking its products to all of such countries. Apart from sourcing from Indonesia and Malaysia, refineries in Europe also source palm oil products from Latin America and Papua New Guinea whilst refineries in Africa source products from local markets.” Wilmar Dashboard (<https://tft.chainfood.com/>): Traceability, Country Statistics, accessed on 10 February 2016.
- ⁸⁰ Bloomberg (21 October 2015) ADM Increases Stake in Wilmar as Asian Palm Oil Demand Rises. <http://www.bloomberg.com/news/articles/2015-10-20/archer-daniels-midland-raises-stake-in-palm-oil-giant-wilmar>
- ⁸¹ The Wall Street Journal (21 October 2015) ADM Seeks Greater Asia Exposure With Bigger Wilmar Stake. Archer Daniels Midland raises its stake in commodities supplier Wilmar to slightly over 18%. <http://www.wsj.com/articles/adm-bulks-up-wilmar-stake-seeking-greater-asia-exposure-1445401985>
- ⁸² TFT-Wilmar: Wilmar’s No Deforestation, No Peat, No Exploitation Policy. First Quarter Update Report: 1 January – 31 March 2015, accessed on 5 August 2015.
- ⁸³ Wilmar Dashboard (<https://tft.chainfood.com/>): Traceability, Country Statistics, accessed on 31 July 2015.
- ⁸⁴ Wilmar Dashboard (<https://tft.chainfood.com/>): Traceability, accessed on 31 July 2015.
- ⁸⁵ Wilmar Dashboard (<https://tft.chainfood.com/>): Traceability Back to Plantation, accessed on 10 February 2016.
- ⁸⁶ Wilmar Dashboard (<https://tft.chainfood.com/>): Traceability Back to Plantation, accessed on 10 February 2016.
-

-
- ⁸⁷ List of supplying mills for all facilities posted at Wilmar Dashboard (<https://tft.chainfood.com/>): Supply Chain Map, as of 24 April 2015, accessed on 31 July 2015.
- ⁸⁸ List of supplying mills for all facilities posted at Wilmar Dashboard (<https://tft.chainfood.com/>): Supply Chain Map, as of 24 April 2015, accessed on 31 July 2015.
- ⁸⁹ TUV Rheinland Malaysia Sdn. Bhd. Roundtable on Sustainable Palm Oil. Supply Chain Scope Extension Audit Report. Report no.: SCCS-ASA1-18502248. Date of assessment March 13, 2014. http://www.tuv.com/media/indonesia/brochure_2/forest_certification/public_summary_new_jan_2015/2014_PT_WINA_Gresik_SCCS_Extscope_Report.pdf
- ⁹⁰ Portexaminer.com, a Bill of Lading in 2013 for shipper PT. Wilmar Nabati Indonesia to Consignee Cargill Inc. Dressings, Sauces And Oil. Port of loading Dumai Indonesia, Port of discharge was New Orleans, Louisiana. <http://portexaminer.com/trade-data/pt-wilmar-nabati-indonesia-cargill-inc-dressings-sauces-and/cint19589dum001/>, accessed on 12 August 2015.
- ⁹¹ Great Export Import, Cargill Pakistan Agri Foods Pvt Ltd. <http://en.52wmb.com/b-cargill-pakistan-agri-foods-pvt-ltd/6983798>, accessed on 1 September 2015.
- ⁹² Financial Times (5 December 2014) ADM boosts stake in food commodities rival Wilmar. <http://www.ft.com/cms/s/0/f896b544-7cc8-11e4-b944-00144feabdc0.html#axzz3kNg7WWzU>
