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A Biological Management Study of
BUKIT LARUT
& Its Surroundings, Perak, Malaysia



Education and Research
Association for Consumers, Malaysia.



With the support of The Royal Netherlands Embassy

A Biological Management Study of
BUKIT LARUT
& Its Surroundings, Perak, Malaysia



Compiled by
Chitra Nadarajah

Report Produced Under Project MYS 378/97

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FOREWORD

Malaysia's natural habitats, their benefits and services are of significant cultural, ecological, social and economic value. Properly managed and appreciated, these habitats can continue to serve their benefits for generations to come. In this context, the hills and highland forests of Malaysia are one of the least researched and documented ecosystem in the country. However, while their values for recreation and adventure, tourism and temperate agriculture are well known, their values in the context of providing forests for water catchments and as the source of major rivers and waterways are only just beginning to be increasingly appreciated. Since 1995, WWF Malaysia has focused a large part of its conservation work on researching, documenting and promoting the biodiversity values of the highlands. Bukit Larut is among the many critical sites within Malaysia's highland ecosystems needing such attention so that its future can be properly planned and managed. WWF Malaysia has been very fortunate to have been given the opportunity to conduct the Bukit Larut study, document preliminary findings and provide recommendations to the relevant agencies. We hope that this will serve to ensure that not only Bukit Larut, but all the hills and highlands forests of Malaysia are given the appropriate considerations they deserve in planning and management, so that their values are sustained for the long-term.

We thank FOMCA for the opportunity to contribute towards the conservation efforts for Bukit Larut, and to the Royal Netherlands Embassy for financial assistance towards this timely and much needed study.

Dr Isabelle Louis
Deputy Executive Director
WWF Malaysia

FOREWORD

I am a native of Taiping where the magnificent Bukit Larut lies. The beauty of this simple place in its natural glory prompted ERA Consumer, Malaysia and FOMCA to make this serious attempt to save Bukit Larut, an environmentalist paradise, and a national heritage for all.

I would like to sincerely thank World Wide Fund For Nature (Malaysia) for their outstanding technical expertise and efficiency in conducting The Biological Management Study Of Bukit Larut And Its Surroundings. The findings proved exactly what all have known, that Mother Nature is a treasure to be guarded for all eternity.

I am humbled too by the generosity of The Royal Netherlands Embassy for the funding of this publication. It is without doubt a significant contribution to the cause of environmental protection in Malaysia.

My deepest gratitude to my fellow comrades at Consumer Association of Taiping in campaigning to save Bukit Larut. I salute you for Bukit Larut has been saved.

To all Malaysians, when you see, experience and savour Bukit Larut and all the Splendour of Mother Nature, remember that Mother Nature is a common heritage for all. We are merely caretakers for future generations. May we save Mother Nature for eternity.



MARIMUTHU NADASON

President ERA Consumer, Malaysia
And Secretary General Of FOMCA

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ABBREVIATIONS:

asl	-	above sea level
°C	-	degrees Centigrade
DFO	-	District Forest Officer
DO	-	District Office
FD	-	Forestry Department
FOMCA	-	Federation of Malaysian Consumers Associations
ft	-	feet
ha	-	hectares
IUCN	-	World Conservation Union
JKR	-	Jabatan Kerja Raya (Public Works Department)
km	-	kilometres
LAP	-	Lembaga Air Perak (Perak Water Board)
m	-	metres
mm	-	millimetres
NGO	-	Non-Governmental Organisation
PFE	-	Permanent Forest Estate
RM	-	Ringgit Malaysia
TM	-	Telekom Malaysia Berhad
VIP	-	very important person
WWFM	-	World Wide Fund for Nature Malaysia

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Chitramala Nadarajah
WWF Malaysia
November 1997

EXECUTIVE SUMMARY

Bukit Larut, formerly known as Maxwell Hill, is the smallest and oldest of the hill resorts in Peninsular Malaysia. It has been appreciated for over a century for its unique highland atmosphere, rich history and culture. Bukit Larut also supports many important ecological processes, the most important of which is its function as a water catchment area for Taiping and surrounding towns.

Ecology:

Bukit Larut is a small granite mountain that lies within the Bintang Range. It is characterised by unstable steep slopes which are unsuitable for agriculture.

Bukit Larut possesses a unique and diverse flora, with many endemic species. It possesses a high biodiversity as it encompasses a wide range of vegetation types.

Rare and interesting fauna found on Bukit Larut include the Agile (Dark-handed) Gibbon, the White-bellied Rat and the Lawas Roundleaf Horseshoe Bat. Bukit Larut also harbours about 200 different species of birds. Species of interest include the Peregrine Falcon, the Cutia and the Mountain Peacock-pheasant.

Tourism Potential:

Bukit Larut lies within a region of Perak that could be promoted as a significant centre for ecotourism in the Peninsula. Bukit Larut on its own, does not have the capacity or facilities to be the focal attraction for mass tourism. It should be maintained for low-impact tourism, as a unique recreation site due to its ecological sensitivity and rich biodiversity.

Management Issues:

The image Bukit Larut should remain as it is with some additional information on its importance as a water catchment area and a safe haven for flora and fauna.

Bukit Larut is a sensitive habitat due to its importance as a water catchment area. Minimal disturbance is of importance in Bukit Larut due to the unstable nature of its slopes and high erosion risk, therefore development in the vicinity of Bukit Larut is not recommended. Any future development plans for the area surrounding Bukit Larut, such as the Lake Gardens, should be compatible with the natural attractions of the area and the needs of the current users and local residents.

Six main groups of users of Bukit Larut are identified, three local and three foreign. All the interests of these groups are compatible. It is unnecessary to develop additional and extensive facilities at Bukit Larut but, improvement of existing facilities is however an important requirement.

Existing access to the summit of Bukit Larut is sufficient. The jeep service to the summit of Bukit Larut however, needs to be improved. A system should be developed to improve the efficiency, by dividing the road into sections. A carrying capacity study is needed to ensure that the ecology and diversity of Bukit Larut are not damaged.

Guidelines for activities permitted for visitors to Bukit Larut should be developed. At present activities include walking along the road, some trekking and picnics.

Visitor safety issues need to be addressed at Bukit Larut. Potential dangers lie in the unstable nature of the slopes, pedestrians using the road and the presence of jeeps on a winding road. Safety precautions should include warning signs and speed limits.

The jeep fees to various sites on Bukit Larut should not be altered until improvements to the facilities have been undertaken. It is recommended that no entrance fee be charged. Visitors should also be informed as to the purpose of the fees and how they contribute towards the maintenance of Bukit Larut.

The bungalows need to be upgraded, whilst maintaining the original structures. Recommendations include better heating, hot water, more self-catering facilities and better interior decorations.

Legal and Administration Issues:

There is a need to strengthen the protection of the Bukit Larut Forest Reserve (BLFR). Supplementary and complementary legal provisions to enhance the protection of the BLFR include the gazettment of the water catchment areas under either the National Forestry Act 1984 or the Perak Water Board Enactment 1988. Bukit Larut or parts thereof can also be gazetted as hill land or reserved for public purpose under the Land Conservation Act 1960. These additional legal measures would not considerably alter the management of Bukit Larut. Stronger options for the protection of Bukit Larut include the declaration of Bukit Larut as a Cultural and/or Heritage Green Site using a newly formulated Cultural Heritage Enactment or the gazettment of Bukit Larut as State Park by formulating a State Park Enactment for Perak. Both these stronger options would mean some changes to the administrative and management structure of Bukit Larut.

Development of Visitor Services:

The visitors' experience to Bukit Larut can be enhanced through the improvement of visitor services. An important component of this is the need for interpretative materials. It is proposed that an Interpretation/ Information Centre be established at the entrance to Bukit Larut to provide visitors with information on Bukit Larut and the surrounding areas. Other improvements should include interpretative and informative sign boards. The forest trail needs to be reopened for public use. A tourism package for Bukit Larut and the surrounding area of Taiping, Ipoh and Kuala Sepetang should be developed.

It is recommended that the information compiled in this study be used to develop a detailed management plan for Bukit Larut and its surroundings, which would provide the basis for an effective legal and administrative framework. The need to strengthen the protection of the biological diversity, ecological values and cultural assets should form the basis of this plan.

RINGKASAN EKSEKUTIF

Bukit Larut, yang dulu dikenali sebagai Maxwell Hill, adalah tempat peranginan bukit yang terkecil dan tertua di Semenanjung Malaysia. Ia telah dinikmati selama satu abad kerana unsur-unsur tersendiri, seperti suasana tanah tinggi, warisan sejarah dan kebudayaan kaya. Bukit Larut juga menampung beberapa proses ekologi yang penting, terutama sekali peranannya sebagai kawasan tadahan air untuk Taiping dan bandar-bandar berdekatan.

Ekologi

Bukit Larut adalah sebuah gunung granit kecil yang terletak dalam Banjaran Bintang. Ia mempunyai cerun curam yang tidak stabil dan tidak sesuai bagi tujuan pertanian.

Bukit Larut mempunyai pelbagai flora yang unik, termasuk beberapa spesies yang endemik (iaitu, spesies yang tidak wujud di kawasan lain). Kepelbagaian biologinya yang kaya ini wujud dari adanya berbagai-bagai jenis tumbuhan yang terdapat di situ.

Haiwan yang menarik dan luar biasa yang terdapat di situ termasuklah Ungka Tangan Hitam, Tikus Dada Putih dan Kelawar Ladang Bukit Lawas. Bukit Larut juga dikunjungi 200 spesies burung. Antara spesies yang menarik termasuklah Falkon Belalang, Burung Rimba Kutia dan Kuang Cermin Gunung.

Potensi Pelancongan

Bukit Larut terletak di sebuah kawasan Perak yang boleh digalakkan sebagai sebuah pusat mustahak bagi eko-pelancongan di Semenanjung Malaysia. Bukit Larut sahaja tidak mempunyai daya menampung atau kemudahan untuk menjadi tarikan utama bagi pelancongan secara besar-besaran. Ia patut dikendalikan untuk pelancongan secara impak rendah, sebagai tapak rekreasi yang tersendiri, disebabkan ekologinya yang sensitif dan kepelbagaian biologinya yang kaya.

Isu-isu Pengurusan

Imej Bukit Larut patut dipelihara, dan maklumat lanjut mengenai kepentingannya sebagai kawasan tadahan air dan tempat berlindung bagi flora dan fauna.

Ia sebuah habitat yang sensitif disebabkan kepentingannya sebagai kawasan tadahan air. Oleh sebab lereng bukitnya tidak stabil dan mempunyai risiko hakisan yang besar, memang amat penting bahawa kawasan ini mengalami gangguan yang minima dan pembangunan di kawasan Bukit Larut tidak digalakkan. Rancangan pembangunan untuk kawasan yang di sekeliling Bukit Larut, seperti Taman Tasik, patut bersesuaian dengan tarikan semula jadi kawasan itu dan keperluan pengguna sekarang dan penduduk tempatan.

Tiga kumpulan pengguna Bukit Larut telah dikenalpasti - tiga kumpulan orang tempatan dan tiga dari luar negeri. Kepentingan kesemua kumpulan ini tidak bertentangan. Pembangunan kemudahan tambahan atau baru tidak perlu di Bukit Larut, tetapi peningkatan kemudahan yang sedia ada amat diperlukan.

Jalan masuk ke puncak Bukit Larut masih mencukupi. Walaupun begitu, perkhidmatan jeep ke puncak perlu dipertingkatkan lagi. Sebuah sistem membahagikan jalan itu dalam beberapa bahagian patut diwujudkan untuk meningkatkan lagi kecekapan.

Sebuah kajian daya menampung patut dijalankan untuk menentukan bahawa ekologi dan kepelbagaian Bukit Larut tidak dicemari.

Garis panduan untuk kegiatan pelancong ke Bukit Larut juga perlu diwujudkan. Antara kegiatan yang diadakan sekarang termasuk berjalan di tepi jalan, merentas desa dan berkelah.

Isu keselamatan pelawat patut diberi perhatian di Bukit Larut. Sifat tidak stabil lereng bukit, orang berjalan kaki di jalanraya dan adanya jeep di jalan yang berliku-liku semuanya berpotensi membahayakan nyawa. Tindakan keselamatan yang perlu termasuklah tanda amaran dan had kelajuan.

Bayaran tambang jeep ke tapak-tapak di Bukit larut tidak patut diubah sehingga kemudahan telah dipertingkatkan lagi. Kami mencadangkan bayaran masuk tidak patut dikenakan. Pelawat patut dimaklumkan tentang tujuan bayaran-bayaran yang dikenakan dan bagaimana ia memberi sumbangan kepada pengendalian Bukit Larut.

