



For more information please contact:

WWF-Malaysia

49, Jalan SS23/15 T +60 3 7803 3772

Taman SEA F +60 3 7803 5157

47400 Petaling Jaya E ccheong@wwf.org.my
Selangor, Malaysia W www.wwf.org.my



L U S H H I G H L A N D

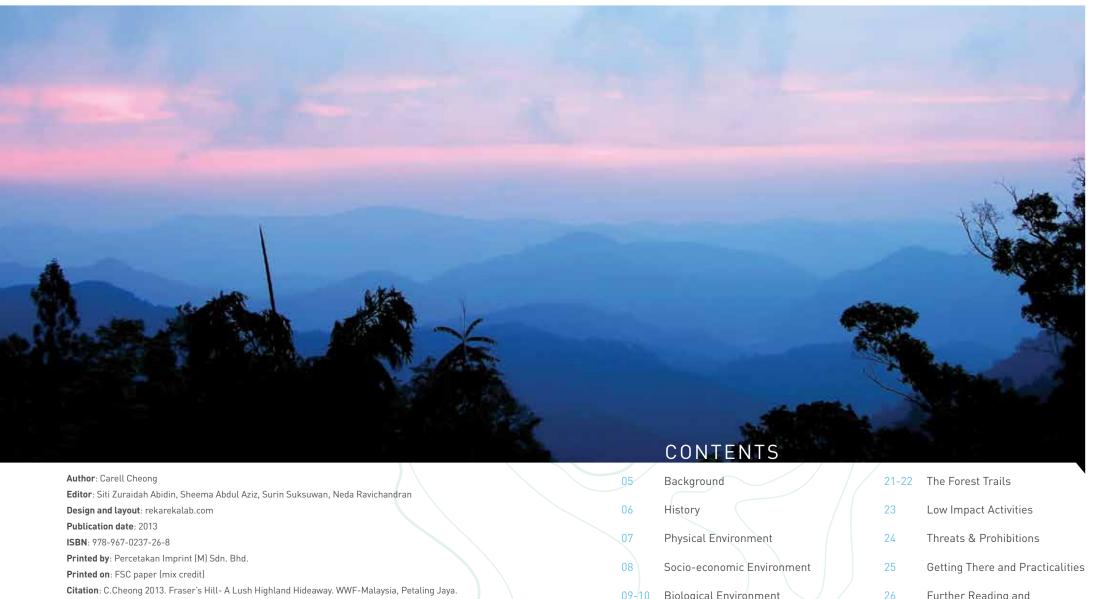


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The blue lines that appear in the background are known as contour lines and are a distinguishing feature of a topographic map. Contour lines show elevation and the shape of the terrain. They're useful because they illustrate the shape of the land surface -its topography on the map.

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FRASER'S HILL PAHANG DARUL MAKMUR, MALAYSIA



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BACKGROUND



Formed by seven rolling hills with peaks ranging between 852 meters (m) above sea level (asl) to 1,456m asl, Fraser's Hill is the lowest and least disturbed of the three major hill stations along the Titiwangsa Range, which is also known as the Main Range. Located 100 kilometers (km) from Kuala Lumpur, in the district of Raub, Pahang, the Fraser's Hill Town Board covers an area of approximately 2.829 hectares (ha). Recognising that Fraser's

Hill is an environmentally sensitive area with a fragile ecosystem and an important area for birds and highland biodiversity, the Raub Local Plan 2003-2015 recommends the establishment of a wildlife sanctuary. The National Ecotourism Plan has also listed Fraser's Hill as one of its priority sites for ecotourism.

A study by the Department of Environment in 2008 also recommends the establishment of the Fraser's Hill National Park with enhanced protection and management.

Fraser's Hill is already widely known internationally as a premier birdwatching site in the region, and has been internationally recognised as an Important Bird Area (IBA-MY09); IBAs are areas identified by BirdLife International as critical sites for the conservation of birds and biodiversity.

HISTORY

Fraser's Hill derives its name from Louis James Fraser. a solitary Scottish pioneer, who set up a tin ore trading post in Tras in the 1890s. With tin mining flourishing at the foot of Fraser's Hill. Fraser became a tin merchant. buying crude tin ore from the Malay and Chinese miners in the Tras and Sempam valleys, and transporting them to Kuala Kubu^[1] using mules. Fraser recruited guides and coolies for an expedition to the upper ridges, prospecting for gold or other valuable metals. At the top he found an ancient forest of moss-draped trees and ferns with a prehistoric appearance, kept constantly moist in the cloud layer.

