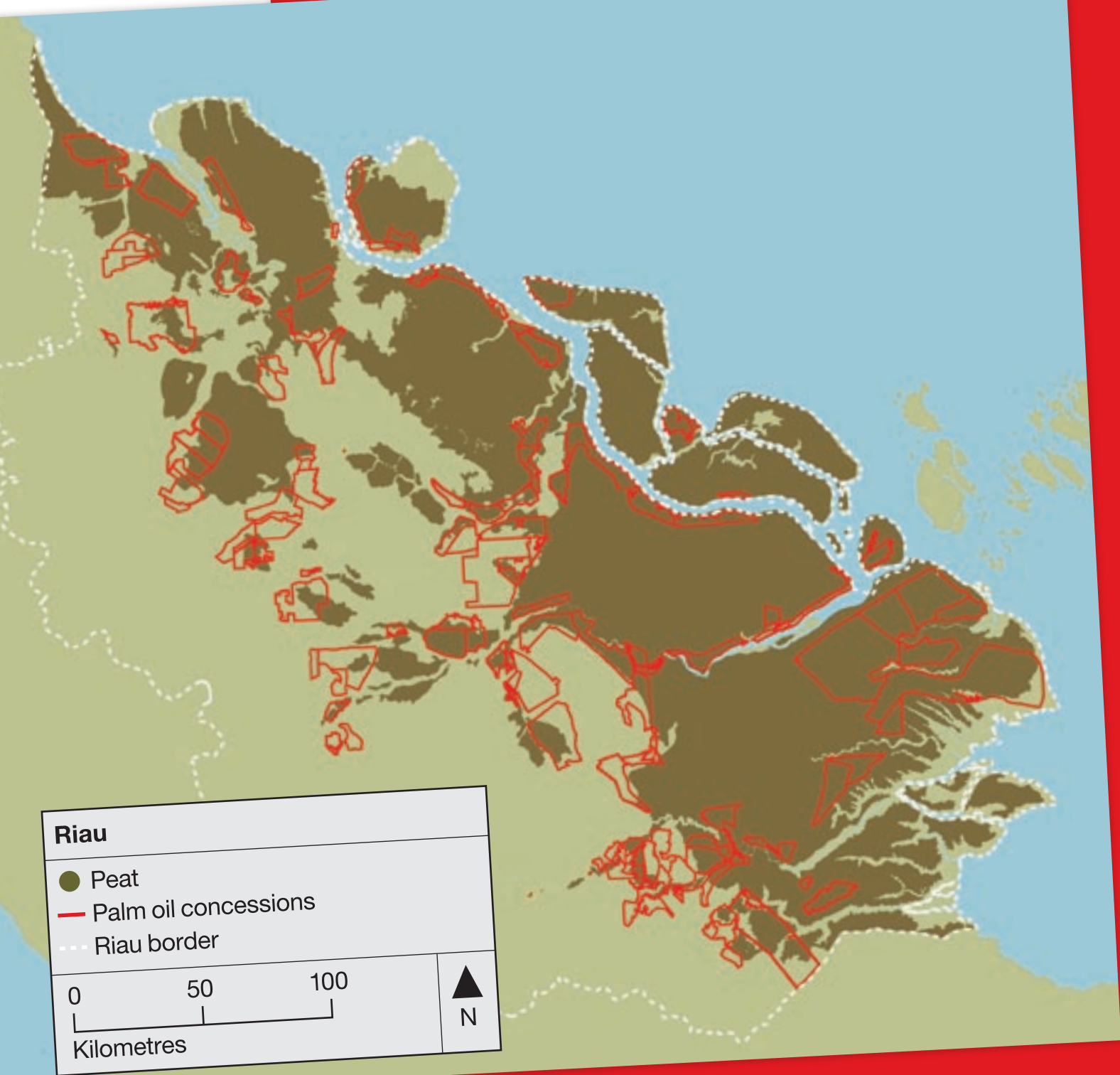


# RIAU: A LIT FUSE





## PALM OIL CONCESSIONS ON PEAT

Riau province in Sumatra has one of the most significant peatland carbon stores anywhere in the world.