Banglo-banglo perlu dipertingkatkan lagi, sambil memelihara struktur-struktur asalnya. Syor-syor lain termasuk memperbaiki alat pemanas, air panas, kemudahan layan diri dan hiasan dalam yang lebih menarik.

Isu Undang-Undang dan Pentadbiran

Tahap perlindungan Hutan Simpan Bukit Larut (HSBL) perlu diperkuatkan lagi. Peruntukan undang-undang tambahan dan sokongan untuk meningkatkan lagi tahap perlindungan HSBL termasuk pewartaan kawasan tadahan air di bawah Akta Perhutanan Kebangsaan 1984 atau Enakmen Lembaga Air Perak 1988. Bukit Larut atau sebahagiannya juga boleh diwartakan sebagai tanah bukit atau dikhaskan untuk penggunaan awam dibawah Akta Pemuliharaan Tanah 1960. Langkah-langkah undang-undang tambahan seperti ini tidak akan menyebabkan perubahan besar dalam pengurusan Bukit Larut. Pilihan yang lebih kukuh untuk perlindungan Bukit Larut termasuk mengisytiharkan Bukit Larut sebagai Tapak Warisan Kebudayaan atau/dan Tapak Warisan Hijau, di bawah Enakmen Warisan Kebudayaan yang baru-baru ini digubal, atau mewartakan Bukit Larut sebagai sebuah Taman Negeri dengan membentuk sebuah Enakmen Taman Negeri untuk Perak. Kedua-dua pilihan kukuh ini akan melibatkan perubahan dalam struktur pengurusan dan pentadbiran Bukit Larut.

Pembangunan Perkhidmatan Pelawat

Pengalaman pelawat ke Bukit Larut boleh diperbaiki dengan peningkatan perkhidmatan pelawat di situ. Sesuatu komponen penting untuk ini ialah perlunya ada bahan tafsiran atau interpretatif. Dicadangkan bahawa sebuah Pusat Tafsiran/Maklumat diwujudkan di tempat masuk Bukit Larut untuk memberi pelawat maklumat tentang Bukit Larut dan kawasan sekelilingnya. Denai hutan perlu dibuka semula untuk kegunaan orang awam. Pakej pelancongan untuk Bukit Larut dan kawasan sekeliling Taiping, Ipoh dan Kuala Sepetang perlu diwujudkan.

Disyorkan bahawa maklumat yang dikumpulkan dari kajian ini digunakan untuk membentuk sebuah pelan pengurusan terperinci untuk Bukit Larut dan kawasan sekelilingnya, dan ini boleh digunakan sebagai asas untuk sebuah rangka undang-undang dan pentadbiran. Asas pelan ini adalah keperluan untuk mengukuhkan perlindungan kepelbagaian biologi, nilai-nilai ekologi dan kebudayaannya.

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BUKIT LARUT
& Its Surroundings, Perak, Malaysia

ERA
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MALAYSIA



CHAPTER 1: BACKGROUND

1.1 INTRODUCTION

Bukit Larut is the smallest and oldest of the hill resorts in Peninsular Malaysia. It is located 9 km from the town of Taiping, in Perak, and about 304 km from Kuala Lumpur (see Map 1). The peak of Bukit Larut is c.1410 m asl. A hill resort was built on Bukit Larut in the 1880's comprising of several bungalows and rest houses. Apart from Bukit Larut itself, other principal attractions within the vicinity of Bukit Larut are the Taiping Lake Gardens (ex-tin mining land and pool) which incorporate the Taiping Zoo and a 9-hole golf course (Rancangan Tempatan, 1996).

Development on Bukit Larut and its surroundings has for many years remained small scale. Early in 1997, however, the Perak State Government approved a RM 320 million project to develop Bukit Larut. The planned development included among others, three-storey four star hotels, a highland flower garden, lookout tower, seminar centre and a 400 m suspension bridge. The aim of the project was to enhance the tourism potential of Bukit Larut which was considered by the State to have not been fully exploited. Following objections on the proposed development from residents and several Non-Governmental Organisations (NGOs) as well as some political pressures, the State Government in June 1997, announced its decision to review the project with the view of either scaling down or shelving the project altogether. In July 1997, the State Government announced that all major projects at the Bukit Larut hill resort and Taiping Lake Gardens had been cancelled following strong protests from residents and consumer groups (see Appendix 1). The only plans that were known to continue were those to renovate the existing bungalows and rest houses at Bukit Larut at a cost of RM 2 million.

The Federation of Malaysian Consumers Associations (FOMCA) thereafter requested WWF Malaysia to conduct a biological study on Bukit Larut and the Lake Gardens to collate and synthesise scientific information on Bukit Larut in order to provide the background and reference for developing a detailed management plan appropriate to the area.

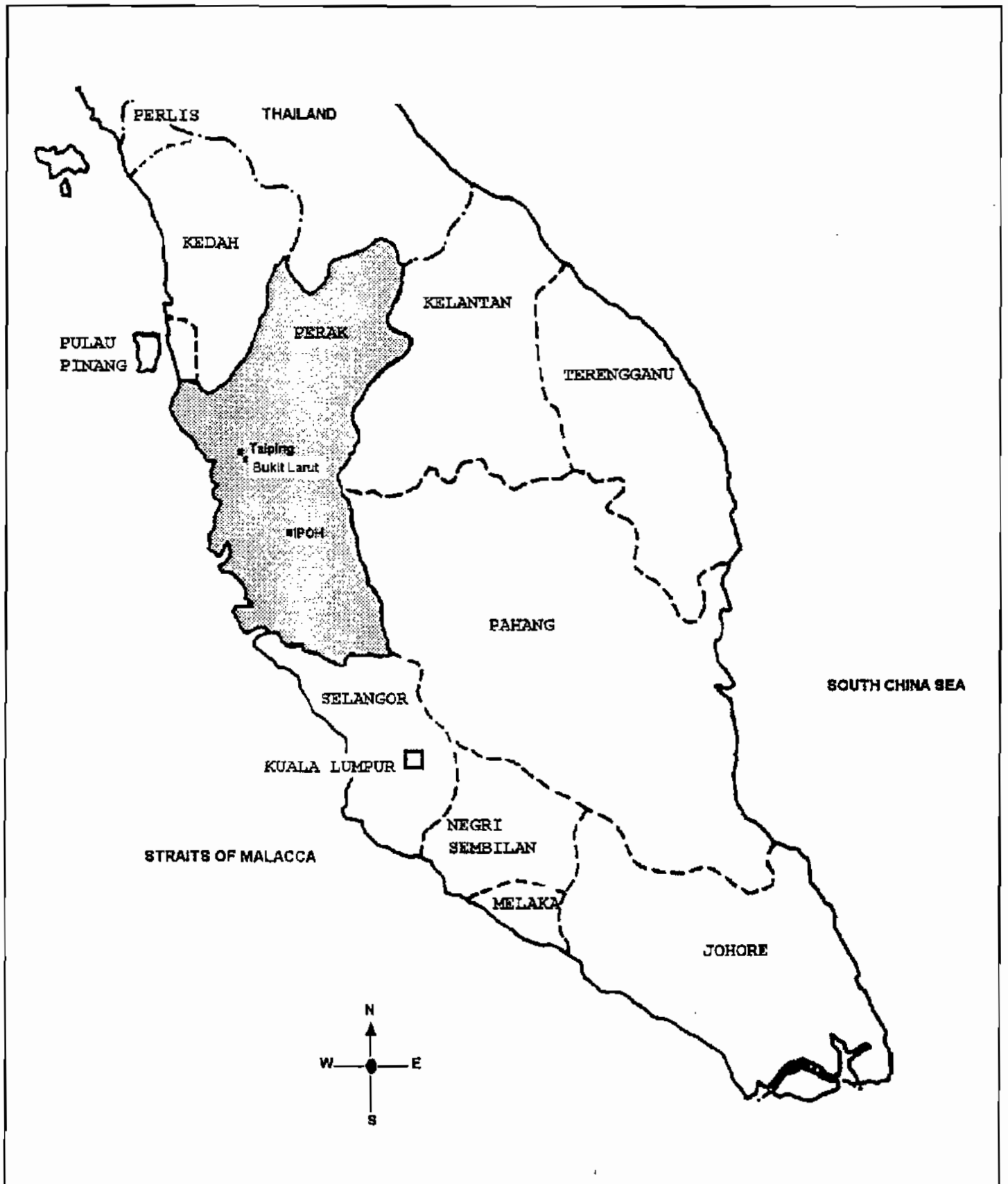
1.2 UNIQUE ECOLOGICAL AND HERITAGE VALUE

For most visitors to Bukit Larut, the hill evokes a special response. Bukit Larut has long been known as a place possessing not only a unique highland atmosphere, but also a rich history with heritage and cultural assets. It is also a place of immense sentimental value to generations of Taiping residents.

1.2.1 Natural Atmosphere

The natural and peaceful atmosphere of Bukit Larut has been appreciated for over a century. The residents of Taiping, and other visitors, feel strongly and are passionate about the hill and view it as a perfect haven and escape from the pressures and noisy environment of urban life.

Bukit Larut is located in an area where there is little traffic and development. The hill has a pleasant, cool temperature, spectacular views and is a quiet, tranquil place. The range of birds, plants and animals on Bukit Larut also lend to its unique and natural atmosphere.



Map 1: Location of Bukit Larut, Peninsular Malaysia

1.2.2 Historical and Heritage Value

Bukit Larut, formerly known as Maxwell Hill, is the oldest hill resort in Malaysia. It was founded approximately a 100 years ago and named after George Maxwell, a British resident of Perak. As such, Bukit Larut embodies historic, architectural and aesthetic values which should not be overlooked. Bukit Larut was opened in the year 1884 as a retreat for the British. There are several buildings of historical significance on Bukit Larut. These include several bungalows which are still in use today. The Cottage was built in 1884, for the Resident General of Perak. It is now used for the staff of Telekom Malaysia. Bungalow Tempinis, formerly known as "Bungalow Treacher" was built in 1880 and Bungalow Cendana, formerly known as "The Hut", was built in 1889; both are used for accommodating visitors. The Tea Garden was built in 1887, and was a tea plantation for Assam Tea. There are few newer bungalows which have been built to accommodate visitors. The newer bungalows were also built to complement the old architectural style and charm of the area.



Plate 1: View of Bukit Larut from the Lake Gardens

1.3 CURRENT LAND AND ADMINISTRATIVE STATUS OF BUKIT LARUT

The Bukit Larut Forest Reserve (BLFR), is a Permanent Forest Estate (PFE) gazetted under Section 7 of the National Forestry Act 1984. It is divided into 26 compartments, six of which constitute a Virgin Jungle Reserve (VJR); compartments number 41, 42, 43, 44, 45 and 46 (see Map 2). The total area of the BLFR is about 6878.30 ha, 2247 ha of which comprises of the VJR (Pejabat Hutan Daerah Larut dan Matang, 1997).