- ⁹³ The Wall Street Journal (21 October 2015) ADM Seeks Greater Asia Exposure With Bigger Wilmar Stake. Archer Daniels Midland raises its stake in commodities supplier Wilmar to slightly over 18%. <http://www.wsj.com/articles/adm-bulks-up-wilmar-stake-seeking-greater-asia-exposure-1445401985>
- ⁹⁴ forestheroes.org (13 May 2014) Archer Daniels Midland Announces Move Toward Traceable, Sustainable Palm Oil. <http://www.forestheroes.org/adm-announces-move-toward-traceable-sustainable-palm-oil>
- ⁹⁵ Wilmar International Limited Profile, at RSPO website, accessed on 10 June 2015. <http://www.rspo.org/members/88/Wilmar-International-Limited>
- ⁹⁶ Wilmar International Ltd. (2007) Annual Report 2006. Page 26. http://media.corporate-ir.net/media_files/irol/16/164878/Annual%20Reports/WILMAR_AR2006.pdf
- ⁹⁷ <http://ec.europa.eu/energy/node/73>
- ⁹⁸ Response from Wilmar to Eyes on the Forest, 18 January 2016.
- ⁹⁹ Tradesparq, Pt Wilmar Nabati Indonesia Track Shipments. <http://www.tradesparq.com/Customs/1869319/Customs-Data-Pt-Wilmar-Nabati-Indonesia#sthash.r8MYtxdw.XLOontFT.dpbs>, accessed on 1 September 2015.
- ¹⁰⁰ Tradesparq, Pt Wilmar Nabati Indonesia Track Shipments. <http://www.tradesparq.com/Customs/1869319/Customs-Data-Pt-Wilmar-Nabati-Indonesia#sthash.r8MYtxdw.XLOontFT.dpbs>, accessed on 1 September 2015.
- ¹⁰¹ GAR dashboard (<https://tft.chainfood.com/>): GAR Owned Mills, accessed on 3 August 2015. List of the 42 mills is published here.
- ¹⁰² At one of them, Lubuk Gaung Refinery and Kernel Crushing Plant in Riau, *"The kernel crushing plant is commissioned in 1Q 2015 while the rest of the refinery is still under construction"*.
- ¹⁰³ GAR dashboard (<https://tft.chainfood.com/>): GAR Owned Mills, accessed on 3 August 2015. List of the 42 mills is published here.
- ¹⁰⁴ GAR dashboard (<https://tft.chainfood.com/>): Traceability, accessed on 3 August 2015.
- ¹⁰⁵ GAR dashboard (<https://tft.chainfood.com/>): Traceability, accessed on 3 August 2015.
- ¹⁰⁶ GAR dashboard (<https://tft.chainfood.com/>): Traceability, accessed on 3 August 2015.
- ¹⁰⁷ GAR dashboard (<https://tft.chainfood.com/>): GAR Owned Mills, accessed on 3 August 2015.
- ¹⁰⁸ Response from Golden Agri-Resources to Eyes on the Forest, 18 January 2016.
- ¹⁰⁹ GAR dashboard (<https://tft.chainfood.com/>): Traceability, accessed on 3 August 2015.
- ¹¹⁰ GAR dashboard (<https://tft.chainfood.com/>): Traceability, accessed on 3 August 2015.
- ¹¹¹ GAR dashboard, Traceability, checked on 18 June 2015.
- ¹¹² Response from Golden Agri-Resources to Eyes on the Forest, 18 January 2016.
- ¹¹³ GAR dashboard (<https://tft.chainfood.com/>): Supply Chain Maps – GAR Refineries, Kernel Crushing Plant and Bulking Facilities, accessed on 3 August 2015.
-