The peat forests in Riau account for just over a sixth of Indonesia's peatland area, but due to their great depth they hold more than 40% of the country's peatland carbon store.<sup>85</sup>

The area involved is tiny: just 4 million hectares of peat<sup>86</sup> – about the size of Taiwan or Switzerland.<sup>87</sup> This 14.6Gt of carbon stored in Riau's peatlands<sup>88</sup> is highly vulnerable and could all go up in smoke if deforestation and degradation continues. This would emit the equivalent of one year's global GHG emissions.<sup>89</sup>

In 1982, forests including peat forests covered more

than three-quarters of mainland Riau, some 6.5 million hectares.<sup>90</sup> By 2000, most of the accessible lowland forests with valuable timber species had been destroyed, and conversion of Riau's peatland forests began in earnest.<sup>91</sup>

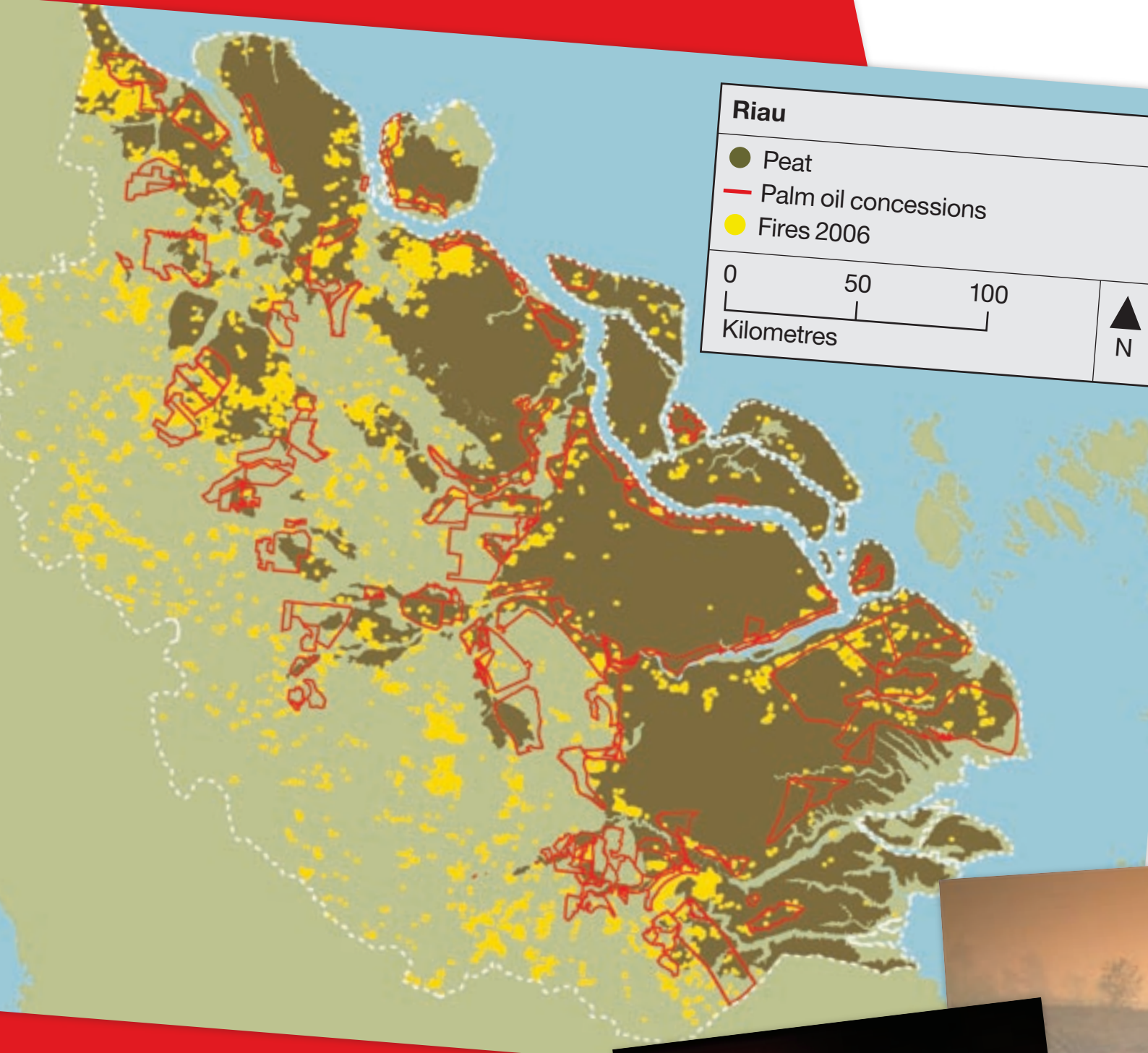
Greenpeace's analysis of satellite images of forest cover between 2001 and 2007 shows active deforestation has taken place on oil palm concessions, many of which are on peatlands.<sup>92</sup>