He also found rich tin deposits, and recruited Chinese workers to open a mine. The remnants of this mine, called Pamah Lebar then, stands today as the nine-hole golf course at the town center. A steep track was constructed for mules to transport the tin ore down to The Gap and on to Kuala Kubu, the nearest town. Fraser later moved up to Fraser's Hill, making it the base of his tin ore trade.

Fraser vanished without a trace some 25 years later. In 1917, C.J. Ferguson-Davie, Bishop of Singapore, led a trek up from The Gap to look for this site and did not find Fraser, but reported that the place was perfect for a hill station – a retreat from the heat of the lowlands. In 1919, work started on the access road to the hill station from The Gap, and by 1922, the hill station named Fraser's Hill was opened to visitors.

The late 1990s saw another burst of development with more buildings, resorts and another golf course. In 2010, faced with growing evidence of environmental damage at Malaysia's largest hill resort, Cameron Highlands, the Pahang state government ruled out further development of virgin forest at Fraser's Hill.



MAIN MOUNTAIN PEAKS LOCATED WITHIN THE FRASER'S HILL TOWN BOARD

m asl 1 183 1 256 320 .328 1 394 1.456 Bukit Pokok Bukit Hulu Bukit Gap Gununa **Bukit Jeriau** Gunung Hulu Semangkok Gap Sempam Peninjau Semanakok Pine

PHYSICAL ENVIRONMENT

SOCIO-ECONOMIC ENVIRONMENT



With undulating terrain, the altitude at Fraser's Hill ranges between 320 m and 1460 m asl. 44% of the terrain in Fraser's Hill is very steep, with only 8% of the land area being relatively flat.



Fraser's Hill has a year-round average temperature of between 17°C to 25°C, with a relative humidity of between 70-95%. Its mean annual rainfall is +/-2300 mm, with an average frequency of over 200 rain-days. Highest rainfall usually occurs in November-December, while the lowest rainfall is recorded between June-August.



of Fraser's Hill is still covered with virgin forest, with only 1.5% developed. The remaining 6.5% is cleared land that is now covered with secondary vegetation.



At least ten river systems

(sub-catchments) originate from Fraser's Hill. Sungai Selangor, forms the main river system to the west, and is a major source of water for the state of Selangor, while Sungai Teranum forms the main river system to the east on the Pahang side.



The geology

of Fraser's Hill
is overlain
predominantly by
granite that forms
sandy soil, which is
permeable and
highly erodible



The water quality

of Sungai Hijau falls within Class 1 (Very Clean) of the Interim National Water Quality Standards



Over a 20-year period, there has been an apparent limited growth in the **population** of Fraser's Hill. This is largely attributed to limited job opportunities due to low development pressure, and lack of ownership opportunities as no new housing schemes have been developed since 2000.



The economy of Fraser's Hill is highly dependent upon

the tourism industry.

Approximately half of the working population is employed in the hospitality industry (including operating their own businesses), while the rest work for the various

government agencies.



While there are three primary schools (National, Tamil and Chinese) in the vicinity of Fraser's Hill, there is no secondary school available for the children to further their education. As such, all the

children have to migrate to larger towns such as Raub, Kuala Kubu Baru or Kuala Lumpur for secondary and tertiary education.



There are eight main accommodation providers

at Fraser's Hill, with more than

400 units of lodging available that can house up to a total 1,500 guests at any one time. Six are within the mid-range type while the other two offer boutique-styled accommodation at premium prices.

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BIOLOGICAL ENVIRONMENT





Fraser's Hill contains a high level of biodiversity, and this was first recognised by the botanist H.N. Ridley in 1897. Kiew (1998) points out that Fraser's Hill occupies a pivotal position in the mountain flora of the Main Range and is of great scientific interest.

Fraser's Hill is one of three known localities worldwide where the ancient and very rare Trig Oak (*Trigonobalanops verticillata*) occurs. Known locally as Mempening Babi, the Trig Oak is a living fossil of ecological and taxonomic importance.

It is home to over 10% of all plant species found in Peninsular Malaysia. Fraser's Hill has a rich and diverse flora comprising 952 indigenous species with 36 endemic species, 13 of which are possibly extinct, having not been seen for more than 60 years.



RICHNESS OF VERTEBRATE FAUNA SPECIES IN FRASER'S HILL











Invertebrates form the most dominant group of fauna in Fraser's Hill: butterflies, moths, cicadas, crickets, grasshoppers, spiders, beetles, bees, ants and termites – all playing their vital role in maintaining a healthy ecosystem.

