

COVER: Morning in Royal Belum State Park. Photo: @WWF-Malaysia/River Foo

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WWF-Malaysia, the national conservation trust, currently runs more than 75 projects covering a diverse range of environmental protection and nature conservation work. Since 1972, WWF-Malaysia has worked on important conservation projects, from saving endangered species such as tigers and turtles, to protecting our highland forests, rivers and seas.



CONDUCTED IN JELI, FUNDED BY HSBC.

Yesterday, you ate one of my cattle.

Can you comment on that?

Yes. It was delicious, thank you. I prefer venison, but the deer seem to have vanished with the forest.

I apologise for that. But please, my cattle are not for you.

I don't understand. You let your cattle wander. Dinner practically walked into my mouth!

Well, I can't keep them at the village all the time.

They need to graze!

Have you never heard of a schedule? I usually work the night shift.

It's funny, though, the village over the hill – no one's ever lost a cow before.

Oh, that one. I've been there. They house their cattle in these enclosures I couldn't get into. Not that I ever tried, of course. The villagers even cleared the underbrush. There was absolutely nowhere to hide. Two years without a single ambush. It was absolute misery. I had to leave.

Only to move here, of course. Now the enclosures, that's interesting. How high did you say the fences were?

All I will say is I have no difficulty scaling walls 2 metres high.

I must admit, that's rather impressive! It's good we had this chat.

It's been a pleasure. We'll catch up sometime.

As we turn our forest into farms, tiger habitat gets smaller. Displaced and starving, tigers attack our livestock, or worse, us. In return, we kill them. To resolve this conflict, HSBC and WWF-Malaysia are educating affected farmers on better livestock management and tiger-proofing paddocks. Together, we can save the tiger from being killed just for trying to stay alive.

Development is inevitable. But if we make it environmentally sustainable, there'll only be more for everyone in the future.





Features



Juvenile female painted terrapin.



The power to conserve The Setiu wetlands and painted terrapins is in your hands. Thank you for donating to WWF-



The Setiu wetlands

Wetland Wonders in Setiu

By Sheema Abdul Aziz, Peninsular Malaysia Programme Communications Officer

Many Malaysians know that it is important to conserve wetlands because they provide many ecological services, including regulating stream flow for our water supply, water purification and flood control. Moreover, the 2004 tsunami that devastated large parts of South and Southeast Asia highlighted the critical need for maintaining coastal wetlands, such as a mangrove forest zone, to serve as a buffer between sea and land that acts as shoreline protection and storm protection.

However, few people have heard of the Setiu wetlands, which is a shame because this stretch of wetlands extending for 23,000 hectares along the Peninsula's east coast provides a valuable opportunity to observe both freshwater and marine ecosystems in one site. In Setiu, these two ecosystems influence and interact with each other, creating a highly unique and biodiverse area in constant flux, and of great ecological significance.

The complex web of life found here is spread across many different wetland habitats: mangroves, riverbank forests, peat swamps, freshwater Melaleuca swamps, and a brackish lagoon which, at 22 kilometres, is the longest lagoon in Peninsular Malaysia! This lagoon houses a diverse collection of sandy beaches, vegetated sand islands and seagrass beds. It's exciting to imagine what natural treasures lie here tucked away from human eyes.

Such a wide array of habitats provides refuge to a vast collection of wildlife. Biodiversity assessments carried out in the area have confirmed the Setiu wetlands as an important repository of flora and fauna, including 29 mammal species, 28 reptile species and 129 bird species.

In fact, during a joint bird survey conducted with the Terengganu branch of the Malaysian Nature Society, the globally threatened lesser adjutant (Leptoptilos javanicus) was sighted here. It was an exciting discovery, as this bird hadn't been seen on the east coast since 1968! Such a sighting marks an important comeback, showing that these wetlands are healthy enough to house an important species with great ecotourism potential.