What has been driving this rapid deforestation?

Today, Riau is the largest producer of two of Indonesia's most important export commodities based on forest destruction: paper and palm oil.<sup>93</sup>



# FIRE HOTSPOTS IN RIAU DURING 2006



Two of the world's largest pulp and paper companies, APRIL and APP, have their mills in Riau. In 2006, WWF estimated that around 450,000 hectares of natural forests had been cleared since 2001 to supply APP's pulp mill in Riau.<sup>94</sup> Accordingly, wherever deforestation occurs, including the expansion of oil palm into natural forest, the majority of the timber harvested is sold for pulp.

By 2005, there were 1.4 million hectares of oil palm plantation in Riau – 25% of Indonesia's total production area.<sup>95</sup> According to Wetlands International, more than 2 million hectares of Riau's lowland peat is occupied by concessions of one sort or another – logging concessions, pulp wood or oil palm plantations.<sup>96</sup>

Despite grave levels of degradation, Riau has the largest remaining area of natural forest on peat in Sumatra,<sup>97</sup> making it vulnerable to predatory conversion.

Local governments in Riau collectively have plans to expand oil palm plantations by 3 million hectares.<sup>98</sup> The 2007 draft of the new provincial land-use plan shows that many hundreds of thousands of hectares of peatland have been designated for conversion. Most of these forests are on peat soils with depths of over 2 metres.<sup>99</sup>



## THE PALM OIL INDUSTRY

Oil palm expansion is out of control. Based on permits for conversion to plantations and other agricultural uses, Indonesia has destroyed over 28 million hectares of forest since 1990,<sup>100</sup> yet plantations of either palm oil or pulp wood have been established on only 9 million hectares,<sup>101</sup> clearly implying that most of the companies obtained permits to convert the forest only to gain access to the timber. In the Sumatran province of Jambi alone, the NGO Sawit Watch has reported around 800,000 hectares of abandoned cleared forest.<sup>102</sup>

However, palms continue to be planted on newly-cleared forest land, because companies subsidise the establishment of oil palm plantations by selling timber from the concession area. In addition, the industry controls huge landbanks of forested areas that it has yet to clear. Thus, despite assertions to the contrary by government and industry bodies, expansion into peat forests continues, not because of an absolute shortage of land, but because of the economic incentive for companies to cash in on the trees. Data from the Riau Plantation Service suggest that nearly 40% of oil palm concessions in Riau are on peat.<sup>103</sup>

This expansion into forest and peatland, and the related deforestation and GHG emissions, takes place with little oversight from central or local government. Procedures for environmental impact assessment, land use planning and ensuring a proper process for development of concessions are neglected.

Some of these new plantations are located on peat that should be off limits to development or degradation according to Indonesian law.<sup>104</sup> This stipulates that land should not be allocated for oil palm plantations on peat soils deeper than 2 metres; in addition, activities that damage upstream natural swamp forests with deep peat (more than 3 metres) are prohibited.<sup>105</sup> In other words, palm oil development on such peatlands is illegal.













# DUTA PALMA: THE OIL PALM INDUSTRY'S RECIPE FOR CLIMATE DISASTER

In early 2007, through satellite monitoring, Greenpeace identified fire hotspots in Riau Province.<sup>106</sup>

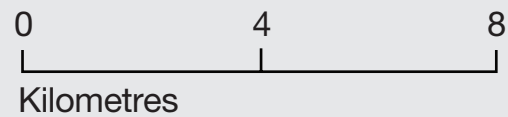
Intelligence, based on the comparison and overlay of peatland maps with concession maps, signalled that there was significant overlap between the location of these fires, peatlands and oil palm concessions.