Based on the

IUCN Red List 2013

Fraser's Hill is home to three globally Endangered mammals i.e. the Malayan Tapir (Tapirus indicus), Siamang (Symphalangus syndactylus) and the Malayan Tiger (Panthera tigris jacksoni), and two mammal species listed as Vulnerable i.e. the Serow (Capricornis sumatraensis) and the Malayan Sun Bear (Helarctos malayanus)

			****	Number of species
Mammal	Bird	Amphibian	Reptile	Percentage of total number of species found in Peninsular Malaysia (%)
52	275	27	26	
24.19	42.44	12.62	29.55	Percentage of total number of highland species found in Peninsular Malaysia (%)
62.65	88.42	51.92	86.67	

Source: EPU (2001) 10

THE MONTANE FOREST OF FRASER'S HILL



Fraser's Hill, known for its cool weather, tranquil environment and pristine forest, is a favourite getaway for urbanites to escape the hot and humid temperatures of the lowlands. The road ascending the hill (be it via Raub or Kuala Kubu Baru) provides an opportunity for travelers to observe some of the different vegetation types that can be found in Malaysia.

Starting from a Lowland Dipterocarp forest (from sea level to 300 m asl) at Kuala Kubu Baru/Raub, the vegetation will gradually change to Hill Dipterocarp forest (between 300 to 750 m asl) and Upper Dipterocarp forest (between 750 to 1,200 m asl). It will then gradually change to Oak-laurel forest –

also known as Lower Montane forest (between 1,200 to 1,500 m asl) at Fraser's Hill. As you go further up, the vegetation then shifts to Ericaceous forest or Upper Montane forest, (between 1,500 to 3,000 m asl). Please refer to figure on the next page for the change of vegetation zones with altitude.

As you ascend the hill, you will note that the tree canopy becomes lower with smaller and fewer emergent trees. There will also be an abundance of epiphytes clinging on trees, and most notably, the presence of the Tree Fern (Cyathea contaminans), a fern with a trunk, as you are nearing The Gap.

Montane forests play a critical role in the hydrology of major river systems which provide most of Peninsular Malaysia's water needs, including the Pahang, Perak, Muda, Kelantan, and Selangor rivers.

Unlike the dipterocarp^[2] forests, the montane forest is dominated by trees of the oak (Fagaceae) and laurel (Lauraceae) families at elevations above 1,200 m asl, and smaller trees and shrubs of the rhododendron family (Ericaceae) at altitudes above 1,500 m asl.

The montane forest ecosystem typically contains a high level of endemism, particularly amongst the invertebrate fauna and herbaceous plants such as orchids, begonias, gesneriads, rhododendrons, mosses and ferns. In terms of birds, the Mountain Peacock-pheasant and the Malayan Whistling Thrush are both endemic to the montane forest of Peninsular Malaysia's Main Range.

CHANGE OF VEGETATION ZONES WITH ALTITUDE



MAIN ATTRACTIONS

THE AMAZING FLORA



Yellow Earth Ginger (Etlingera sp.)
Often found some distance from the stem of
the plant which grows up to 6m tall.



Rhododendrons
Found abundantly in Upper Montane forests such as the Pine Tree Hill. They are woody plants with showy flowers and attractive foliage.



Golden Balsam (Impatiens oncidioides)
Usually found in damp, muddy areas and by rocky streams. Endemic to Perak, Pahang and Selangor.



Commonly found growing abundantly throughout the year on fallen tree trunks.



Apple Fig (Ficus oligodon)
Flowers and fruits are both found in curious structures called figs. One of the most important year-round food source for many animals.





Saurauia rubens

THE COLOURFUL BIRDS

One can most easily spot the myriad colorful birds during the early hours of dawn and dusk. During the bird migratory season (Oct-Apr), one may be able to spot migrants from as far as Europe and North Asia such as the Siberian Thrush (*Zoothera sibirica*) and Mugimaki Flycatcher (*Ficedula mugimaki*) – all attempting to escape the harsh winter in the northern hemisphere.



Silver-eared Mesia (Leiothrix argentauris)



Fire-tufted Barbet (Psilopogon pyrolophus)



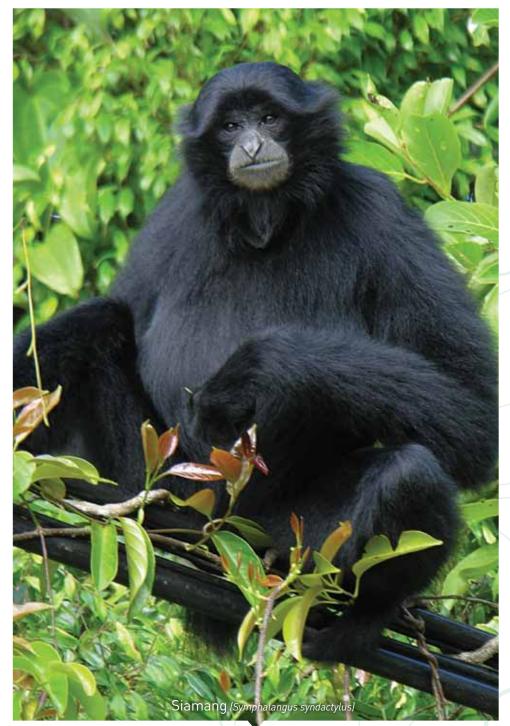
Red-headed Trogon (Harpactes erythrocephalus)