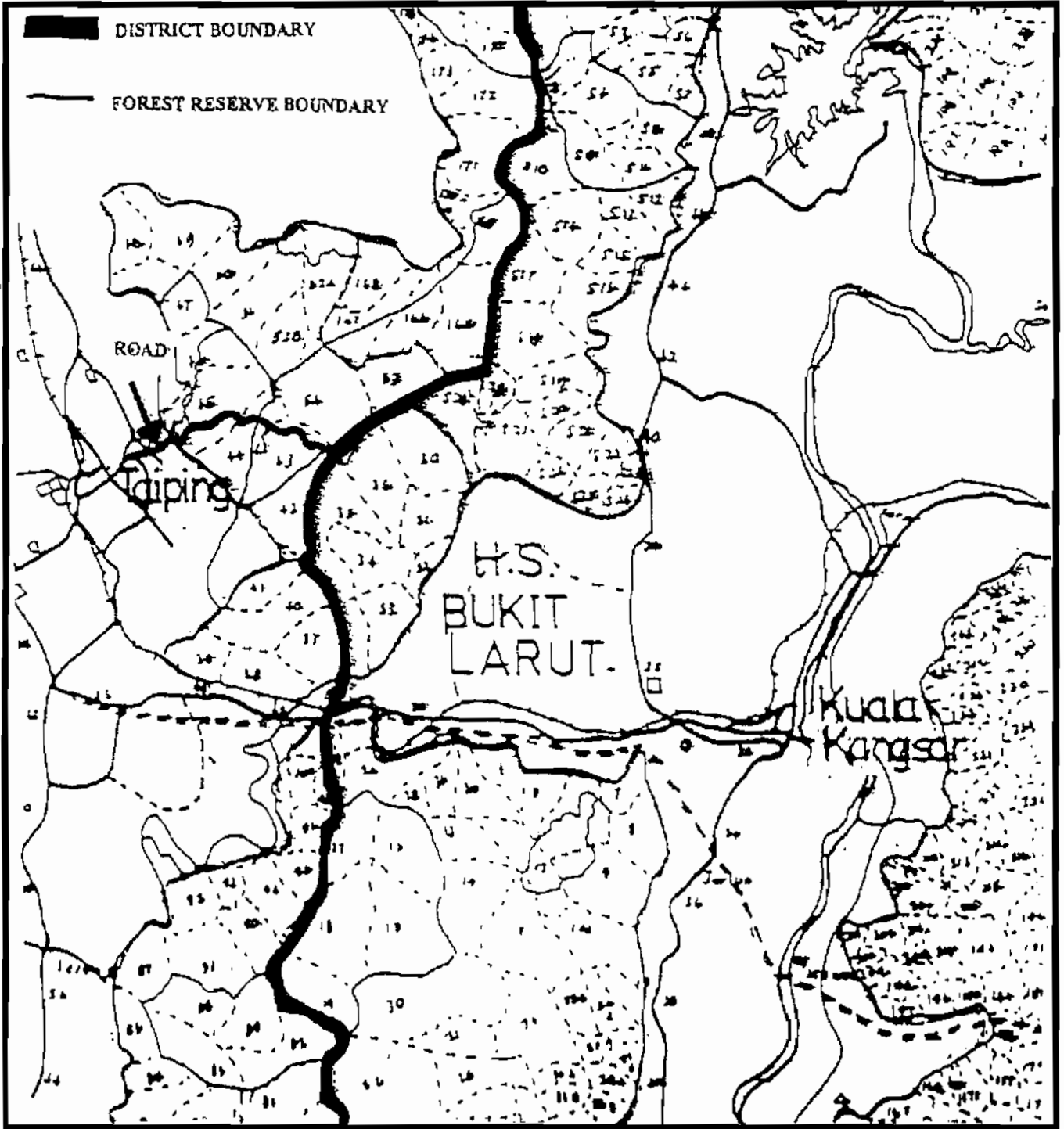
The BLFR is managed by the Perak State Forestry Department. As the BLFR straddles two districts, that of Larut Matang and Kuala Kangsar, the management of the BLFR is by the respective District Forestry Officers. Information on the existing use of the forest resources, e.g. Production Forest, selectively logged areas, etc., was unavailable during this study. The categories of the other compartments (e.g. soil protection forest, water catchment forest, educational forest, etc.) were also unavailable.

The forested areas (approximately 18 forest compartments) in the Larut Matang District section, which constitute the BLFR is popularly known as Bukit Larut or Maxwell Hill. As mentioned in the earlier sections, Bukit Larut has been used as a hill resort by many locals as well as foreigners since the colonial days. We are informed that all 6 compartments of the VJR and three important water catchment areas are on the side of the Larut Matang District. It is important to note that although the District Forestry Officer has the management authority over the forest reserves in Bukit Larut, there is a unique arrangement/ understanding which evolved historically whereby the road to the peak of Gunung Hijau and all the bungalows along the road are under the jurisdiction of the District Office of Taiping. The maintenance of the road however is the responsibility of the Public Works Department (Jabatan Kerja Raya).

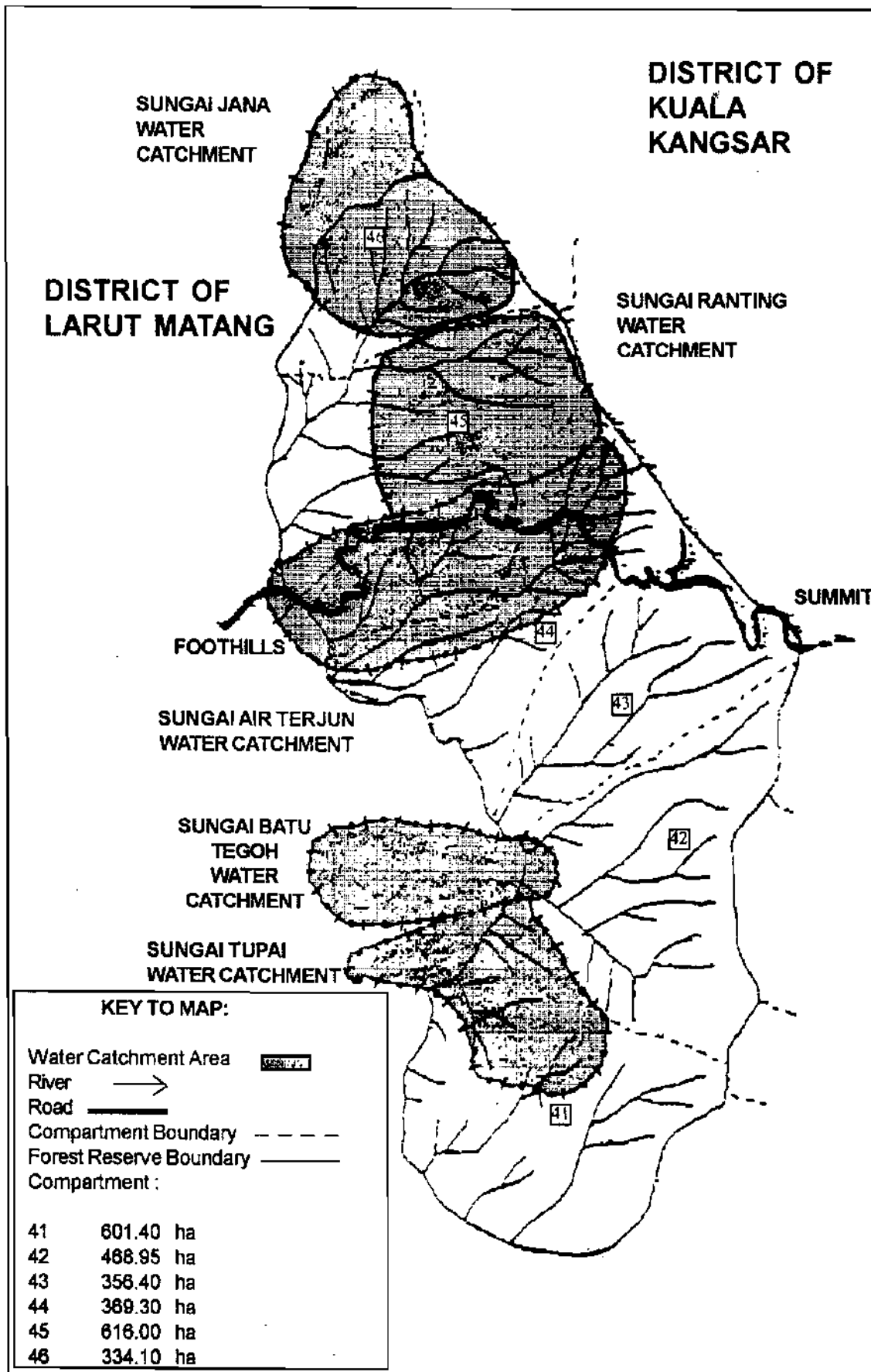
Water supply for Bukit Larut and Taiping is the responsibility of the Perak Water Board (Lembaga Air Perak). The Perak Water Board is a statutory body which took over the responsibilities of the Department of Water Supply (Jabatan Bekalan Air). As mentioned earlier, Bukit Larut is an important water catchment for the Larut Matang District, particularly for the township of Taiping. Notably, there are three major water catchment areas in Bukit Larut (Sungai Jana, Sungai Ranting and Sungai Air Terjun) and the Perak Water Board has water intake points in all the three water catchment areas (see Map 3).

The legal status of the three water catchments is unclear. It had been reported in the New Straits Times (10 June 1997) that, 'The Bukit Larut Forest Reserve is a gazetted water catchment area.' Checks with the various government agencies with responsibilities over the forest reserves and water catchment areas reveal some confusion as to the actual status of the catchment areas. Whilst it is clear that the catchment areas are located within the Forest Reserves, the question of whether these areas themselves have been specifically classified as water catchment forests as provided for under the National Forestry Act 1984 is still unconfirmed.

The confusion over the legal status of the water catchment areas may have arisen due, in part, to the recognition of the importance of these areas as the primary source of water supply for Taiping. It is possible that these areas have been assumed to be already legally protected as sources of water supply.



Map 2: Bukit Larut Forest Reserve, Showing Road to Summit from Taiping



Map 3: Water Catchment Areas in the Bukit Larut Forest Reserve

1.4 LOCAL LAND USE

The majority of the Bukit Larut area, in both the Larut Matang and Kuala Kangsar districts, is covered with natural forest. The BLFR is a Permanent Forest Estate. The only notable land use on the Taiping side includes the access road and bungalows and 3 Telecom towers at the peak of Bukit Larut. On the Kuala Kangsar side there appears to be a few *dusuns* which have been established on either side of the Tenaga Nasional high tension cables. It is not known if these are small-holdings or encroachment by local communities.

1.5 OBJECTIVES OF STUDY

The study would:

- a) Ascertain a preliminary assessment of flora and fauna of Bukit Larut.
- b) Ascertain compatible and multiple uses for the natural resources of the area.
- c) Recommend management options for the area.
- d) Recommend appropriate legal options for effective management of the area.

The outputs are intended to provide the basis for the development of a detailed management plan for Bukit Larut and its surroundings.

1.6 METHODS OF STUDY

The study was conducted during the period July - October 1997 in Kuala Lumpur, Ipoh and Taiping. Existing published papers and documents relating to Bukit Larut were consulted. Botanical and field surveys for mammals and birds were conducted and published literature provided additional faunal and botanical records. For regional, tourism and forest protection aspects, relevant agencies and people were consulted. Recent literature on nature tourism and carrying capacity were reviewed. A tourism consultant was appointed during July 97 to provide a broad view of the potentials for tourism with recommendations for the establishment of an ecotourism industry in the region (see section 3.4). Surveys of the bungalows on Bukit Larut were done to determine the statistics of visitors staying at Bukit Larut.

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CHAPTER 2: STUDY RESULTS AND DISCUSSION

2.1 ECOLOGY OF BUKIT LARUT

2.1.1 Geology and Soils

Bukit Larut lies within the Bintang range in northwestern Peninsular Malaysia. The range trends north-northeast on a regional scale. The Bintang granite range is represented by the mountainous granite terrain between the Perak River valley to the east and the alluvial plains of Taiping to the west. Three main peaks form this granite chain. The peaks consist of the centrally situated Gunung Hijau (1448 m) the highest point in the area, Gunung Biong (1218 m) to the north and Wray's Hill (1020 m) to the south. Granite forms most of the hills and mountains between the Perak River and the Taiping alluvial plain along the Perak coast (F.K. Yee, 1990).

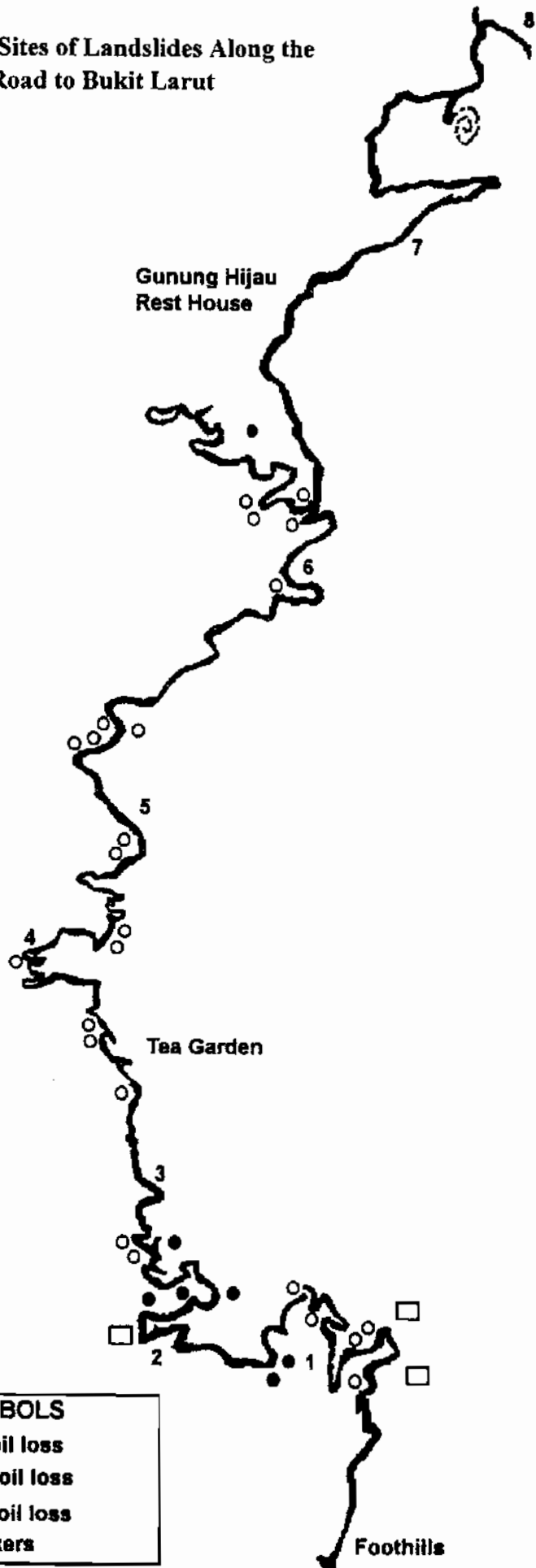
The area of Bukit Larut is classified as steep land according to the Soil Mapping Unit, as recorded by the Soil Survey Department (Schematic Reconnaissance Soil Map, 1970). This classification means that the area is not surveyed for its suitability to agriculture as it is too steep for this purpose. The area surrounding Bukit Larut includes granite, alluvium and organic deposits. Bukit Larut is also classified as an area with very high erosion risk based on rainfall and soil characteristics for Peninsular Malaysia (see Figure 1). Again, this means that the area is likely to suffer from major soil erosion if disturbed or developed upon. It is roughly estimated that soil loss around that area would amount to in excess of 150 tons/ha/year.