-
- ¹¹⁴ GAR: Incasi Raya Padang Bulking Station Full Year 2014 Traceability Summary Report and List of Supplying Mills. Downloaded from TFT dashboard on 3 August 2015.
- ¹¹⁵ Response from Golden Agri-Resources to Eyes on the Forest, 18 January 2016.
- ¹¹⁶ Response from Golden Agri-Resources to Eyes on the Forest, 18 January 2016.
- ¹¹⁷ Apical Palm Oil Sourcing Policy, 12 October 2015. <http://www.tftmemberdashboard.com/asianagri-apical/download/apical-palm-oil-sourcing-policy/>
- ¹¹⁸ Apical, Operations, checked on 9 February 2016. <http://www.apicalgroup.com/operations>
- ¹¹⁹ Asian Agri, Mengelola Pabrik Kelapa Sawit yang Ramah Lingkungan, checked on 9 February 2016. <http://www.asianagri.com/id/our-business-id/bisnis-kami/pabrik.html>
- ¹²⁰ Asian Agri & Apical (16 June 2015) Asian Agri and Apical Team Up with TFT to Enhance Supply Chain Traceability. <http://www.rgei.com/attachments/article/266/20150616-Asian-Agri-Apical-TFT-Enhance-Supply-Chain-Traceability.pdf>
- ¹²¹ Asian Agri and Apical's Sustainability Policy Implementation – Combined Q2 – Q3 Progress Report: April – September 2015. <http://www.tftmemberdashboard.com/asianagri-apical/download/combined-q2-q3-2015-progress-report/>
- ¹²² Asian Agri and Apical's Sustainability Policy Implementation – Combined Q2 – Q3 Progress Report: April – September 2015.
- ¹²³ Asian Agri & Apical, Traceability, checked on 9 February 2016. <http://www.tftmemberdashboard.com/asianagri-apical/progress/traceability/>
- ¹²⁴ Apical Group Refinery-Sari Dumai Sejati (SDS) Traceability Summary-Suppliers January-December 2015, checked on 9 February 2016. <http://www.tftmemberdashboard.com/asianagri-apical/download/traceability-summary-dumai-refinery/>
- ¹²⁵ Apical Group Refinery-AAJ Marunda Traceability Summary-Suppliers January-December 2015, checked on 9 February 2016. <http://www.tftmemberdashboard.com/asianagri-apical/download/traceability-summary-marunda-refinery/>
- ¹²⁶ Musim Mas, List of Suppliers, <http://www.musimmas.com/sustainability/progress-on-policy/list-of-suppliers>, checked on 19 January 2016. Musim Mas, Sustainability Policy Progress Report 1 April – 30 June 2015. Downloaded from the dashboard on 9 February 2016.
- ¹²⁷ Musim Mas, Sustainability Policy Progress Report 1 April – 30 June 2015. Downloaded from the dashboard on 9 February 2016.
- ¹²⁸ Musim Mas, Sustainability Policy Progress Report 1 April – 30 June 2015. Downloaded from the dashboard on 9 February 2016.
- ¹²⁹ Musim Mas, List of Suppliers, <http://www.musimmas.com/sustainability/progress-on-policy/list-of-suppliers>, checked on 19 January 2016.
- ¹³⁰ Unilever (21 June 2012) New commitment on palm oil. <https://www.unilever.com/sustainable-living/sustainable-living-news/news/New-commitment-to-palm-oil.html>
- ¹³¹ Unilever (November 2014) Sustainable Palm Oil Progress Report 2014. https://www.unilever.com/Images/uslp-unilever-palm-oil-report-nov14_tcm244-424235_en.pdf
- ¹³² Unilever (1 May 2008) Unilever commits to certified sustainable palm oil. <https://www.unilever.com/news/press-releases/2008/08-05-01-Unilever-commits-to-certified-sustainable-palm-oil.html?criteria=year%3d2008%26search%3dpalm%2boil>
- ¹³³ Unilever (November 2014)
- ¹³⁴ Cargill (July 2014) Cargill Policy on Sustainable Palm Oil. http://www.cargill.com/wcm/groups/public/@ccom/documents/document/palm_oil_policy_statement.pdf
- ¹³⁵ Cargill (6 April 2015) Cargill Palm Oil Progress Update. <http://www.cargill.com/news/cargill-issues-new-palm-oil-sustainability-report/index.jsp> It writes "It is our goal to achieve 100% traceability to the mill level by December 2015 and to provide palm oil that is 100% traceable back to sustainable plantations by 2020."
- ¹³⁶ Cargill (29 February 2016) Cargill's Sustainable Palm Oil 2015 Progress Update and 2016 Action Plan. <http://www.cargill.com/wcm/groups/public/@ccom/documents/image/na31932074.pdf>
- ¹³⁷ Great Export Import, Cargill Pakistan Agri Foods Pvt Ltd. <http://en.52wmb.com/b-cargill-pakistan-agri-foods-pvt-ltd/6983798>, accessed on 1 September 2015.
-

