

# Can Microlights Save the Rainforest?

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*Rangers in Borneo's Gunung Palung National Park have pioneered a unique strategy to combat illegal logging using microlights to cruise over the vast rainforest canopy in search of loggers.*

The sun was just rising as we flew over the border of Gunung Palung National Park. Vast rainforest stretched below us, still covered in morning mist. On our left, the forest sloped steeply upward toward Mount Palung, the Park's impressive namesake.

Mohammed Saleh, a six-year veteran ranger, gently turned our Airborne Classic rightward to keep a respectful distance from the mountain, and before long we arrived at the day's patrol area, a flat expanse of forest on the western side of the mountain. For twenty minutes, Saleh methodically traversed the area, banking leftward and rightward, craning his neck to peer into the forest. Suddenly, he gave a start and pointed downward.

Below, a clearing revealed a huge tree—a giant of the rainforest—lying on its side. Half of its length had already cut into rectangular planks of timber to be floated down a nearby river. Saleh circled several times, recording GPS coordinates for the ground team that would hike in to arrest the loggers.

During the 40-minute flight back to the airstrip, Saleh recounted how easy it was to find loggers when the Park first started the trike patrols three years ago. "They were everywhere," he says. "We found logging operations almost every time we went out. Now it's rare."

## ***Gunung Palung***

Gunung Palung National Park is a jewel of Borneo. With 90,000 hectares, the Park encompasses a wide range of habitats, including one of the largest remaining areas of undisturbed lowland rainforest. It provides a home for a host of endangered species, including clouded leopards, proboscis monkeys, sun bears, and Borneo's largest populations of wild orangutans.

"The biodiversity is extraordinary," says Prabani Setiohindrianto, head of the Park, during an interview in his office at the Park Headquarters in Ketepang, West Kalimantan. "The number of species within the park is probably ten times more than in an entire country in Europe or North America. It's clearly a place we need to cherish and protect."

But protecting this resource isn't easy. Deforestation in Borneo has reached crisis levels in the last ten years. The Center for International Forestry Research has recently reported that 70 percent of timber flowing from Indonesia is now illegal and the WWF has estimated that almost all lowland forest in Borneo will be gone by 2010.

"Illegal logging inside Gunung Palung starting around 1999," Prabani says. By the time he became park head in 2003, illegal logging had damaged 50 percent of the Park's forests.

### ***Microlight Patrols***

It was in the face of growing despair that Prabani conceived the idea of using light air craft for patrols. The trikes directly address the biggest challenge in fighting loggers—finding them.

"When I started here in 2003, I thought hard about how we could find the location of illegal logging operations in the park," says Prabani. "Ninety-thousand hectares is an extremely large area, and there are a lot of different ecosystems and rough terrain, so it's difficult to walk into the middle of the park. That's why I began to consider trikes."

The park now employs two Airborne Classic trikes for regular air patrols. Both use a two-stroke, Rotax 582 engine. One has a Streak 2 wing and a cruise speed of 52 knots, while the other has a slower Wizard wing with a speed of 45 knots. Given a fuel tank capacity of 42 liters and fuel consumption of 15 liters per hour, the aircraft have a range of roughly 140 miles or 2.5 to 3 hours.

And the pilots need all the time they can get. The grass airstrip, built from scratch in 2003, is located near the Park Headquarters in Ketepang, 40 minutes from the park. The flight to and from the park leaves just an hour for patrol time.

Once they've reached a patrol area, the pilots systematically search for logging operations. "After we find an illegal logging location, we fly around first, just to check the area. After that, we have to mark the location using GPS and take photos of the activity," say Saleh.

There are always two people in the aircraft, explains Saleh. "The one in front is the pilot. The one in back acts as navigator, noting GPS coordinates and taking photos. He has to work quickly to get complete photo coverage and to get an accurate GPS marking, so that the ground team can find the location quickly."

Back at the office, the pilots hand over their data and photos to Prabani, who works with his rangers to plan an armed ground patrol to arrest the loggers.

While many logging areas are technically accessible by river, the patrols usually have to hike in the hard way, from behind, to surprise the logging teams.

The ground patrols are intense, with rangers often walking from dawn to dusk for three full days just to reach the logging locations. They usually need a couple days to destroy the timber so it can't be retrieved later. Then, they hike out the way they came, this time with the arrested loggers under guard. In all, most patrols last more than ten days and the rangers return exhausted.

But they all believe it's worth it. The results of their campaign are impressive. After just three years, illegal logging in the park has gone from rampant to rare, and other National Parks in Indonesia are now considering similar strategies.

Rob Hibberd, from Airborne Australia, is excited to see Airborne aircraft used successfully for conservation projects. "For the most part our aircraft are sold to people who want to put some fun into their flying," says Hibberd by email. "I think it is fantastic that our microlights are being used for conservation and helping to save our great forests."

He says that Airborne aircraft have been used for a number of conservation projects. "We had a similar situation in West Africa where scientists were using one of our trikes to track elephants so they could put transmitters on them for monitoring purposes. We also had a couple of our planes involved in a bird migration project."

### ***Challenges***

Success in Gunung Palung has not come easily. Prabani faced substantial resistance when he first proposed using microlights for patrols. The Department of Forestry balked at the cost of purchasing and maintaining light aircraft, and many in the Indonesian aerosport community told Prabani that flying over miles of rainforest and mountains would be dangerous.

"There were a lot of people who said it was impossible," says Prabani smiling.

And the flights are occasionally dangerous. The rangers must fly low to spot the logging operations and take pictures. Many logging sites require the pilots to fly close to the mountains, where turbulence can be threatening. Franky Zazame, another Gunung Palung ranger-pilot, says he has experienced some exciting moments. "One experience that I can't forget was when we were flying in heavy winds, and we found an illegal logging operation right next to the mountain—Gunung Palung."

“We flew quite low...it was very dangerous. The turbulence and side winds flipped the plane almost ninety degrees,” turning his head ninety degrees and gesturing with his hands. “But we pulled out of it, continued to get all the data we needed, and made it home.”

At Airborne, Hibberd has mixed thoughts about the potential dangers faced by the Gunung Palung pilots. “Experienced pilots do get to know their limitations and the limitations of the aircraft they are flying so far as the weather goes,” note Hibberd. “It is amazing though the sort of conditions you can fly in. A 20 knot wind can be flyable, although you don't want to be in the leeward side of a mountain.”

He thinks the major concern is where to land in case of engine failure.

“We have a great glide but if there are no landing areas and only forest then you have to be prepared to land in the tree canopy,” he says. “Most people do not experience engine failures in their flying careers, but it's always there as a possibility. Personally I would prefer to at least be flying a four stroke in that situation.”

But the Gunung Palung pilots have logged a lot of flight time and gained impressive experience and skill. In 2006, Saleh and Zazame, the two pilots with most time, even joined the Indonesian Aerosport Federation's microlight flying competition. They went home with first and second place medals, beating even the trainer who first trained them in 2003.

### ***How do the pilots feel about their success?***

“Since 2003, when we had this idea, I felt curious. I wanted to know, could we do it, could we use these aircraft to stop illegal logging? It was a question for all of us,” recalls Zazame. “Years after trying it, illegal logging has fallen because we really can find the locations. And that makes me proud. It's one of the only strategies we've found that works.”