BOX 1: Landslides

The map of the road ascending Bukit Larut, (Map 4) shows the sites at which landslides were noted to have occurred during the recent past and therefore visible owing to the bare soil or scrubby new growth along the road. The sites are categorised according to the approximate amount of soil lost in the landslide. There are three categories: 0-5 m³ of soil loss; 5-50 m³ and >50 m³. The majority of the larger landslides were noted along the lower portion of the road, below the Tea Garden. Most of the soil that had been eroded was dispersed across the lower slopes, or piled up along the sides of the road, or had been carried away by surface wash into the roadside drains. There was little evidence of any repairs to the damage caused by these landslides. In some cases, the soil had spilt over the road and continued down the slope. This can obviously pose dangers to vehicles and pedestrians using the road and may destabilise slopes further downhill. There is a need to stabilise the sides of the existing road, and to clear the sides of the road of the soil lost in previous landslides. The unstable nature of the slopes is apparent from the number of landslides that were noted. It is therefore advisable that any further work in relation to the road be carefully planned. It seems that widening the road would prove impossible without causing further landslides and danger to the road user's safety.

Map 4: Sites of Landslides Along the Road to Bukit Larut

Telekom Towers



KEY TO SYMBOLS

- 0-5 m³ soil loss
- 5-50 m³ soil loss
- >50 m³ soil loss
- 1- 8 mile markers

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2.1.2 Hydrology and Climate

Bukit Larut has an annual average rainfall of 5030 mm. It is interesting to note that Taiping receives the highest annual rainfall for low-lying areas throughout Peninsular Malaysia.

The characteristic features of the climate in this region are uniform temperature throughout the year, moderate humidity and copious rainfall. The most variable of these is probably rainfall, which depends mainly on the northeast and southwest monsoons. The period of maximum rainfall is between the months of October and November, and that of minimum rainfall between January and February. Taiping and Kuala Kangsar which are separated by only 32 km, have annual averages of 4318 and 2032 mm respectively.

The temperature is less variable, with the exception of elevated areas. The mean annual average temperatures for Taiping and Kuala Kangsar are 27.4 °C and 27.5 °C, respectively. Both towns have an amplitude of mean monthly temperature variation of 1.7 °C. Bukit Larut shows a marked temperature drop; its annual average is 21.1 °C, nevertheless the amplitude of temperature variation is still 1.7 °C. The mean annual relative humidity for towns in and around the area is quite variable. Taiping and Kuala Kangsar show moderate to low percentages of relative humidity. Bukit Larut shows a relatively high reading of 83.5% of average relative humidity (F.K. Yee, 1990).

In comparison, Cameron Highlands has a mean temperature of 19 °C, an annual average rainfall of 2420 mm and average relative humidity of 87% (B. Perumal, 1996).

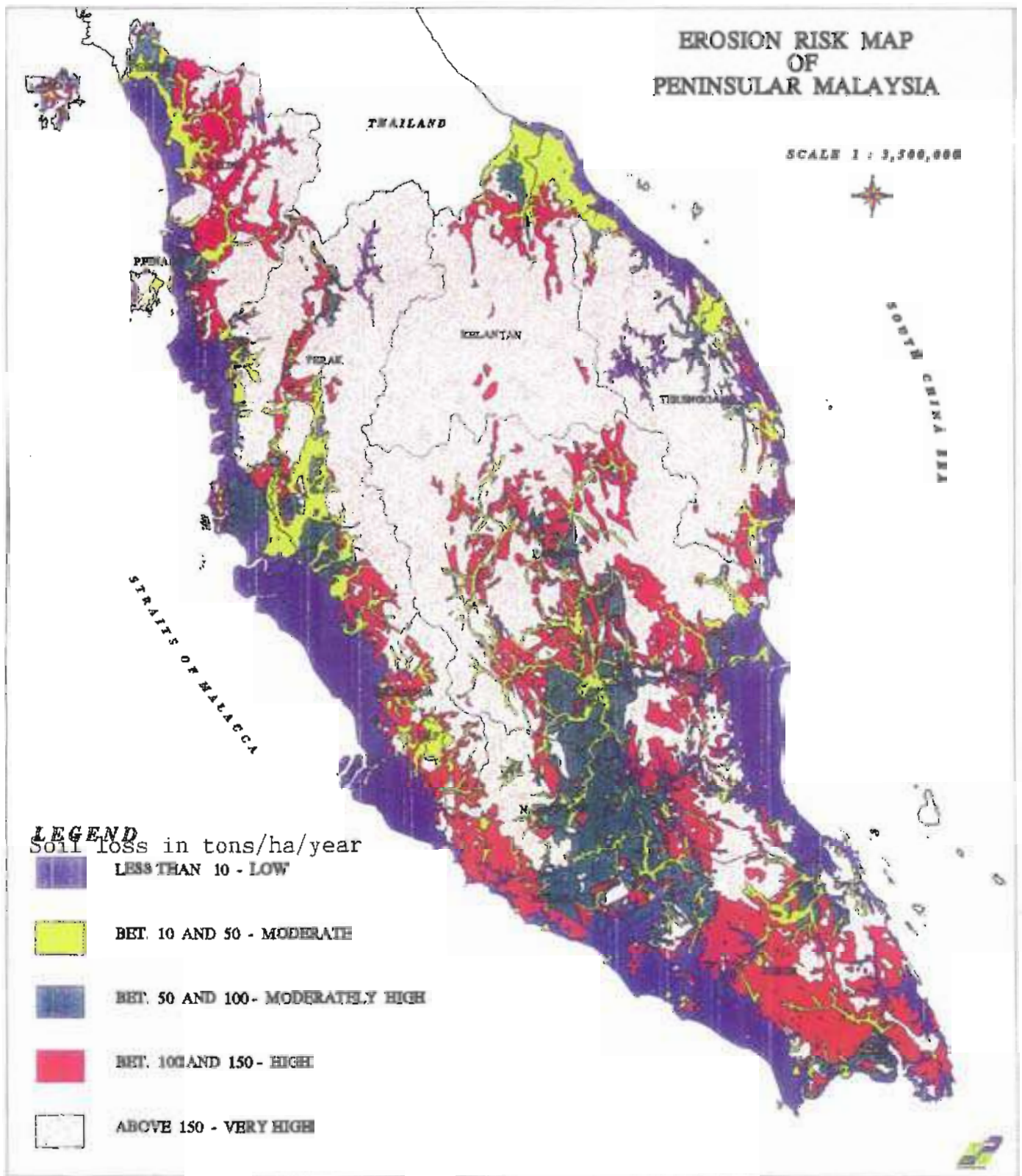


Figure 1: Soil Erosion Risk Map for Peninsular Malaysia

2.1.3 Forests and Flora

To date, Burkill & Henderson (1925) provides the only existing, comprehensive documentation of the flora of Bukit Larut. It gives a checklist of about 1980 flowering plant species, of which 1,449 species (or 3/4 of the total) are believed to have its origins in Bukit Larut. By comparison, recorded numbers of flowering plants at both Fraser's Hill and Genting Highlands, stood at 834 and 460 species, respectively (Kiew, 1992 & Stone, 1984). Going by these figures alone, Bukit Larut certainly possesses one of the richest flora for any hill station within the country.

Many factors could explain the high diversity of flora recorded in this area. The most significant of these would be the long history of plant collection that has been carried out within the area (which apparently can be traced back to as early as 1877). Even today, the fact still remains that Bukit Larut is one of the best studied areas within the Peninsula. Another reason for the high biodiversity is that Bukit Larut encompasses a wide range of vegetation types. The lowland dipterocarp forest begins at about 200 feet asl, at the foothills, while the upper montane forest begins at about 4,650 feet asl, at the peak of Gunung Hijau. The lowland forest here (comprising of about 1,000 species), is as diverse as any other in the Peninsula, in terms of species richness. Bukit Larut demonstrates a flora typical to that found in the highlands within the rest of the Peninsula (See Appendices 2, 3 & 4). However, the montane forest also has its share of many rare and endemic species.

Rare and endemic species known to Bukit Larut include:

- | | |
|--|--|
| <i>Asplenium perakense</i>
(Dennstaedtiaceae): | A fern species endemic to Peninsular Malaysia. |
| <i>Asplenium scortechinii</i>
(Dennstaedtiaceae): | A fern species endemic to Peninsular Malaysia. |
| <i>Athyrium subintegrum</i>
(Dennstaedtiaceae): | A fern species endemic to Peninsular Malaysia. |
| <i>Chisocheton perakensis</i>
(Meliaceae): | Endemic tree species with very restricted distribution at Bukit Larut. |
| <i>Ctenopteris subminuta</i>
(Grammitidaceae): | A very rare fern in Peninsular Malaysia. |
| <i>Erycibe magnifica</i>
(Convulvulaceae): | A very rare tree species, also an endemic to Peninsular Malaysia |
| <i>Galeola javanica</i>
(Orchidaceae): | An orchid species known only from Cameron Highlands and Bukit Larut. |
| <i>Garcinia costata</i>
(Clusiaceae): | A tree species endemic to Peninsular Malaysia |

- Gordonia taipingensis*
(Theaceae): A tree species restricted to Perak - common around 1,000 metre asl in Bukit Larut.
- Grammitis crispatula*
(Grammitidaceae): A fern species endemic to Bukit Larut.
- Impatiens curtisii*
(Balsaminaceae): A forest herb endemic to Bukit Larut.
- Lecythidaceae sp. B*
(Lecythidaceae): A tree species endemic to Bukit Larut.
- Manglietia sp. nov.*
(Magnoliaceae): A tree species endemic to Bukit Larut.
- Phoebe scortechinii*
(Lauraceae): Recorded from montane forest at Bukit Larut - a tree species endemic to Peninsular Malaysia.
- Ptychopyxis costata var. oblanceolata*
(Euphorbiaceae): A tree species endemic to Peninsular Malaysia
- Rafflesia hasseltii*
(Rafflesiaceae): A very rare parasite of the forest vine, *Tetrastigma sp.* found towards the north of Peninsular Malaysia.
- Rhododendron robinsonii*
(Ericaceae): An epiphytic species endemic to Peninsular Malaysia.
- Symplocos crassipes var. ernae*
(Symplocaceae): A very rare plant, only once collected from Bukit Larut.
- Thelypteris beddomei*
(Thelypteridaceae): An endemic fern species restricted to Bukit Larut.
- Thelypteris pectiniformis*
(Thelypteridaceae): A fern species endemic to Peninsular Malaysia.



Plate 2: *Nepenthes sanguiana*



Plate 3: *Rhododendron aeschynanthus*

2.1.4 Fauna

Vertebrate Fauna: Mammals

No comprehensive work has ever been done on the mammals of Bukit Larut. Various collections were made after the establishment of the Perak Museum, and some of these specimens later entered the holdings of the Raffles Museum of Singapore, the British Museum (Natural History), or the University of Malaya. A list of mammals was compiled from these records, from casual observations and from the present study which involved transect walks through lowland, hill and montane forest formations. It is apparent that the forest of Bukit Larut supports a mammal fauna typical of the rest of Peninsular Malaysia, with a few specific and interesting exceptions.