-
- ¹³⁸ Panjiva, Cargill International Trading Pte Ltd – Company profile made by Panjiva. <https://panjiva.com/Cargill-International-Trading-Pte-L/4510715>, accessed on 1 September 2015.
- ¹³⁹ Tradesparq, Pt Sari Dumai Sejati to Cargill Dressings, Sauces and Oils: U.S. Customs data. <http://www.tradesparq.com/Customs/29957018/Customs-Data-Pt-Sari-Dumai-Sejati?lang=en-US#sthash.b7fKL5E6.dpbs>, accessed on 12 August 2015.
- ¹⁴⁰ Unilever (November 2014)
- ¹⁴¹ Unilever (November 2014)
- ¹⁴² Cargill (29 February 2016)
- ¹⁴³ Cargill (November 2014) Toward Sustainable Palm Oil. Cargill Sustainable Palm Oil Action Plan and Progress Update. <http://www.cargill.com/wcm/groups/public/@ccom/documents/document/na31709187.pdf>
- ¹⁴⁴ Wahyunto, S. Ritung dan H. Subagjo (2003). Peta Luas Sebaran Lahan Gambut dan Kandungan Karbon di Pulau Sumatera / Maps of Area of Peatland Distribution and Carbon Content in Sumatera, 1990 - 2002. Wetlands International - Indonesia Programme & Wildlife Habitat Canada (WHC). www.wetlands.or.id/PDF/buku/Atlas%20Sebaran%20Gambut%20Sumatera.pdf
- ¹⁴⁵ Laumonier, Y. (1997) The Vegetation and Physiography of Sumatra. Kluwer Academic Publishers. Laumonier, Y. (1983) International Map of the Vegetation. "Southern Sumatra". 1:1.000.000. Institut de la Carte Internationale de la Végétation, Toulouse, France and SEAMEO-BIOTROP, Bogor, Indonesia.
- ¹⁴⁶ Unilever (November 2014)
- ¹⁴⁷ Antara News (6 August 2014) Riau's two million hectares of oil palm plantation illegal. <http://www.antaranews.com/en/news/95203/riau-two-million-hectares-of-oil-palm-plantation-illegal-minister>
- ¹⁴⁸ GAPKI (20 Januari 2015) Refleksi Industri Kelapa Sawit 2014 Dan Prospek 2015. <http://www.gapki.or.id/Page/PressReleaseDetail?guid=dd997bd7-efbe-4ef7-aace-192e71eac097>
- ¹⁴⁹ United States Department of Agriculture Foreign Agricultural Service (July 2015) Oilseeds: World Markets and Trade. www.fas.usda.gov/psdonline/circulars/oilseeds.pdf
- ¹⁵⁰ The Economist (24 June 2010) The other oil spill. <http://www.economist.com/node/16423833>
- ¹⁵¹ Forest Trends (2014) Consumer Goods and Deforestation: An Analysis of the Extent and Nature of Illegality in Forest Conversion for Agriculture and Timber Plantations. <http://www.forest-trends.org/documents/index.php?pubID=4718>
- ¹⁵² CPO mills in Central Sumatra, published at the Eyes on the Forest interactive map <http://maps.eyesontheforest.or.id>
- ¹⁵³ https://www.neste.com/sites/default/files/attachments/corporate/sustainability/sustainable_supply_chain/tft_public_summary_phase_1.pdf
- ¹⁵⁴ Cargill (29 February 2016)
- ¹⁵⁵ WWF Global, Promoting certified sustainable palm oil. http://wwf.panda.org/what_we_do/footprint/agriculture/palm_oil/solutions/responsible_purchasing/
- ¹⁵⁶ RSPO website, How RSPO Certification Works. <http://www.rspo.org/certification/how-rspo-certification-works>, accessed on 10 June 2015.
- ¹⁵⁷ Ceres (1 June 2015) Investors, Major Brands Call for Stronger Standards from Palm Oil Certification Group. Group urges RSPO to Strengthen protections for forests, human rights. <http://www.ceres.org/press/press-releases/investors-major-brands-call-for-stronger-standards-from-palm-oil-certification-group> Joint letter to RSPO, June 1, 2015. <http://www.ceres.org/rspoletter>
- ¹⁵⁸ RSPO Certified Growers: <http://www.rspo.org/certification/certified-growers>
- ¹⁵⁹ RSPO Certified Growers: <http://www.rspo.org/certification/certified-growers>
- ¹⁶⁰ RSPO SCCS Certificate Code: RSPO-ACC-004 for PT. Pacific Indopalm Industries. http://www.rspo.org/uploads/default/scc/Pacific_Indopalm_Industries_Certificate_RSPO_SC_SQUAL4005_5.pdf
- ¹⁶¹ RSPO SCCS Certificate Code: CU-RSPO SCCS-821960 for PT. Sari Dumai Sejati. http://www.rspo.org/sites/default/files/PT_Sari_Dumai_Sejati_certificate_2_C821960CU_RSPO_SCCS_02_2014-95.pdf
-

¹⁶² RSPO SCCS Certificate Code: CU-RSPO SCCS-833302 for PT. Wilmar Bioenergi Indonesia. http://www.rspo.org/sites/default/files/PT_Wilmar_Bioenergi_certificate_corrected_C833302CU_RSPO_SCCS_02_2014-28.pdf

¹⁶³ RSPO SCCS Certificate Code: CU-RSPO SCCS-833301 for PT. Wilmar Nabati Indonesia. http://www.rspo.org/sites/default/files/PT_Wilmar_Nabati_certificate_corrected_C833301CU_RSPO_SCCS_02_2014-25.pdf

¹⁶⁴ <http://greenpalm.org/>

¹⁶⁵ CAO (December 2013) Dispute Resolution Conclusion Report – Wilmar 3. <http://www.cao-ombudsman.org/cases/document-links/documents/Wilmar3ConclusionReportDec2013.pdf>