The area is also an important breeding ground for both freshwater and marine fish as well as nesting grounds of the critically endangered painted terrapin (Callagur borneoensis). Indeed, it houses the largest breeding population of this species in Malaysia. This reptile's fate depends on the continued existence of these wetlands it calls home. Moreover, the conservation of Setiu wetlands is crucial because the area's naturally occurring grouper juveniles and oyster seeds help to drive a big part of the Peninsula's fisheries industry. You wouldn't want to be faced with a sudden shortage of delicious seafood, would you?

A guick observation of Setiu's local communities shows just how much people still depend on these wetlands for their livelihood. They are primarily involved in cottage industries producing seafoodbased delicacies such as fish crackers, dried anchovies, belacan (shrimp paste) and the well-known Terengganu budu (fermented fish sauce). The socioeconomic benefits of these wetlands are simply enormous.

In addition to this, the natural features and elements of the Setiu wetlands make the area a prime candidate for ecotourism. Potential activities could include nature watching, honey harvesting in the Melaleuca swamps and recreational fishing. By engaging the local communities in conservation and ecotourism, alternative incomes for them could be generated, thereby releasing them from total dependence on the fisheries sector.

In terms of direct value, Setiu's natural resources are estimated to be worth a whopping RM12 million a year. When ecosystem and aesthetic value are added into the mix, that figure is likely to double or even triple!

The Setiu wetlands must be protected from unchecked development and a comprehensive sustainable management plan for the area must be developed. Revenue generation in the Setiu district is one of the poorest in the state, and there are plans to improve local living standards through agriculture and aquaculture. Yet this would involve conversion of the wetlands and infrastructure development that would likely cause significant ecological impact. As such, an integrated approach needs to be adopted which will consider development, socioeconomics and conservation on equal terms.

Recognising this, WWF-Malaysia and Universiti Malaysia Terengganu recently signed a Memorandum of Understanding to promote the conservation, integrated management and sustainable use of the Setiu wetlands. (This event was featured in Green Heart 4, 2007).

WWF-Malaysia has been working in Setiu since 1993, in collaboration with the Department of Fisheries to conserve terrapins, the green turtle (Chelonia mydas) and their habitats. However, lack of funds forced us to cease all field activities there in 2002.

WWF-Malaysia could not resume efforts to conserve Setiu wetlands until mid-2005 when heroic Malaysians like vou saved the day! Between 2002 and 2005. WWF-Malaysia's fundraising arm worked hard at raising funds for conservation by engaging the Malaysian public. Now, there is a 3-year "Sustainable Management of the Setiu Wetlands" project in place - all made possible by you, our individual supporters from among the Malaysian people!

Other partners have followed your commendable example: In 2006, funding from the Malaysian Wildlife Foundation enabled us to restart turtle and terrapin conservation work for two nesting seasons until 2007. Currently, Nestlé Malaysia is helping to fund a 5-year capacity-building program to support and enhance women's socioeconomic development through sustainable utilisation of wetlands resources. Also, the Ministry of Natural Resources and Environment has awarded WWF-Malaysia a grant for coastal wetlands restoration. This will allow the planting of mangroves and other suitable coastal tree species to be carried out, with the involvement of local communities.

The Setiu wetlands are an inspiring story of how caring Malaysians can help to drive environmental conservation in our homeland. Together, with the support of the government, real steps can now be taken to secure a better future for the Setiu wetlands.

WWF-Malaysia sincerely thanks you, our valued individual supporters, for contributing to the conservation of the Setiu wetlands. Turn to page 15 and see how many crucial conservation projects you have made possible! ■



The Setiu wetlands

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Cover Story



First Forest Adventure

By River Foo, Donor Relations Executive

I was awakened by the distant noise of cracking bamboos at an ungodly hour. The fire that we had made earlier was slowly dying, threatening to plunge us into complete darkness. An irrational fear of wild elephants ravaging our base camp popped into my mind. Frantically, I tried to get out of my sleeping bag to add more wood. Thankfully, our ever-responsible team leader Pak Mat beat me to it and attended to the fire. Watching the flame grow stronger, my eyelids slowly getting heavier, I then fell back into a deep sleep. We were exhausted after trekking for over five hours; and it was only the first day. The hard work began the moment we were dropped off at our survey area by boat. We braved steep terrain and swift streams, and also performed a circus-like balancing act on a fallen tree trunk while carrying very heavy backpacks containing our food rations and necessities for the next nine days! So began my WWF-Malaysia Rhino Expedition in Royal Belum State Park.