The main points of significance are the presence of the Agile (Dark-handed) Gibbon, rather than the White-handed Gibbon, and the absence of the Siamang. The Agile Gibbon in Peninsular Malaysia is confined to the area between Sungai Perak and Sungai Muda. The Siamang only occurs in hilly areas of Peninsular Malaysia south and east of Sungai Perak. Other absences, such as the lack of Seladang which probably once occurred in the area, may result from habitat loss and former hunting. The Sumatran Rhinoceros *Didermoceros sumatrensis* is known from nearby forest in Selama to the north, and might occur sometimes in the vicinity of Bukit Larut.

Interesting species that are known or reported to occur include:

Grey Fruit Bat *Aethalops alecto*
Glossy Horseshoe Bat *Rhinolophus refulgens*
Lawas Roundleaf Horseshoe Bat *Hipposideros sabanus*
Schreiber's Bat *Miniopterus schreibersii*
Common Treeshrew *Tupaia glis*
Dusky Leaf-monkey *Presbytis obscura*
Banded Leaf-monkey *Presbytis melalophos*
Long-tailed Macaque *Macaca fascicularis*
Pig-tailed Macaque *Macaca nemestrina*
Black Giant Squirrel *Ratufa bicolor*
Grey-bellied Squirrel *Callosciurus caniceps*
Himalayan Striped Squirrel *Tamiops maccllellandii*
Polynesian Rat *Rattus exulans*
White-bellied Rat *Rattus bukit*
Red Spiny Rat *Rattus surifer*
Malayan Mountain Spiny Rat *Rattus inas*
Long-tailed Giant Rat *Rattus sabanus*
Brush-tailed Porcupine *Atherurus macrourus*
Clouded Leopard *Neofelis nebulosa*
Leopard *Panthera pardus* (both black and spotted phases)
Tiger *Panthera tigris*
Tapir *Tapirus indicus*
Wild Pig *Sus scrofa*
Barking Deer *Muntiacus muntjak*
Serow *Capricornis sumatraensis*

Bukit Larut is special and interesting for mammals, for various reasons. These include:

- 1) Rare species. The Lawas Roundleaf Horseshoe Bat is very rarely recorded, with fewer than 20 records from Peninsular Malaysia (e.g. Krau Wildlife Reserve; Fraser's Hill; Pasoh Forest Reserve) and Bukit Larut is one of its few known sites. The White-bellied Rat is known only from the northern region of Peninsular Malaysia. The Agile Gibbon is confined to the area between Sungai Perak and Sungai Muda.
- 2) Biological Interactions. It is a case of being located in the relatively isolated Bintang mountain range (i.e., separate from the Main Range), and the absence of some montane mammals such as the Red-cheeked Ground Squirrel *Dremomys rufigenis* that has allowed certain lowland mammals to extend much higher than they normally do. An example is the Grey-bellied Squirrel which is able to reach 4,750 ft here, well above its normal range elsewhere in Peninsular Malaysia.
- 3) Representativeness of the mammal fauna. Bukit Larut has a wide range of mammal species, certainly a much longer list than that given above. The existence of relatively undisturbed forest within the Virgin Jungle Reserve, where logging is prohibited, ensures that this representative example of the mammal fauna of Peninsular Malaysia is well protected.
- 4) Buffer Zone. Since Bukit Larut is close to Bintang Hijau Forest Reserve, Selama and contiguous with the forests to the north, it provides valuable buffer habitat between those forests and the populated west coast for the Sumatran Rhinoceros population which is known to occur there as recently as 1992.

Birds

About 200 species of birds have been recorded, before and during the present study, from Bukit Larut and from the Lake Gardens in Taiping (see Appendix 5). The total that could be found is expected to be in the region of 250; the montane birds found here are quite well known, but the lowland birds have not been listed with so much thoroughness. Bukit Larut is almost as rich as Fraser's Hill, and provides easier, undisturbed birdwatching as compared to Cameron Highlands.

Some species of special interest include the Peregrine Falcon, the Cutia (first recorded at Bukit Larut in 1993), the Mountain Peacock-pheasant and other montane species. Bukit Larut is an area from which montane pigeons such as the Mountain Imperial Pigeon and the Wedge-tailed Pigeon disperse into the lowlands to feed during daylight hours. It is also a site from which the migration of birds of prey, such as Crested Honey-buzzards, can be watched at the appropriate seasons, in October and April.

Amongst the outstanding birdwatching areas (not listed in order of importance) are:

- 1) The Lake Gardens (for birds of gardens and open country)
- 2) The Recreational Forest area and the road above it (for lowland forest birds)
- 3) The Tea Gardens area (an area of transition between lowland and hill country birds)

- 4) The road from Gunung Hijau Rest House to the Telecom towers (for montane birds)
- 5) The peak of Gunung Hijau (for birds moving over the forest canopy, and higher level montane birds)



Plate 4: *Buceros Rhinoceros*

2.2 SUMMARY

Bukit Larut has very high rainfall, and steep slopes. Not only does this make it extremely important as a water catchment area (see Sections 1.3 & 4.2.1) for Taiping and surrounding towns, it also means that forest removal or earthworks would result in relatively great erosion risk. It potentially harbours an outstanding diversity of both flora and fauna. A more detailed study is needed to record the full richness of biodiversity in the area, as well as ensure the legal status of the important water catchment areas for protection and management.

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CHAPTER 3: ASSESSMENT OF EXPANDING TOURISM POTENTIAL FOR BUKIT LARUT

3.1 REGIONAL CONTEXT

Bukit Larut has a rich diversity of biological, ecological and cultural values. Bukit Larut also lies within a region in Perak, that could be promoted as a significant centre for ecotourism in the Peninsula.

BOX 2: Ecotourism is defined by the IUCN (World Conservation Union) as:

"environmentally responsible travel and visitation to relatively undisturbed natural areas, in order to enjoy and appreciate nature (and any accompanying natural features, both past and present) that promotes conservation, has low visitor impact, and provides for beneficially active socio-economic involvement of local populations."

At present, the Bukit Larut area is not widely promoted for its natural features. Bukit Larut's popularity is mainly limited to the residents of Taiping and Ipoh and has not been widely publicised throughout the Peninsula. The potential for Bukit Larut to become a major tourist attraction is limited, but other areas within Taiping and Ipoh have the capability to improve their tourist numbers. Within a regional tourism strategy, Bukit Larut could provide a unique recreation attraction, whilst retaining much of its natural assets and value for enjoyment. The biological, ecological and cultural information base can contribute towards the development of a unique, but well managed tourism experience.

3.2 OVERALL ASSESSMENT

Bukit Larut, with its rich biodiversity and important water catchment values and hydrological functions, is not suitable for development as a mass tourism attraction. The ecological sensitivity of the area would be significantly affected by inappropriate development projects and frequent human use. There is also the lack of special focal attractions for mass tourism. It is therefore regarded as inferior to other hill resorts in the Peninsula such as Cameron Highlands, Fraser's Hill and Genting Highlands, although it does have potential as a component of other tourist attractions in the area. Bukit Larut however, offers tourists a special destination, where development and mass tourism have not spoilt its natural beauty. For this reason, it should be targeted as a quiet and peaceful location.

3.3 EXISTING RELEVANT INFRASTRUCTURE AND LOCAL SITES OF INTEREST

Bukit Larut is easily accessible from Kuala Lumpur by the North-South highway via Taiping. The access road, from Taiping, into Bukit Larut itself, is restricted to government jeeps only. The jeep service is maintained by the District Office and operates on an hourly basis between 9 am to 5 pm, but this schedule is not strictly adhered to. Often, if the numbers of tourists wanting to ascend is high, two or three jeeps will operate simultaneously. The distance from the foot of the hill to the summit is approximately 13 km. It takes about 30 minutes to reach the administrative centre, located at 1,036 m asl and 9.5 km up the hill. On Bukit Larut there are five bungalows available to the public, which can accommodate about 55 people at any one time, and two VIP bungalows (see Figure 2).

Halfway up the hill at 656 m asl, is the Tea Garden which no longer has tea bushes and is only a checking station for passengers on the jeeps. Further uphill there are various picnic and viewing sites. At the foot of Bukit Larut is the educational forest (Hutan Lipur) which has some trails and waterfalls.

The town of Taiping offers many attractions other than Bukit Larut. There are several historical buildings such as the Taiping Rest House (1870), the Prison (1885), and the British Resident's Residence (1877). Several other attractions include the Taiping Zoo, the first zoo in the country; the Lake Gardens (1880), the oldest of its kind in Malaysia; and the Burmese Pool, the first swimming pool to be built in Malaysia in 1870, unique in that the water comes from Bukit Larut. Other tourist sites in Taiping include the Central Market and the Perak Museum (Rancangan Tempatan, 1996).

The region surrounding Taiping also offers a variety of tourist spots. At Kuala Sepetang there is the Port Weld fishing village, which currently offers visitors a boat tour of the mangrove islands. On these mangrove islands there are several archaeological sites. The Matang Mangrove Forest Reserve is also located in the vicinity of Kuala Sepetang. It is renowned as the best managed mangrove forest in the country, with a ten year management plan. Other attractions include the Durian *dusuns* at Bukit Gantang, the Kuala Gula bird sanctuary, the Kota Ngah Ibrahim Historical complex and the Long Jaafar old fort.

3.4 POTENTIAL FOR EXPANSION OF LOCAL TOURISM

Based on the information above there are many areas in and around Taiping that are worth visiting. The potential for the expansion of tourism in this region does exist, but will require careful planning and promotion. Bukit Larut cannot be made the focal attraction due to its limited capacity and facilities. It can however be planned as part of a tourism circuit in this region of Perak. The expansion of the local tourism industry will require several measures to be taken to improve and promote the existing sites. Bukit Larut, alone, can improve its visitor numbers with a revised management strategy, but it should not attract mass tourism. This also applies to the Lake Gardens, which is seen more as a recreational area for local residents than a major tourist attraction.

3.5 SUMMARY

Tourism within the area of Taping and Ipoh has potential to be improve. Bukit Larut itself should be maintained as a unique, low-impact tourist destination due to its ecological sensitivity and rich biodiversity. Areas surrounding Bukit Larut within the district of Larut Matang, can be more effectively promoted for tourism through the development of an integrated, regional tourism strategy.

Recommendation: Bukit Larut should be maintained for low impact tourism, by keeping the numbers of visitors to Bukit Larut at approximately the current level. Before higher levels are considered, more detailed inventories, records and awareness need to be established. It is recommended that tourism be enhanced in Bukit Larut by building it into regional tourism circuits and packages.

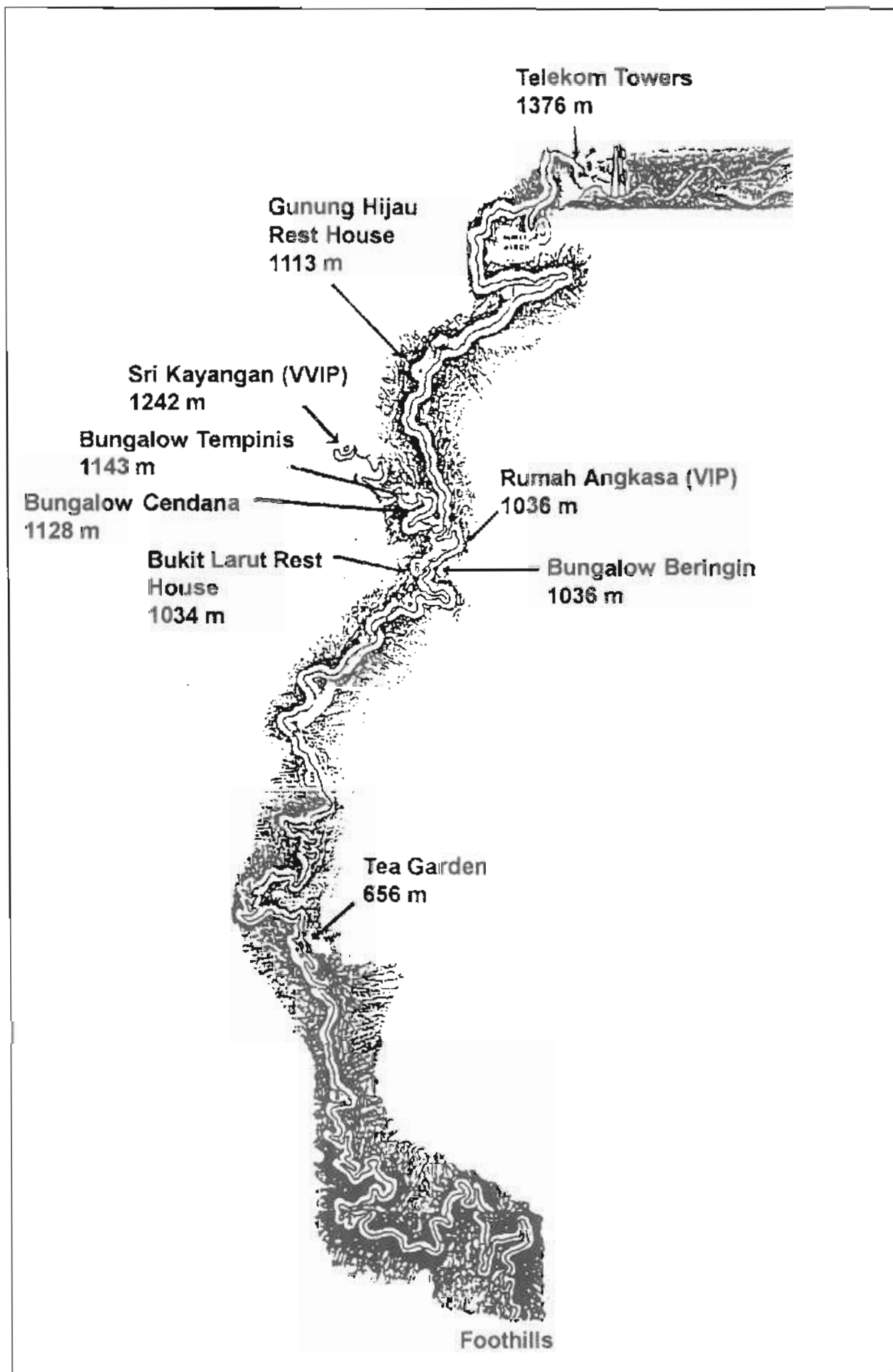


Figure 2: Bungalows Along the Road to Bukit Larut

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Chapter 4: ASSESSMENT OF MANAGEMENT ISSUES, NEEDS AND OPTIONS

