

The bird communities of oil palm and rubber plantations in Thailand

Although the spread of oil palm and rubber plantations through South-east Asia has created a conservation furore, with claims that they support only a fraction of the bird life of the lowland forests they replace, remarkably little quantitative information is available to gauge their true impacts. The RSPB has therefore supported research, undertaken by our BirdLife partners in Thailand and their government colleagues, to assess exactly what happens when forest is lost for oil palm and rubber plantations.

In southern Thailand, there has been a massive loss of lowland forests to clear land for planting highly profitable oil palm and rubber plantations. Lowland Sundaic forest, with its distinctive bird communities, is now one of the most threatened habitats in the world. However, some argue that plantations are a sustainable resource, holding valuable wildlife populations.

To investigate this claim, we compared bird species richness within lowland forest, with that in oil palm and rubber plantations in Krabi province, peninsular Thailand. Of 128 species recorded, 84% were in forests, and 60% were only in forests. Species richness was much higher in forests than in either plantation type. In addition, the conservation value of species in plantations was lower. Fifteen of the 16 globally threatened or near-threatened species were only recorded in forest, and groups such

as barbets, woodpeckers and babblers were largely absent from plantations.

We further found that the range size of forest species was far smaller than that of plantation species. In other words, after converting forest to plantation, the number of species falls greatly, and species with restricted ranges and higher conservation threat status become replaced by those with large ranges and lower threat status.

An unexpected finding was that bird communities in oil palm and rubber plantations were remarkably similar, despite being structurally very different. The same small numbers of common, widespread species dominated both types, suggesting that planting a mosaic of plantation types will do little to increase the region's bird diversity.

Our results confirm that oil palm and rubber plantations provide almost no compensation for forest loss. The continued spread of plantations at the expense of forest is a very severe threat to biodiversity.

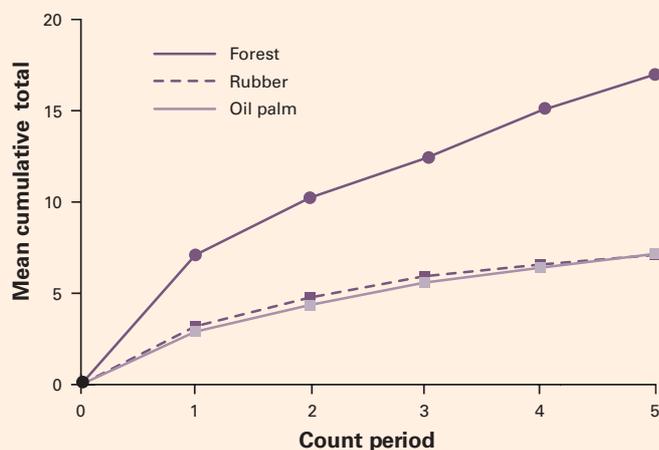
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This research forms part of a larger project on the critically endangered Gurney's pitta, which the RSPB supports with funding from the UK Government's Darwin Initiative.

Aratrakorn S, Thunhikorn S and Donald PF (in press) Changes in bird communities following conversion of lowland forest to oil palm and rubber plantations in southern Thailand. *Bird Conservation International*.

See also: 2004: 39

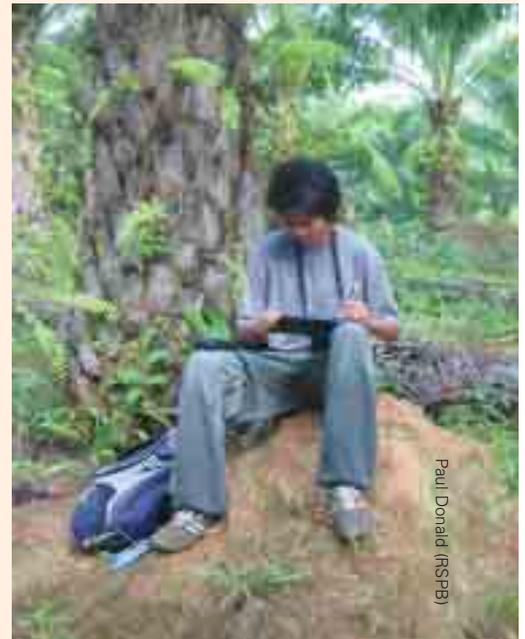
Species accumulation rates across five four-minute count periods. After 20 minutes, only around six species had been recorded in plantations, compared with 16 in forest.



Comparison of species richness in selected bird groups in forest and in plantations (oil palm and rubber), and the total number of families and species recorded. Some groups are more adaptable to forest conversion than others, but even in the more adaptable groups, less common species became replaced by more widespread and abundant ones.

	Number of species in forest (n = 30 points)	Number of species in plantations (n = 60 points)
Woodpeckers	4	0
Barbets	5	0
Pittas	2	0
Broadbills	4	0
Leafbirds	3	0
Babblers	13	2
Flycatchers	7	2
Bulbuls	12	7
Warblers and allies	19	7
Sunbirds & flowerpeckers	13	13
Total families	22	19
Total species	108	51

Bird Conservation Society of Thailand (BCST) researcher Sirirak Aratrakorn recording birds in an oil palm plantation. The RSPB is supporting BCST research on Gurney's pitta in southern Thailand.



Paul Donald (RSPB)

Despite being structurally very dissimilar, bird communities in rubber plantations (left) and oil palm plantations (right) were remarkably similar.



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