(Left to right) Bayin River Mat Gudil and Pak Mat holding up a honevcomb that had fallen to the forest floor as they pose with the huge tree by the salt-lick.

Royal Belum State Park is part of the larger Belum-Temengor forest complex, one of the largest remaining forest blocks in Peninsular Malaysia. This tropical rainforest is the habitat of large mammals like elephants, gaurs, tigers, sun bears and tapirs. The area is also home to the endangered Sumatran rhino. This historical expedition was a crucial exercise to estimate the number of rhinos there. It would also help to identify illegal activities and poaching that threaten Royal Belum's wildlife.

With no field experience, I was lucky to be included in this expedition and teamed up with amazing people, including Pak Mat from Perak State Parks Corporation, Ravindran from the Malavsian Nature Society as well as Gudil and Mat, veteran WWF-Malaysia field officers. The eventful nine-day expedition was truly a lifeenriching experience.

Tricky Terrain

Expedition participants need good stamina because it involves a lot of trekking, trekking and more trekking through different terrains, traversing rock-filled streams, negotiating ridges and other physically taxing tasks. Thanks to my threetimes-a-week gym visits over the past four months, it wasn't a problem for me to trek about 6 to 8 kilometres daily, although there were still occasions when I struggled to breathe.

It was especially tricky trying to cross the many streams and muddy areas by hopping on slippery rocks to avoid getting my shoes wet. It's annoying walking with water trapped in your shoes. This required good balancing and rock-choosing skills, and I didn't always get to the other side dry. One time, I slipped and landed ungracefully on my bottom in the water. I had to trek with the bottom half of me wet and my right ankle bruised. However, that wasn't as bad as walking covered up to my ankles with mud after having mistaken a muddy patch for dry land. Despite these adventures, I was luckier than Ravin who fell and

sprained her ankle on the first day while crossing a stream with her heavy backpack. She was forced to rest at base camp for two days but heroically completed the expedition with us nonetheless.

I was nearly swept away by the rapid current of Sungai Perak. The river is wide, with the kind of rapids that would attract white water rafting enthusiasts. Forest exploration veteran Pak Mat was the first of our group to cross the river, which he did effortlessly. Gudil and I simply could not get past the swift current, forcing us to cling to the branches of a large fallen tree. We were in danger of being swept away!

It was too dangerous to try and swim to the opposite shore because of the large rocks; smacking into one would have been fatal. Thankfully, Pak Mat bravely walked towards us through the water. With him helping to pull us, we managed to get to an area where the rapids weren't as strong. I made my way to shore at a snail's pace. Standing completely soaked on land after what seemed like ages, we all had a good laugh.

Wild Encounters

Throughout this expedition, I managed to learn a few technical details of fieldwork. The one I enjoyed the most was searching for animal tracks and droppings. Wild animals are difficult to detect because they instinctively avoid humans. However, their presence can be determined by their tracks. Before this, back in the office, I was always shown photographs of animal footprints and scat taken by my colleagues who are field officers. It was therefore an incredible experience to experience actual field work.

Throughout the survey, we came across many different animal tracks. I was tasked with photographing the evidence. Being a non-field officer, I was excited to do this as well as measure the prints of large mammals like elephants, tapirs, sun bears, wild boars, gaurs, deer and even tigers. Photographing tiger paw prints was an awesome experience, as the thought of them roaming the same area as me was both amazing and slightly frightening.



A wallow.

Features



River, carrying his large pack of supplies, is excited at the start of his great adventure.