The rich diversity of biological, ecological and cultural values and assets need to be managed within an integrated framework. Many management issues need to be reviewed. Some are highlighted here.

4.1 IMAGE

Bukit Larut is most commonly referred to as Malaysia's "oldest and smallest hill resort". The attractions of Bukit Larut are its colonial heritage, cool weather and its undisturbed natural surroundings. The image of Bukit Larut needs to emphasise the sensitivity of the area to overuse either by people or through development.

Recommendation: The current image of Bukit Larut must remain as it is with some additional information on its importance as a water catchment area and a safe haven for flora and fauna. This image should be used to promote its value as a special tourist destination.

4.2 ECOLOGY AND LAND USE

4.2.1 Ecological sensitivity

Bukit Larut is a sensitive habitat for several reasons. The first and possibly the most important, is the function of the BLFR as a water catchment area (Draf Rancangan Struktur, 1990 - 2010). The role of forested areas includes the reduction of soil erosion, landslides and local flooding as well as regulating water streamflows. A change in the land use of Bukit Larut would alter its natural balance of water regulation and would cause siltation of the network of rivers, such as Sungai Ranting, Sungai Jana and Sungai Air Terjun, flowing into Taiping and its vicinity. Moreover, it was observed that a percentage of the road leading up to Gunung Hijau from the Tea Garden is shouldered by large granite boulders, roughly between 0.5-1 m in diameter. Thus any plans of widening or straightening the existing road runs the risk of causing landslides. Granite is very hard when first exposed to the atmosphere. However, after only a few years of weathering, it may become unstable on slopes (see Box 1).

The forest of the upper zones of Bukit Larut needs careful management and minimal disturbance. Once disturbed, the vegetation will regenerate only over long periods of time. The upper forest is also important in "capturing", storing and slowly releasing water from cloud (WWF Malaysia, 1994).

Recommendation: Bukit Larut is a sensitive habitat which requires minimal disturbance due to the unstable nature of its steep slopes and high erosion risk. Bukit Larut is also an important water catchment and future development plans should take this into account.

4.2.2 Surrounding Land Use

At present there is very little conflicting land use on Bukit Larut itself. There are however some development plans for the area surrounding Bukit Larut, such as the Lake Gardens area. It has been suggested that the golf course may be converted into a residential area or a shopping mall. The plans for the development of the area are still being reviewed and it is therefore uncertain what will eventually be approved.

Recommendation: Maintain the area as it is. A shopping mall or residential developments are incompatible with the natural attractions of the area. The Lake Gardens is used for recreation, relaxation, exercise and picnics by the local residents. It is a valuable asset to Taiping's residents and visitors, and should remain that way.

Any development on Bukit Larut itself should be carefully studied prior to approval. The importance of Bukit Larut as a water catchment area should play a large role in any approval process. Other problems that could arise from incompatible development include soil erosion, landslides and flash floods.

4.2.3 Summary of Ecology and Land Use

Bukit Larut is a sensitive habitat which requires minimal disturbance due to the unstable nature of its steep slopes and high erosion risk. Bukit Larut is also an important water catchment and future development plans should take this into account. The Lake Gardens is currently used for recreation, relaxation, exercise and picnics by the local residents. It is a valuable asset to Taiping's residents and visitors, and should remain that way.

4.3 VISITOR SERVICES

4.3.1 Potential Users

Based on the available information, it is estimated that there could be six main groups of potential users of Bukit Larut.

I. Local Groups:

(Including both local residents from Taiping, Ipoh and tourists from other parts of Malaysia)

- a. Nature-oriented family outings directed at Bukit Larut. With the existing facilities such as picnic areas and viewing points, Bukit Larut is already an ideal recreational site for families from the Taiping and Ipoh area. Further requirements would include better facilities for meals, waste disposal and interpretation facilities.
- b. Nature-oriented student outings. This group have similar requirements to those above.
- c. Local users who frequent Bukit Larut for different reasons such as, exercise, recreation, the cool weather, a weekend getaway, a day trip etc. For this group the main facilities that will need upgrading are the bungalows, the jeeps, the availability of meals and/or drinks and waste disposal facilities.

II. Foreign Groups:

- d. Leisure and general nature tourists. Bukit Larut may serve as a short stop-over point en route from other destinations around Perak, such as Pulau Pangkor. The facilities available to this group are limited. There is a need for more interpretative materials on the natural surroundings of Bukit Larut. Other improvements includes those mentioned above.
- e. Special interest tour groups. This type of tourists is not abundant at Bukit Larut as information on birdwatching, animals and plants is not readily available. There are cases though of such visitors hearing of Bukit Larut through word-of-mouth and visiting Bukit Larut to try to spot the clouded leopard or other interesting species.
- f. Low-budget tourists. Bukit Larut occasionally attracts such tourists, but again it is more through word-of-mouth. The facilities at Bukit Larut are extremely cheap in comparison to other hill resorts in the Peninsular and would therefore be attractive to backpackers. Other attractions for this type of tourist are also available at Bukit Larut, such as the natural surroundings. Facilities which need to be improved include jungle trails, interpretative materials, camping facilities, waste disposal and meal facilities.

Most of these groups are already existing, but their numbers could be increased if the recommendations provided in this document are considered. The groups are all compatible with one another. It must be stressed, however, that Bukit Larut should continue to focus on attracting Malaysian tourists. Bukit Larut, at present, attracts local tourists for various reasons such as its cool weather, pristine environment and remoteness. These are the attractions which should be highlighted and appropriately promoted as part of a regional tourism strategy.

In many countries in the world, domestic tourism is the number one source of tourism revenue. Domestic tourists travel more frequently and more regularly. Foreign tourists are not always reliable and destinations which suddenly become too popular, can easily be abandoned for other more exotic, untouched destinations. The development of a strong domestic tourism industry will ensure greater stability in the industry, even though the flow of foreign tourists may fluctuate from year to year.

Recommendation: It is not necessary to develop additional and extensive facilities at Bukit Larut. The only present needs include better facilities for meals and improved waste disposal, interpretation facilities and upgraded bungalows and jeeps.

4.3.2 Access

The existing access from Taiping to Bukit Larut through the Lake Gardens is sufficient for the number of tourists that frequent the area. It is also a beautiful drive through the Lake Gardens, the cemetery area and the Educational Forest (at the base of Bukit Larut) and this route should remain unchanged. The access road to the summit of Bukit Larut is one of the main attractions of Bukit Larut. The road is fairly narrow with 72 hairpin bends and is in relatively good condition. The road winds through the jungle, offering spectacular views of Taiping and the coastline. The width of the road is sufficient for only one jeep, going in only one direction, which does limit the number of tourists that can ascend.

There is a need to improve the efficiency of the jeep services to the peak of Bukit Larut. During the weekends, visitor numbers increase dramatically compared to week days. This often means that there are insufficient jeeps, drivers or time to transport all the visitors. What often happens then is several jeeps are sent up, and this sometimes becomes quite disorganised, whereby there are jeeps ascending and descending simultaneously. This is very dangerous and is likely to cause accidents if not monitored.

Recommendation: A system should be established where the road is divided into sections. The first section would be from the foot of the hill to the Tea Gardens. The second section from the Tea Garden to the administrative centre; the third from the administrative centre to Bungalows Tempinis, Cendana and the Gunung Hijau Rest House. There can be jeeps stationed at each of these points to transport visitors to their respective destinations. This system does exist in an ad hoc manner at present in Bukit Larut, but there is a need to refine the system further.

It is also necessary to ensure that regulations are adhered to both by the drivers of the jeeps and the passengers. The drivers are often distracted and drive quite recklessly and on such a road this can be fatal. The jeeps are meant to accommodate 8 people, but this has proven to be an overestimation and should be reduced to six. The jeeps are in fairly poor condition, they emit a lot of smoke which is unpleasant especially to visitors on foot. The jeeps should be regularly serviced and upgraded whenever possible.

4.3.3 Visitor Carrying Capacity - Optimal Use of a Tourism Site

BOX 3: Carrying Capacity

A study by C. Bann (1996) on maximising the economic and ecological benefits of ecotourism in Malaysia explains the fundamentals of carrying capacity:

"The visitor carrying capacity is the maximum number of visitors that can utilise a recreational facility without unacceptable degradation."

The carrying capacity of a recreational site can be measured according to several factors:

- (i) Physical factors: over supply of facilities;*
- (ii) Ecological/Environmental factors: natural resource degradation (environmental costs) e.g. changed animal behaviour, reduced number of species, erosion, or changes in water quality;*
- (iii) Aesthetic/Perceptual/Psychological factors: reduction of visitor enjoyment due to congestion or a degraded environment;*
- (iv) Social factors: hostility from the host community.*

In order for tourism to be sustainable (i.e. for returns from tourism to be maximised over the long term) the optimal carrying capacity (or optimal use of the tourism site) needs to be identified. Net profit (revenue minus costs) will increase with the number of tourists (more tourists, more revenue). However, if tourism expands beyond the carrying capacity of a site, the resulting negative physical, environmental, aesthetic and social effects will reduce the attractiveness and therefore the profitability of the tourist destination through a reduction in demand. It is therefore possible, and indeed often likely, for tourism to destroy tourism."

At Bukit Larut there have been no carrying capacity studies to date. As far as is possible to judge, the current number of visitors using Bukit Larut is at an acceptable level. It is however, necessary to determine the carrying capacity of Bukit Larut before any expansion of the tourism industry can take place. Several features of Bukit Larut restrict the number of visitors that can frequent the area. These include accommodation facilities and access to Bukit Larut. If these features are changed so as to allow more visitors into Bukit Larut, measures will have to be taken to ensure that the carrying capacity of Bukit Larut is not exceeded.

The carrying capacity of an area like Bukit Larut can be regulated through good management. The impact of tourism can be reduced by dispersing tourists in both space and time, or by concentrating them in other areas which have a higher carrying capacity. The potential for other sites within Taiping and Ipoh to be promoted for tourism is discussed further in relation to expanding the tourism potential in the region in Section 3.4.

Recommendation: A visitor carrying capacity study should be carried out as part of a management plan for Bukit Larut and its surroundings.

4.3.4 Visitor Activities to be Permitted

It is important to regulate the activities of tourists in an area. Regulations are required to ensure minimal damage to the area and the surrounding environment (M. Young, 1994). At present visitor activities are confined to walking along the road, some trekking and picnics. Other activities which may arise in the future should be compatible with those listed above. Examples of future activities include birdwatching, camping and forest trails.

Recommendation: Guidelines should be drawn up for what activities will be permitted and what will not be permitted on Bukit Larut, and these should be supported with appropriate facilities.

4.3.5 Visitor Safety

At present there are few measures in place at Bukit Larut to ensure visitor safety. A lot of visitors to Bukit Larut walk along the road. This cannot be avoided as there is only one road for both jeeps and pedestrians, it is however dangerous for several reasons. Firstly, the jeeps using the road drive quite fast around the hairpin bends where it is difficult to see what is around the corner. Some drivers warn both pedestrians and oncoming jeeps by honking, but this is insufficient. It would be safer to have signs warning pedestrians of traffic and to make it standard practice for the drivers to drive slowly at a speed limit of 20-30 km/h and horn at bends.