Duta Palma is one of several groups involved in the oil palm industry that is rapidly expanding its landbank – and thereby its direct influence over future environmental impacts from the expansion of the industry.

Field investigations by Greenpeace of Duta Palma group operations in the district of Indragiri Hulu in Riau between June and September 2007 reveal the serious threat to the climate posed by the expansion of the oil palm industry.

## Duta Palma

- 2-4 metre peat depth (official maps)
- Greenpeace sampling point
- Concession boundaries



## DUTA PALMA: FAILING TO MEET KEY RSPO REQUIREMENTS

- Commitment to transparency
- Compliance with applicable laws and regulations
- Use of appropriate best practices
- Conservation of critical habitat and species
- No fire for land clearance
- No deforestation post-2005

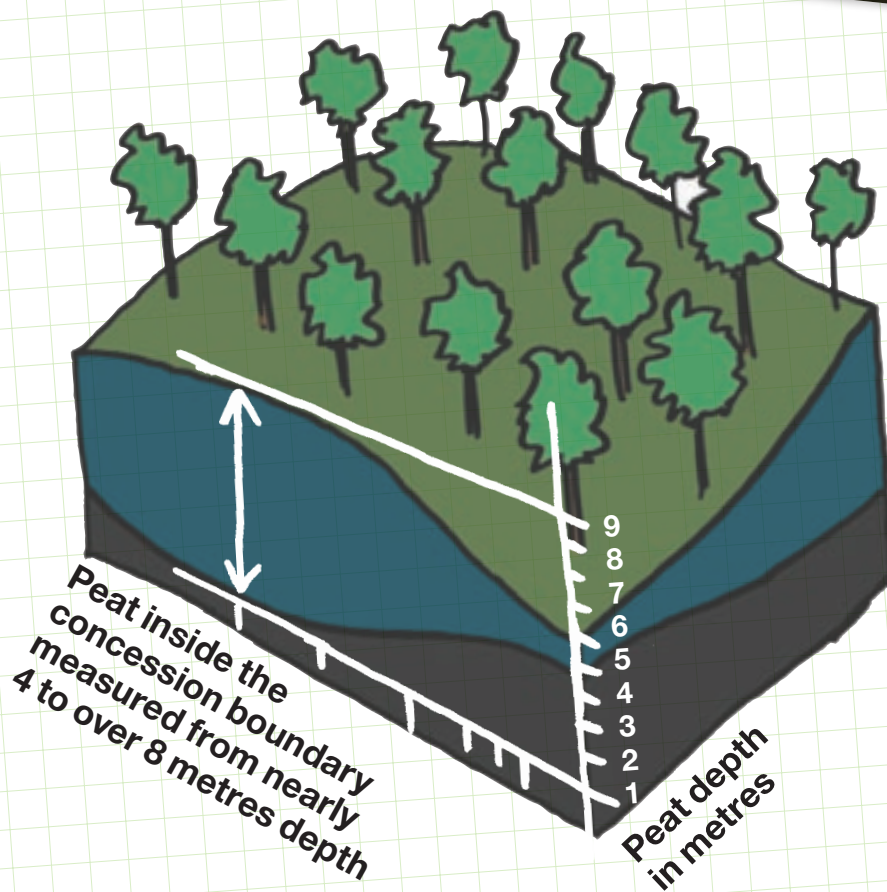


**DUTA PALMA**

PT Bertuah Aneka Yasa

PT Banyu Bening Utama

PT Palma Satu





## MEET DUTA PALMA

The privately-held Duta Palma group is one of Indonesia's ten largest palm oil refiners<sup>107</sup> and a member of the Roundtable on Sustainable Palm Oil (RSPO).

Greenpeace investigations have revealed evidence of serious breaches of Indonesian law including operating without concession title, illegal clearance of deep peatlands and intentional burning.<sup>108</sup>

In the absence of due legal process and governance, however, the destruction – and its climate impacts – continues virtually unchallenged.