Elephants can be easily found in Belum. We came across their footprints and droppings every day. Once, we came across fresh elephant footprints only 50 metres away from our base camp. That evening. Pak Mat. Mat and I decided to head out to catch fish while Gudil and Ravin staved back at the base camp. On our way back. we were startled by several wet elephant footprints headed towards our camp. They had not been there just an hour ago! We hurried back to our base camp to alert Gudil and Ravin. We added more wood to the fire and anxiously listened for any signs that an elephant might enter the camp. Thankfully, this didn't happen.

Apart from tracking footprints, we were also tasked with identifying signs of poachers who illegally enter the area to hunt wild animals and extract gaharu (agarwood). We concluded that poachers, possibly from Thailand, had encroached upon our survey area after discovering Thai "Tom Yam Mama" instant noodle wrappers in the vicinity of traps and extracted agarwood.

It was also important for us to search for salt-licks and wallows because wild animals like rhinos frequent these areas. We discovered one huge wallow but it was an old one, probably last used two years ago, and we couldn't determine if it had been used by rhinos. I was overjoyed when we discovered a large salt-lick with pervasive footprints of animals, mainly gaurs. It was hidden behind two humongous trees that reminded me of the giant tree people from "Lord of the Rings." Since it was a pleasant site, we decided to have our lunch break there. All of us took turns posing for pictures with the trees and the salt-lick.

It was also in Belum that the GPS (Global Positioning System) device and I finally said "hello" to each other. Prior to our first encounter, I had only seen it in the office or when it was carried around by my colleagues, but we were never introduced. Thanks to Gudil and Ravin. I had a crash course on how to operate a GPS device. I was taught how to use it to locate and record the location of each area we visited. It also helped in navigating our direction and the length of our journey. In addition, I had the opportunity to study the map of our survey area on a daily basis with help from Gudil. All this hunting for footprints, photographing, navigating as well as using GPS devices and maps allowed me to fantasise that I was starring in a "National Geographic" or "Animal Planet" programme.

Although we were tracking large mammals, it was the smaller forest residents that never failed to make their presence known. One in particular was what I call the vampires of the forest; leeches. These bloodsuckers were pervasive and they would wriggle their way into clothing to feast on blood. Even with my hardy leech socks, at the end of the day I still found them feasting on numerous parts of my body: arms, legs, neck and even my navel. It still puzzles me how they got there. After awhile though, I developed the art of flicking leeches off my body, standing elegantly on one foot with a heavy weight on my back while flicking leeches off.

Of greater concern were the wasps, bees and centipedes with their poisonous stings. I was alarmed when Gudil showed us a 20centimetre-long centipede that he had caught. He pointed out that a bite from the creature could cause a person to faint. It sent chills down my spine when he told us that he had caught it next to his sleeping area, which happened to be next to mine.

I was lucky not to be stung although we had to walk past swarms of wasps on numerous occasions. They would usually be buzzing around in one area and the trick was to walk slowly across without disturbing them. Typical of someone who had been in the city far too long, I applied excessive amounts of insect repellent all over my face and inched past the swarm exceptionally slowly, praying hard that they wouldn't find me appealing. My prayer was answered.

The most terrifying moment was when a long, fat cobra slithered across our path. There I was, standing stock still deep in the forest; with ridiculous thoughts of being bitten, turning blue-black and dying before reaching medical help. Directly after that brief but upsetting encounter, I fervently hoped that we wouldn't come across another snake. It was then that reality hit - fieldwork is not for the faint-hearted. In my opinion, all the field officers out there are incredibly brave people.

Forest Chef

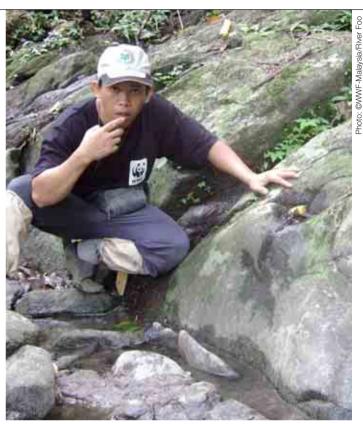
I was the team's resident chef. I enjoy cooking dearly and naturally hogged the pot, pan, cooking oil and food. Our cooking area comprised firewood that we collected and set alight. Ravin, my assistant, chopped garlic, onions, carrots and cabbages - the only vegetables that we were given. One memorable moment that will probably stay with me forever was when I stood waist-deep in the river performing the simple task of washing rice, surrounded by the beautiful, majestic forest.