Other precautions should include signs where landslides have occurred in the past and could possibly occur in the future. Some of the areas where landslides took place (as discussed in Box 1) have not been properly cordoned off or repaired, and this could cause accidents. These areas should be attended to immediately to avoid unnecessary accidents.

The only existing jungle trail is that between Bukit Larut and Gunung Hijau. This trail is badly overgrown and very unsafe at present for tourist use. It is recommended that the trail be upgraded through selective clearing and marking. The trail should not be recommended to everyone, but target selected groups. There is also a possibility of visitors wandering off trails and into the jungle. This should be addressed again through clear markings and signposts warning against leaving the trail.

Recommendation: Visitor safety at Bukit Larut should be looked into bearing in mind the various users of the road. A speed limit should be set and enforced. Signs should be displayed warning pedestrians of oncoming traffic and landslides. Other safety measures for jungle trails should also be addressed.

4.3.6 Entry Fee

Entrance fees, at present, do not exist. Visitors are charged for the jeep rides, and the price varies depending on how far the visitor is ascending. A return jeep ride to the Tea Gardens costs RM 2, for the administrative centre RM 4 and for Bungalows Tempinis, Cendana and the Gunung Hijau Rest House RM 5. These prices are relatively low, but for the moment increasing them would not be advised until the facilities at Bukit Larut have been improved.

Recommendation: Once improvements have been made to the bungalows, trails, and jeep service the jeep fees can be increased by 20% to start with. It is also recommended that no “entrance fee” be charged to visitors entering on foot. Visitors should be clearly informed as to the purpose of the fees and how they are used in maintaining the facilities and services on Bukit Larut.

4.3.7 Road Maintenance

The responsibility of maintaining the road lies with the Public Works Department (JKR). The road at present is fairly well maintained, but there are areas where some repairs may be needed. Another area that needs to be addressed is the electrical cables. Some of these have fallen over, taking trees with them and now lean perilously low, over the road. This needs to be dealt with by Tenaga Nasional; it is recommended that Tenaga Nasional regularly check the cables and that the relevant authorities at the District Office inform Tenaga Nasional when such maintenance is necessary.

The road itself is difficult to upgrade by means of widening. The slopes on either side of the road are steep and large boulders line the sides. The existing road is sufficient for the number of tourists visiting the area. It is not recommended that any attempt is made to widen the road.

Recommendation: The road should be regularly checked and maintained by the relevant authorities. It is recommended that no widening of the road is attempted.

4.3.8 Bungalow Maintenance

The bungalows are currently maintained by the DO of Taiping. Each bungalow has a caretaker. The bungalows are in need of repairs and some renovations. The infrastructure of the bungalows is relatively intact and most of the original facades have been maintained as far as possible. The rooms are very basic at present and need to be upgraded. Room rates charged range between RM 15/night/person to RM 200/night/bungalow. These charges could be increased if the facilities are upgraded. There are plans by the State government of Perak to renovate the bungalows.

There are caretakers for all the bungalows. They usually arrive at their respective bungalows with the first jeep in the morning and leave with the last jeep, at around five or six. Some caretakers who have to provide meals for guests stay overnight, as self-catering is only available at certain bungalows with the appropriate facilities. This system is relatively good, but can be improved on. There are few options to choose from for meals, and all meals are charged separately to the room charge. It would be more efficient to raise the prices of the rooms and provide better meals. There should be a wider selection of food available. It may be difficult to predict what visitors will want to eat, and to have all the food stored in the bungalows. This can be overcome by asking visitors to preorder their food when booking the rooms. This way the caretakers have enough time to prepare the meals, without limiting their selection to two or three choices.

Recommendation: The original structures of the bungalows should be maintained as far as possible so as to not lose the charm of the bungalows. Other recommendations include better heating, hot water, more self-catering facilities, and new interior decorations such as the carpets and linen. Other ideas to improve the bungalows would include providing reading materials, both general and on Bukit Larut itself, board games, etc.



Plate 5: Gunung Hijau Rest House

4.3.9 Summary of Visitor Services

Additional and extensive facilities at Bukit Larut are not necessary at present. There are however, some visitor services that need to be improved. These include better facilities for meals, improved waste disposal, interpretation facilities and upgraded bungalows and jeeps. A new system should also be established where the road is used more efficiently and safely. The road should also be regularly checked and maintained. Bungalows should be made more comfortable for visitors and more facilities should be made available for them.

A visitor carrying capacity study should be carried out as part of the management plan for Bukit Larut and its surroundings. Guidelines should be drawn up for what activities will be permitted and what will not be permitted on Bukit Larut, and these should be supported with appropriate facilities. Visitor safety at Bukit Larut should be upgraded.

Once improvements have been made to the bungalows, trails, and jeep service the jeep fees can be increased by 20% to start with. It is also recommended that no “entrance fee” be charged to visitors entering on foot.



Plate 6: Bungalow Tempinis

4.4 LEGAL AND ADMINISTRATIVE OPTIONS FOR THE PROTECTION OF BUKIT LARUT

Management and protection of all the values and assets of Bukit Larut need effective legal and administrative support. Some options are reviewed here.

4.4.1 Legal and Management Options for the Protection of Bukit Larut

Legal protection of Bukit Larut

As discussed in section 1.3, the current legal protection afforded to Bukit Larut are as Forest Reserves under the National Forestry Act 1984. Although some areas (compartments) have been given protection status as VJR and as amenity forests, the legal protection afforded by the National Forestry Act is not absolute or permanent since a provision (section 11) allows for the previously protected areas to be degazetted or de-reserved (or reserved) without much difficulty. Although there is a requirement to replace the area/s excised with an equivalent area of land (under Section 12), there is no assurance that the quality of the area replaced will be of similar quality as the area de-reserved. In the case of Bukit Larut, the degazettement of any part of the Bukit Larut Forest Reserve will have direct implications on the integrity of the hill resort in terms of the ecological and environmental services that it provides and especially since the replacement forest may not even be in Bukit Larut.

In light of the recent plans to develop Bukit Larut, although reportedly shelved now (see Introduction, Section 1.1), there is an urgent need to strengthen the protection of the area concerned.

Legal Options to Strengthen the Protection of Bukit Larut

This section will explore the following options to strengthen the protection of Bukit Larut.

1. Strengthening the legal protection of the BLFR (PFE) area through supplementary and complementary legislative provisions.
2. Establishment as a (Green) Heritage Site
3. Establishment as a State Park

1. Strengthening the Legal Protection of the BLFR (PFE)
Through Supplementary and Complementary Legislative Provisions

(a) **Gazettement of Water Catchment Areas:**

The water catchment areas in the BLFR should be afforded more protection in accordance with their importance as the primary source of water supply for Bukit Larut and Taiping. In addition, the status of Bukit Larut as a forest reserve can be further strengthened by the additional protection of the three water catchment areas as shown in Map 4. There are two options for providing such protection.

Gazettement can be done under the National Forestry Act, whereby the Forestry Department may classify the catchment areas as water catchment forests. By virtue of such classification, activities in these areas will be restricted so as not to interfere with the catchment functions of the areas. However, as pointed above, protection under the National Forestry Act is neither absolute nor permanent.

Another option for gazettement is through the use of the provisions under the Perak Water Board Enactment 1988. The Enactment establishes the Perak Water Board and a provision of the Enactment empowers the Perak Water Board to request the Perak State Government to declare any lake, river or waterway or any part thereof as a prescribed source of water (or water catchment areas). In making such a declaration, the State Government may impose any conditions and restrictions as it may deem fit to protect the source of water (Section 33(1)). The Enactment will make it an offence for any person to undertake any work that interferes with or affects the source of water (Section 33(5)). A declaration under the Enactment will essentially mean that there is a double gazettement (and thereby, enhanced protection) of the areas concerned as both forest reserves and water catchment areas. This would make the future degazettement of the areas more difficult.

Management Implications

A gazettement under the National Forestry Act will still place the management responsibility for the water catchment areas on the Forestry Department. The gazettement of the water catchment areas under the Perak Water Board Enactment, however, would place management responsibility on the Perak Water Board. In this instance, both the Forestry Department and the Perak Water Board would have jurisdiction over the areas. In the case of shared jurisdiction, it would be important for a co-ordinated approach between the management of the forest reserve and the water catchment areas, in order to ensure that the whole of the BLFR area is managed as an integrated whole.

Additionally, the Waters Act 1920 which applies to the State of Perak provides in general for the control of rivers and streams. The Act prohibits actions affecting rivers except under licence. The legislation also prohibits the pollution of rivers. Penalties are provided for contravening the provisions. The State Authority (the Ruler-in Council) has the authority to enforce the Waters Act.

(b) Protection as 'hill land' under the Land Conservation Act 1960:

The Land Conservation Act 1960 (LCA) relates to the conservation of hill land and the protection of soil from erosion and the inroad of silt. The LCA is applicable to the States in Peninsular Malaysia, subject to the adoption by the State legislature. The LCA authorises the gazetting of hill land as a conservation area to protect against soil erosion. Sections 5 and 6 prohibit planting of short-term crops and clearing of the hill land respectively except under permit. Therefore, the LCA can be used by the Perak State Government (after adopting the Land Conservation Act) to gazette the BLFR or parts thereof that are prone to soil erosion as hill land to protect against soil erosion.

Management Implications

The District Land Administrator (which, in this case is the District Officer) is the management authority for hill land. Therefore, there will be a need to co-ordinate the management of the BLFR with the Forestry Department if part/s of the BLFR are also gazetted as hill land/s.

(c) Protection under the National Land Code 1965:

Section 62 of the National Land Code 1965 (NLC), enables a State government to reserve any State land for any public purpose, through the publication of a gazette notification. 'Public purpose' has not been defined in the NLC which potentially opens the term to wide interpretation. Therefore, the protection of Bukit Larut Forest Reserve or Bukit Larut can be strengthened by utilising section 62 of the NLC by potentially gazetting it as a conservation area (for example as a park or wildlife sanctuary/ reserve). However, it is noted that this provision has been rarely used, if at all, for conservation purposes. Furthermore, under section 64 of the NLC, reserved land can be revoked by the State government at any time subject to the holding of an enquiry.

Management Implications

Under the NLC, the State government may, upon reservation of State land for a public purpose, appoint or designate an officer to undertake responsibility/ control for such land. In the case of BLFR, this could be the District Officer, as per existing arrangement.

2. Establishment as a (Green) Heritage Site:

Cultural heritage has been defined broadly to include

'any antiquity, historical object, historic site, area (whether on land or in the sea), fabric, building, structure, ethnographic matter, work of art, manuscript, ... and tree, which has a significant and special *architectural, aesthetic, historical, cultural, scientific, economic, environmental or any other interest or value and has been declared to be subject to preservation or conservation* (Section 2 of Sabah's Cultural Heritage (Conservation) Bill 1997, emphasis placed by the author).

Taiping is Perak's foremost historic town with impressive 26 heritage sites and buildings promoted as tourist attractions. Taiping is also a town of many firsts, in terms of physical infrastructure, facilities and institutions. Under the above definition, Bukit Larut can potentially be added as a heritage site as it is one of the oldest hill stations in Peninsular Malaysia and it still boasts the oldest colonial bungalows built in Malaysia.

Bukit Larut embodies architectural, aesthetic, human and especially ecological values which can be uniquely promoted as a heritage site which is distinctive for its 'green lung' function, therefore a green heritage site. As a green heritage site, it has great potential for marketing the area for ecotourism and this enhances the ecotourism potential of other ecotourism sites in the Larut Matang area, for example the Matang mangroves.

Bukit Larut, as a heritage site, could also be the object of UNESCO's Safeguarding Recommendations for historical and cultural properties which has been ratified by Malaysia, and which State governments have a moral obligation to uphold.

(a) Existing Legislative Provisions for Protection as Heritage Site

Existing legislation which affords protection of cultural and national heritage is the Antiquities Act 1976. The Antiquities Act provides for the preservation of the historical, floral and fauna heritage in Malaysia. The Act authorises the Director-General of Museums Department to declare any monument and any site an ancient monument and historical site respectively (section 15). Additionally under section 19, the State Authority, on the recommendation of the Director-General of Museums may declare any specified area to be an archaeological reserve for the purposes of the Act. Bukit Larut as one of the oldest hill resorts in Peninsular Malaysia may be declared as a historical site. Section 16 prohibits acts which will affect the preservation of the monument or site except with the express permission of the Director-General of Museums. The penalty for contravening this section is provided under section 28(4) of the Act.