## TAKE THOUSANDS OF HECTARES OF VALUABLE RAINFOREST

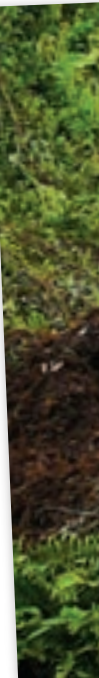
Duta Palma is expanding rapidly.

Greenpeace investigations into Duta Palma-related companies confirm that in the past few years, the Duta Palma group has significantly expanded its plantation concession area, notably in Indragiri Hulu District (Riau) and in West Kalimantan Province.

According to the group's website, the Duta Palma group controls 60,000 hectares of land in Riau with a planted area of 42,000 hectares.<sup>109</sup> Despite the claims made on the group's website, the company now controls about 200,000 hectares, over half of it in Riau.<sup>110</sup> This concession area is well in excess of the national regulations in place until February 2007, which forbade company groups from owning a concession area in excess of 20,000 hectares per province.<sup>111</sup> Duta Palma companies already held permits for well over 20,000 hectares in Riau before the change in the law. Current Indonesian law forbids any one company from holding in excess of 100,000 hectares outside Papua.

Much of Duta Palma's concession area is yet to be cleared or planted with oil palms, and large areas of this landbank are valuable forest habitat for rare and threatened plant and animal species as well as being essential to indigenous or local communities, whose landrights have been ignored by company and government alike.

Particularly in Riau, the Duta Palma concession area overlaps with significant areas of deep (greater than 2 metres) peat. Spacial analysis by Greenpeace of peat distribution shows that the company controls 55,000 hectares of peatland in Riau.<sup>112</sup>



## ADD PROTECTED PEATLAND DOMES INTO THE MIX

Riau has significant peatlands more than 2 metres deep, yet many plantation concessions are located on such soils despite laws and regulations meant to protect these areas from conversion.

Legally, forest conversion for oil palm plantations should not take place on land with peat depth greater than 2 metres, nor may it directly or indirectly impact forest on land with peat depth greater than 3 metres – such peatlands are formally protected by Ministry of Forestry and Presidential decrees.<sup>113</sup>

Analysis by Greenpeace of 2001–2007 satellite data shows significant illegal forest clearance within four of Duta Palma's concession areas PT Kencana Amal Tani (PT KAT), PT Banyu Bening Utama (PT BBU), PT Bertuah Aneka Yasa (PT BAY) and PT Palma Satu.<sup>114</sup> Large parts of this clearance are inside areas with peat depths over 2 metres, according to peatland distribution maps produced by Wetlands International and used for the development of provincial land use plans.<sup>115</sup> The 1994 provincial land use plan for Riau designates the entire area of PT Palma Satu as protected peatlands,<sup>116</sup> ie more than 3 metres deep.

Under the supervision of experts from the Center for International Cooperation in Sustainable Management of Tropical Peatland (CIMTROP), in October 2007, Greenpeace investigators documented the depth of the peatland soils in Duta Palma's PT BBU and PT Palma Satu concessions, immediately adjacent to PT BAY.

According to official maps, peatlands within these concessions cover a total area of about 14,850 hectares – nearly half the area of these concessions.<sup>117</sup> Over 90% of this peatland (14,190 hectares) is marked as 2–4 metres deep.

Depth of peat is assessed by boring into the peat with a peat drill until mineral soil is reached. To gauge the volume of the peat dome, Greenpeace took regular depth measurements from the dome's edge beside the Cenuku river, outside the concession areas, along the border between PT BAY and PT BBU to deep inside the PT Palma Satu concession area.

Our investigations show that these concessions lie on very deep strata of peat – ranging from 3.5 metres in depth outside the boundary of the plantation (0°29'15.00"S – 102°37'54.54"E) to more than 8 metres in the middle of the concession area. (0°30'5.93"S – 102°37'54.67"E).

The Greenpeace investigation also involved a survey of the water table in order to assess the condition of the peat within the dome. If the peat is not fully drained, restoration is possible.

Our analysis shows that the peat soil has not yet been irreparably damaged.