We also enjoyed an impressive menu of ayam masak merah, rendang kari lembu, sambal ikan bilis and more thanks to "Brahim's" packet food.

I often had to squat around the scorching hot cooking area, stirfrying while smoke blew into my face. Every now and then, I would stand up and squat down in different directions to avoid getting suffocated. It was worth the toil as everyone seemed to enjoy my cooking, which delighted me. Thankfully, none of them came down with diarrhoea or that would have been the end of my cooking days.

After meals, the cleaning would be done at the river. It was fine to clean utensils in the day but it was problematic at night. Washing by the river at night requires a headlamp. Flying insects are attracted to light; therefore I had to wash while shaking my head to avoid insects getting into my eyes as they attacked my headlamp. Once, as a result of intense head-shaking, I almost landed in the river with a pot and washing sponge.

Each night before bedtime, we would make hot drinks and gather around the fireplace for a chat. I had a great time exchanging interesting and hilarious stories with everyone. It was a great opportunity to hear exciting stories from the field. However, it wasn't as amusing when stories of wild animals or snakes attacking people after nightfall were told.



Gudil testing the water to verify if the area is a salt-lick; it is!

On our last night, we realised that our supply of coffee and "Milo" sachets had run out. However, Ravin kindly offered to share her last sachet of "Milo". We all ended up sharing one sachet of "Milo" with a lot of sugar in it. That was the most cherished "Milo" moment I've ever had in my life.

Over the last nine days, my appreciation for nature grew stronger. Waking to beautiful birdsong, the river rushing by, clean air and mist-covered mountains was breathtaking. Over the years, our magnificent natural heritage has diminished. Million-year-old forests and wildlife are under serious threat. Fortunately, there are individuals who believe they are here to make a difference. It is their passion and love for Mother Nature that propel them to dedicate their energy to nature conservation.

All the field officers who spend most of their time working at conservation sites are truly commendable. It is not an easy job; they face challenges and risks on a daily basis. They rough it out in the field with only basic items while we in the city perhaps do more damage to the environment with our cars and air-conditioners. They make do with whatever little food that they carry with them throughout their time in the field while we in the city eat excessively. Their most significant sacrifice is the time spent away from family and friends. Their dedication to conservation for the sake of future generations is enormously inspiring.

I am very lucky to have had the opportunity to experience some of what the field officers go through. From the bottom of my heart, I thank them for their heroic efforts in conservation.

News







Photos of the tiger and its kill captured via camera-trap

Tiger and Kill Caught on Camera Trap

The drive to the riverbank was an exciting one. Just minutes earlier, Ramli, an Orang Asli living in Temengor Forest Reserve, had enthusiastically recounted his close encounter with a tiger the day before. Mark and Shariff, the "Tigers Alive!" project biologists, along with WWF-Nepal visitors Bivash Pandav and Sameer Singh, trailed behind Ramli in their faithful yet often problematic Land Cruiser. The group hoped to find a recent tiger-kill and "trap" the mighty hunter on camera.

The "Tigers Alive!" project aims to help conserve the estimated 500 tigers remaining in Peninsular Malaysia through mitigating humantiger conflict in Jeli and looking into the connectivity of Peninsular Malaysia's forested areas. Camera-trapping assists in providing vital information on tiger ecology and other wildlife in the areas of interest.

Camera-trapping involves placing specially made cameras along suitable trails in the forest to capture photos of wildlife. These cameras are housed in a camouflaged waterproof case with a builtin passive infra-red sensor that can detect body heat and motion. Animals that pass in front of a camera-trap will be detected by the infra-red sensor, triggering the camera to take a photo.