Grey-chinned Minivet
(Picrocotus solaris)
Left-Male, Right-Female

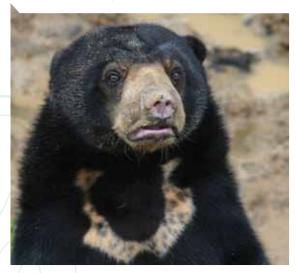


Mugimaki Flycatcher (Ficedula mugimaki)



OTHER ELUSIVE FAUNA

Malayan Sun Bear (Helarctos malayanus)
Smallest member of the bear family. It takes it's name from the bib-shaped golden or white patch on their chest which legend says represents the rising sun.



Dusky Langur (Trachypithecus obscurus)

Diet consist mainly of foliage and may vary to fruits, flowers and other items. Distinguished by the conspicuous white ring round its eyes.



Impressed Tortoise (Manouria impressa)

A mountain species with a diet consisting mainly of mushrooms, and spends much time hiding under leaf litter on the forest floor.



Siamese Peninsula Pit Viper (Popeia fucata)

Highly venomous and dangerous. Nocturnal (active in the night), with a diet consisting of birds, frogs and



Yellow-throated Marten

(Martes flavigula)

Also known as Kharza, they are orange/ yellow to dark brown with a pale coloured throat patch. They are diurnal (active in the day) hunters which usually hunt in pairs. 18

hinoceros b

Dynastinae or Rhinoceros beetles are among the largest of beetles and also known to be the strongest insects in the world as they can lift up to 850 times their own weight. Their unique horns are used to fight off other males during the mating season and escape from danger by digging itself underground.

THE VULNERABLE INVERTEBRATES

While walking around in Fraser's Hill, one can also discover the Rhinoceros beetle perched on some bushes, or the Atlas moth which is the largest moth in the world by wing area or the Giant millipede crossing your path. You may also be able to hear the orchestra of singing Cicadas everywhere!



Atlas Moth







Cicada

Giant Millipede

THE FOREST TRAILS

There are eight forest trails, ranging from 200m to 6km long with different levels of difficulty. Visitors should try to go on at least one trail. Established in the early days long before roads were built, these bridle paths were the only way to move around Fraser's Hill, connecting the bungalows with the town centre. Some are named after historical individuals who played a part in the development of Fraser's Hill. Today, these trails open up the windows of the wild, unfolding rich flora and fauna. While exploring these trails, try taking a deep breath and feel the wonders of mother nature all around you.

Bishop Trail

A haven for birdwatchers and nature lovers, this 1.3km trail is identified as an area of critical conservation importance for flora. It habours many Peninsula-endemic plants. This trail with an undulating and narrow path, this trail with an undulating and narrow path has four learning stations inside, making it the best educational trail at Fraser's Hill. This trail is named after the Bishop of Singapore, Reverend C.J. Ferguson-Davie, who discovered this plateau during one of his attempts to locate Louis James Fraser who had disappeared without any trace.



Entrance to Bishop Trail



Maxwell Trail

This trail, extending to 2km, serves as an extension to Bishop Trail and is not extensively used, as it is deemed too long for beginners. However, birdwatchers will frequent this trail as it is much quieter. The trail exits at the Corona Nursery near the Tamil primary school.

Pine Tree Trail

Famed as the most physically challenging trail in Fraser's Hill, the peak of Pine Tree trail stands close to 1500 meters asl. This 6km trail takes about four hours at a moderate pace to reach its peak. Due to frequent cloud cover, mosses, liverworts,



the forest floor – often termed as "mossy forest". In view of its distance, trekkers are advised to inform the police or the hotel they are staying of their intention before embarking on the trail.

and filmy ferns cling

to trees and carpet

View from the peak of Pine Tree Hill

Mager Trail

Kindersley Trail

This 400m trail is a tribute

to R.C.M. Kindersley who

successfully championed

the initial development

and financing of Fraser's

Hill to the British colonial

government. This trail is

often used as a shortcut for

inhabitants of bungalows in

the area, and is recognised

as one of the four areas

of critical conservation

importance for flora.