However, the team documented active rapid drainage of the concessions through two canals. If the drainage continues at the current rate, restoration and preservation of these peatlands will soon be impossible. In a few years the peat will be dry, making it vulnerable to fire and causing rapid release of CO<sub>2</sub> to the atmosphere.

It is clear from the investigation that provincial land use plans rely on peat distribution maps that have not been properly verified on the ground by the government or any other institution.

Our investigation found that in just one sample area, the peat depth – and therefore the carbon stores – were double that predicted by the maps. It is possible that Southeast Asia's carbon stores as a whole have been grossly underestimated, meaning the potential climate impact from peatland destruction may be even greater than previously thought.







### **CLEAR THE FOREST AND DRAIN THE PEATLAND**

Greenpeace field investigations confirm that the extensive drainage, construction of large canals, and clearcutting of deep peat forest (over 2 metres) is ongoing in PT BBU and PT BAY. Greenpeace field investigations also found recent extensive drainage by PT BAY to depths of up to 7 metres. Within the PT BBU concession Greenpeace documented recent extensive drainage and clearance on peatlands over 3 metres deep.

Greenpeace field investigations in the forest area claimed by PT Palma Satu documented an extensive network of drainage canals indicative of preparations for clearance for oil palm plantations. Investigators documented drainage work taking place to a depth of 8 metres. The peat may be even deeper.



### **STIR IN AN EARTH MOVER**

Drainage allows access by earth movers and other heavy excavation machinery, which speeds up forest clearance.

### **SKIM OFF THE VALUABLE TREES**

Demand for pulp for Riau's pulp and paper mills is part of what subsidises the establishment of oil palm plantations – a key financial incentive to clear forest instead of using degraded lands.

Greenpeace's field investigation found that Duta Palma is operating in areas previously covered with peat swamp forest.

Once access is gained to the forest, either through opening roads or canals, logs for timber or pulp are cut, stacked beside canals and then floated down the canals to the mills.

Previous field investigations in the area of Duta Palma's PT KAT concession tracked timber from forest clearance for oil palm expansion to the RAPP pulp mill owned by APRIL.<sup>118</sup>

Local people informed Greenpeace investigators that timber from the recent clearance of PT BAY has been sold to the Indah Kiat pulp mill owned by APP.<sup>119</sup>



*'The main areas remaining for new extensive plantations are the large tracts of tropical peatlands – until recently virgin rainforest areas. Over 50% of new plantations are planned in these peatland areas.'*

Wetlands International, 2007



### CHOP DOWN THE REMAINING FOREST

Trees and other vegetation that cannot be sold to pulp mills are often cleared using heavy machinery. Timber is then stacked for burning. Alternatively, it may just be left lying on the ground to decay.

Greenpeace field investigations found significant recent clearfelling inside PT BBU, PT BAY and PT Palma Satu concessions.<sup>120</sup>



### SIMMER OVER A HOT FLAME

Since January 2006, fires have broken out several times inside Duta Palma concession areas or in adjacent areas being cleared. Incidences of burning have been reported to various authorities by the village head of Kuala Cenaku, but no legal action has resulted.

Greenpeace investigators saw evidence suggestive of illegal, intentional and systematic land clearing using fire in virtually all parts of the PT BAY concession. This included burn rows – stacks of timber ready to be burned on recently cleared land – as well as burnt stumps and thick black charcoal lines where rows of timber and debris have been burnt.<sup>121</sup>

Planting of oil palm seedlings often takes place immediately after burning as the fire makes the peat more alkaline and suitable for the young plants.

Field investigations found similar evidence within the PT BBU concession.

There is also evidence of extensive burning within the area being cleared by Palma Satu, with burnt stumps visible.

### PLUCK OFF THE TIGERS AND OTHER UNWANTED WILDLIFE

Duta Palma is also involved in the destruction of habitat critical to endangered and protected species.

The Sumatran tiger (*Panthera tigris sumatranus*) is critically endangered with less than 250 individuals remaining in the wild.<sup>122</sup>

The area claimed by PT Palma Satu is tiger habitat. Local villagers told Greenpeace investigators that they could still regularly hear at least two tigers roar in the forest indicating that the concession is located in habitat of high conservation value.