The camera-trapping activity shifted from Gunung Basor Forest Reserve to Temengor in 2007, and will later progress to Royal Belum State Park with the aim of obtaining a better understanding of tigers and wildlife diversity in these areas. Reconnaissance trips into Temengor to identify suitable camera-trap locations began in mid-2007. In an area of less than 100km², they have already obtained more than 40 photos of tigers at several different locations.

Ramli narrated that he had been walking to a nearby riverbank to fish the day before when he and his friends stumbled upon a tiger with its kill, which was only about 200 metres away. The tiger, surprised by the human intrusion, sprinted away, leaving its food behind.

After a 30-minute drive from the Orang Asli village along a logging road followed by a 20-minute walk, the group arrived at the spot and was greeted by a thief! A monitor lizard was vigorously trying to drag the half-eaten carcass of a wild boar away. As soon as they neared, the monitor lizard scurried away, giving up its free lunch.

Hoping that the tiger would return to its kill, the group tied the carcass to a nearby tree using vines. A digital camera-trap with a delay time of 10 seconds between detections was then set facing the carcass.

The field biologists eagerly returned to the spot about one month later to retrieve the camera-trap. The photos showed the owner of the carcass - a magnificent male tiger - returning to the spot at 12:20pm, only two hours after the camera-trap was set. It stayed there for about a minute and within a span of ten seconds, the majestic animal swiftly took its prized possession and left the area, as shown in the next picture which was taken at 12:21pm.

These were the first pictures of a tiger with its kill that the "Tigers Alive!" project team had ever captured since beginning cameratrapping activity in 2004. The team can't wait to see what else enchanting Temengor has in store!



Workshop speakers and participants

Enhancing Environmental Citizenship

To better protect Fraser's Hill's fragile natural environment, the local community were offered the opportunity to gain knowledge on various environmental laws, including the Environmental Quality Act 1974, Protection of Wildlife Act 1972 and the National Forestry Act 1984.

In a workshop held on 1st August 2007, representatives from the Department of Environment, Department of Wildlife & National Parks, Forestry Department and Traffic SEA were invited by WWF-Malaysia to present talks and share first-hand experiences on various topics, such as the purpose and provisions of the related Acts, their enforcement as well as the offences and prohibitions of various acts and the corresponding penalties. The participants were also given a better understanding of the different roles of each department.

The "Fraser's Hill Environmentally Sustainable Habitat" project funded by the US Embassy provides capacity building for the Fraser's Hill local community on various issues, including environmental legislation and protected area management. The aim is to enhance the Fraser's Hill local community's level of environmental citizenship and enable them to take on the role of effectively conserving the hill's rich biodiversity and natural environment.



Workshop participants paying close attention to the speaker

Renewable Energy's Impact on Our Living **Planet**

Renewable energy sources provide benefits not only to the environment but are also more affordable in the long term.

The energy we use on a daily basis comes from five different sources: oil, coal, natural gas, water (hydro) and, most recently, other renewable energy (RE) sources. Before the 1990's, Malaysia's main source of energy was oil. We have since switched to natural gas as our major energy source as it is perceived to be a "cleaner" form of energy. However, many do not realise that it is only cleaner compared to oil. Essentially, using natural gas to generate electricity still releases a huge amount of carbon dioxide that contributes to the greenhouse effect, leading to global warming, climate change and harm to our environment.

So what is a renewable energy source? It is a source of energy that is being replenished continuously within the lifetime of a human being. Examples of this include water, biomass, wind and sunlight.

Malaysia, being close to the equator, is blessed with ample sunlight. By exposing 3-5 kWp roof-top solar panels to the sunlight, we can generate enough electricity to satisfy the needs of an average Malaysian household. Since sunlight is a completely non-polluting agent and does not release any carbon, generating electricity using solar panels actually helps us to reduce the amount of carbon dioxide released into the atmosphere. As such, using this type of RE will help to mitigate global warming.

By installing solar panels on our roof, we will pay less for electricity - and the good news is, we can earn extra cash by selling any excess electricity to TNB - how's that for a change? Solar panels may seem expensive now, but looking at the long-term scenario, it will be better overall for our living planet our home.