Serving as an extension to the Abu Suradi Trail, this 500m trail takes its name after F.W. Mager, a Pahang Public Works Department engineer. He was responsible for the design and opening of the Gap Road – which is still in use today - ensuring that it was built in a way that stood the test of time.

Abu Suradi Trail

Abu Suradi was the first local Malay who was issued a tin mining lease by the British government in Pahang at Pamah Lebar (the present golf course) in 1899. This trail was used by Abu Suradi for his daily commuting from his thatched cottage (near the present Maybank Lodge) to his mining site. About 500m long, the biodiversity in this trail may not be as rich as other trails but it harbours at least two species of flora endemic to Fraser's Hill.

Hemmant Trail

Named after Frank Hemmant, the designer and architect of the 9-hole golf course at the town centre, this 1km trail forms a green belt between the Silverpark Resort and the golf course. With minor obstacles, this trail boasts thick foliage and rich biodiversity.

Rompin Trail

This 200m trail was opened in the 1980s and served as a shortcut to the town centre for the residents of the Taman Sungai Hijau flats. Rather steep, this trail is partially concreted for the residents' ease of travel. Despite this, Rompin Trail harbours a Peninsulaendemic plant.



A Peninsula-endemic plant,

LOW IMPACT ACTIVITIES















Birdwatching

THREATS

There is a lucrative local and international market for the biodiversity found in Fraser's Hill, particularly the orchids, pitcher plants, spiders, and insects such as butterflies, moths and beetles. The roads and trails around Fraser's Hill provide easy access to the habitats where these species live.

The Fraser's Hills' ecosystem to the predicted increase is also very vulnerable to the in intensities of storms,

effects of climate change. Slight shifts in climate can cause wilting or death of the epiphyte community which plays an important role in the hydrological and nutrient cycles of the montane forest. The plant and animal species of Fraser's Hill occupy such small ecological niches, and are therefore vulnerable to the predicted increase in intensities of storms,

droughts and dry seasons brought on by climate change.

Other threats include the unsustainable clearing of forests and hill slopes for development, unsustainable tourism activities, and improper disposal of garbage, sewage and sullage effluents.

PROHIBITIONS

It is an **OFFENCE** within the vicinity of Fraser's Hill to:

Shoot, kill, trap, remove or possess any wildlife including birds or insects. Take, destroy or damage the nest or egg of any wildlife.

Start, kindle, keep or carry any fire or leave any fire burning.

Search for, collect, disturb or remove any forest produce.

Clear or break up any land for cultivation or any other purpose.

Commit offensive littering.

Offenders will be fined and/or jailed in accordance to the:
Wildlife Conservation Act, 2010 (Act 716) - Sections 49 & 76
National Forestry Act, 1984 (Act 313) (Rev. 1993) - Sections 15, 81, 82 & 83
Wild Animals and Birds (Absolute Prohibitions) Order, 1957 - F.M.S. G.N. 379/1957

GETTING THERE

Fraser's Hill is located approximately 100km from Kuala Lumpur. Using the North-South Highway, exit at the Tanjung Malim Interchange and head for Kuala Kubu Baru. From there it takes around 45 minutes of winding road to The Gap. From The Gap, it is only a mere 15 minutes' short drive up the one-way Gap Road. Alternatively, one may use the Karak Highway from Kuala Lumpur to

exit at Bentong. From there, take the junction at Raub leading to Fraser's Hill. You will also need around 45 minutes to reach The Gap. There is a commuter train service and bus services from Kuala Lumpur to Kuala Kubu Baru. From there, you may charter a taxi to Fraser's Hill.

Coordinates of Fraser's Hill Town Centre: 3° 42' N 101° 44' E

PRACTICALITIES



09-3622 222Fraser's Hill Police



09-3622 333 Fraser's Hill Health Clinic



019 356 4194 Wildlife Crime Hotline



09-3551 060Forest Clearing
(Raub District Forestry Office)



1-800-88-2727 Environmental pollution (Department of Environment)



09-3622 642 Raub District Council



09-3622 007
Tourist Information
Centre



09-3622 007Bird Interpretive Centre



013-983 1633 Bird Watching Guide



09-3622 517WWF-Malaysia



013-3910 651 Taxi service



Accommodation
Puncak Inn 09-3622 007

 Pine Resort
 09-3622 122

 Shahzan Inn
 09-3622 300

 Ye'Olde Smokehouse
 09-3622 226

 TM Resort
 09-3622 500

 Highland Resthouse
 09-3622 645

FURTHER READING

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