Section 62 of the National Land Code 1965 as discussed above (see 1(c)) could potentially be used to reserve Bukit Larut Forest Reserve or Bukit Larut itself as a green heritage site, if such reservation constitutes a 'public purpose'. The public purpose here could be to protect the area as both a unique green lung and historic/heritage site for the town of Taiping or the State of Perak.

Management Implications

Under the Antiquities Act, the Director-General of Museums would assume jurisdiction over an area which has been declared a historical site. Although the provisions of the Act do not specifically provide for the management aspects of a declared historical site, it can be implied that the authority would rest with the Director-General. This would mean that the current administrative structure of BLFR will be affected, in that the Director-General, a Federal Government authority, will take over the management responsibilities. However, the Director-General may (by virtue of Section 27) delegate any of his powers, duties and functions under the Act to any other officer. In this context, it is possible for the Director-General to delegate the management responsibilities to the District Officer, thereby maintaining the status quo in respect of the current administrative and management structure of BLFR.

In the case of a reservation under the National Land Code 1965, the Perak State Government may appoint any officer to exercise control over the reserved land. In this case, the administrative and management structure of BLFR need not be changed as the State Government may designate the District Officer to be the officer responsible.

(b) Formulate a State Cultural Heritage Enactment

As an alternative, a separate state legislation may be enacted to declare Bukit Larut Forest Reserve as a cultural heritage site. Sabah has drafted the Cultural Heritage (Conservation) Enactment 1997 which is currently a Bill for the consideration and adoption by the State Legislature. This Bill when passed provides a law which makes provisions for the preservation, conservation and enhancement of cultural heritage.

This draft enactment is similar to the Antiquities Act 1976 as discussed in 2(a). However, this law provides for the declaration of an area as a cultural heritage site or conservation area to be preserved as such a site (clause 4) for broader purposes (for example, 'economic, environmental or any other interest value') than provided in the Antiquities Act. The Perak State Government may use the Sabah Cultural Heritage (Conservation) Bill as a model for formulating a similar piece of legislation (see Appendix 7). Such a law would support the preservation and conservation of a number of existing heritage sites and buildings (which to our knowledge has not been protected by any legal means) in the town of Taiping.

Clause 3 of the Bill, establishes a State Cultural Heritage Council whose responsibility shall be to advise the State Government on matters of 'policy, administration and management of cultural heritage and conservation areas.' Clause 9 seeks to restrict the carrying out of certain acts relating to the cultural heritage or conservation area without the consent of the Council. Clause 14 establishes the Cultural Heritage Fund for purposes such as the maintenance, preservation, conservation and enhancement of any cultural heritage or conservation area. Clause 20 provides for the compounding of offences under the proposed enactment. Clause 24 empowers the Yang di-Pertua Negeri to make regulations pertaining to a wide range of matters such as prescribing criteria for any cultural heritage to be declared subject to preservation or conservation; regulating or prohibiting activities in any conservation area and to prescribe fees chargeable to members of the public for access to any cultural heritage or conservation area.

Management Implications

In the event that a State Cultural Heritage Enactment is formulated, the administrative and management structure of BLFR could be provided for within the legislation. As mentioned above, the Enactment may provide for the establishment of a State Cultural Heritage Council, along the same lines as that in the Sabah Bill, to oversee the management of the BLFR. In theory, the establishment of the Council need not have major implications for the existing administrative structure of BLFR. The agencies now responsible for the day-to-day management of the area may still perform the same functions, subject to their being accountable to the Council.

3. Establishment of Bukit Larut Forest Reserve as a State Park

A State/ National park is usually an outstanding area of living richness, natural beauty and cultural significance which has been established to maintain diversity of ecosystems, species, genetic varieties and vital ecological processes. Other values of protected areas include the scientific, educational, historical, cultural, recreational, aesthetic and spiritual values (M.G. Khoo, 1997).

The establishment of the BLFR as a State Park will lead to the:

- I. Conservation of important ecosystems, flora and fauna
- II. Protection of biological and ecological processes
- III. Protection of water catchments

State Park Enactment

There are existing State Park Enactments in Malaysia, for example, Sabah and Johor. Some of the clauses in these Enactments could be considered and modified as necessary to meet the specific needs or purpose for the Perak State Park Enactment. The National Parks (Johor) Corporation Enactment 1989 is appended (Appendix 8) as a reference. Legislation in the form of a State Park Enactment can provide:

- (i) for the establishment of the park. The State Park Enactment can define the legal status of the park area, as well as the objectives of the park, that is the guiding principles for the establishment of the park;
- (ii) the framework for the administration and management of the park, that is, the institutional arrangements relating to the park, by the establishment of a Park Authority or a Park Division within the existing management authority of the area.

The legislation should aim to ensure perpetuity and integrity of park/s. This would entail making the de-gazettement or de-reservation of parks or a change in their boundaries difficult and provisions for prohibiting and/or restricting activities within the park as well as the control of activities outside its boundaries which affect the park.

Management Implications

In terms of the management of the State Park, the State Park Enactment would provide for the establishment of a Park Authority. This arrangement need not entail major changes to the existing administrative and management structure, as the Park Authority could comprise a committee made up of the same agencies with management responsibilities for BLFR as at the moment.

4.4.2 Assessment of the Legal Options

Immediate action

An immediate action is to ensure that the three water catchment areas in Bukit Larut have been classified as water catchment forests. The gazettement of the three water catchment areas (option 1(a)) in Bukit Larut would also be a priority to ensure that the source of water supply for Taiping is protected. A declaration under the Perak Water Enactment would be the preferred course of action, provided that the complementary enforcement measures can be effected. Another priority would be to gazette the BLFR or parts thereof as hill land to protect from soil erosion (option 1(b)) under the Land Conservation Act.

These measures are recommended as priority for two basic reasons. First, the protection of the source of water supply is seen as very important and the designation of BLFR as hill land complements the protection of the invaluable water resource. Secondly, the speed by which these provisions can be effected for protection of the purposes intended will be relatively shorter than the other options available or discussed. The gazettelement of the BLFR as a heritage site or a State Park will require a period of time. The process of formulation and the gazettelement of the State Park Enactment is estimated to take at least two to three years. A third consideration is that these measures will not require any major change to the existing administrative and management structure of Bukit Larut.

Long term Action

However, in order to ensure that the integrity of the BLFR is maintained and protected in perpetuity, it is recommended that the options laid out in 2 and 3 above be given serious consideration. Several factors should be taken into account when deciding on the most appropriate course of action for Bukit Larut. First, in view of the rich history of Taiping and the existence of many heritage sites and buildings in Bukit Larut and its surrounding areas, it is suggested that declaring the BLFR as a (green) heritage site may be a more appropriate option. The gazettelement of the BLFR as a cultural heritage site will also complement the image that is being portrayed for Taiping as Perak's foremost historic town.

In this context, it is also recommended that the Perak State Government formulate a State Cultural Heritage Enactment under which Bukit Larut can be declared a heritage site (as described in 2(b) above). This option is preferred over that of using existing legal provisions as described in 2(a), as it will then be possible for the existing administrative and management structure of Bukit Larut to remain fairly intact.

At present, there is a District Committee for Development and Action for Larut Matang which oversees the development process in the district including Bukit Larut. This committee is chaired by the District Officer and meets monthly. The Committee consists of all the representatives of the relevant government agencies involved in the District, including the Perak Water Board. The membership of this committee could be reflected in the State Cultural Heritage Council established by the State Cultural Heritage Enactment. The chairman of the Council could be the Ruler of the State, the State Secretary or a relevant State Executive Council (Exco) member. The existing management arrangements for Bukit Larut (see Section 1.3) need not necessarily change. For example, the Forestry Department will still be the managers of the forest resources and the Larut Matang District Office, the managers of the bungalows. However, these agencies will now be accountable to the Council, which will have the mandate to make policy, administrative and to a certain extent management decisions (under advice of the agencies involved in the management) on the conservation area concerned.

If the BLFR is gazetted as a whole as a Heritage Site, this would involve two districts, the other being the District of Kuala Kangsar. In this case both District officers will be represented on the Council.

4.4.3 Summary of Legal Options

OPTIONS	LEGISLATION	ACTION BY	MANAGEMENT AUTHORITY(IES)
<p>I. SUPPLEMENTARY & COMPLEMENTARY LEGAL PROVISIONS TO ENHANCE PROTECTION OF THE BUKIT LARUT FOREST RESERVE (BLFR)</p> <p>The BLFR is currently a Permanent Forest Estate (PFE) protected under the National Forestry Act 1984. Provisions in</p>	<p>National Forestry Act, 1984 classification of water catchment areas in existing PFE as catchment forests</p>	<p>District Forestry Department</p>	<p>Existing management authorities:</p> <ol style="list-style-type: none"> 1. District Forestry Department (PFE) 2. Perak Water Board (water intake points) 3. District Office (bungalows) 4. JKR (road) <p>Water catchment forests to be managed by District Forestry Department</p>
<p>FOREST RESERVE (BLFR)</p> <p>The BLFR is currently a Permanent Forest Estate (PFE) protected under the National Forestry Act 1984. Provisions in</p>	<p>Perak Water Board Enactment 1988 declaration of water catchment areas and/or rivers as prescribed sources of water</p>	<p>Perak Water Board</p>	<p>Existing management authorities:</p> <ol style="list-style-type: none"> 1. District Forestry Department (PFE) 2. Perak Water Board (water intake points) 3. District Office (bungalows) 4. JKR (road) <p>Prescribed sources of water and/or rivers to be managed by Perak Water Board</p>
<p>four (4) existing legislation can be used to enhance protection of the BLFR.</p>	<p>Land Conservation Act 1960 gazettement of Bukit Larut/parts thereof as 'hill land'</p>	<p>District Office</p>	<p>Existing management authorities:</p> <ol style="list-style-type: none"> 1. District Forestry Department (PFE) 2. Perak Water Board (water intake points) 3. District Office (bungalows) 4. JKR (road) <p>Gazetted hill land to be managed by District Office</p>
	<p>National Land Code 1965 reservation of BLFR or Bukit Larut for a 'public purpose'</p>	<p>District Office</p>	<p>Existing management authorities:</p> <ol style="list-style-type: none"> 1. District Forestry Department (PFE) 2. Perak Water Board (water intake points) 3. District Office (bungalows) 4. JKR (road) <p>Land reserved for a public purpose to be managed by District Office</p>

OPTIONS	LEGISLATION	ACTION BY	MANAGEMENT AUTHORITY(IES)
<p>II. DECLARE BUKIT LARUT AS A (GREEN) HERITAGE SITE Two (2) methods of declaring Bukit Larut as (green) heritage site; either by using existing</p>	<p>Antiquities Act 1960 declaration of Bukit Larut as a historical site</p>	<p>Director-General of Museums, Malaysia</p>	<p>Overall management authority: Director-General of Museums, Malaysia Day-to-day management can be delegated to existing management authorities: 1. District Forestry Department (PFE) 2. Perak Water Board (water intake points) 3. District Office (bungalows) 4. JKR (road)</p>
<p>legislation or, enacting a new law for the declaration and management of Bukit Larut as a heritage site.</p>	<p>State Cultural Heritage Enactment (to be enacted) declaration of Bukit Larut as a State Cultural Heritage Site</p>	<p>Development Committee for Larut Matang (see 4.4.1 above)</p>	<p>Overall management authority : State Cultural Heritage Council (to be established) Day-to-day management can be delegated to existing management authorities: 1. District Forestry Department (PFE) 2. Perak Water Board (water intake points) 3. District Office (bungalows) 4. JKR (road)</p>
<p>III. DECLARE BUKIT LARUT AS A STATE PARK Enacting a new law for the gazettelement and management of Bukit Larut as a State Park.</p>	<p>State Park Enactment (to be enacted) gazettelement of Bukit Larut as a State Park</p>	<p>Development Committee for Larut Matang (see 4.1.1 above)</p>	<p>Overall management authority : State Park Authority (to be established) Day-to-day management can be delegated to existing management authorities: 1. District Forestry Department (PFE) 2. Perak Water Board (water intake points) 3. District Office (bungalows) 4. JKR (road)</p>

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Chapter 5: DEVELOPMENT AND IMPROVEMENT OF VISITOR SERVICES

The biodiversity of Bukit Larut needs to be further studied (for details see Chapter 2). The information should be used to enhance the visitor experience to Bukit Larut. Some suggestions are provided here.

5.1 ENHANCING THE VISITOR EXPERIENCE

5.1.1 Interpretation

Interpretative materials are essential in any tourism site. Interpretative materials generally means providing scientific information to the public in a such a way that it can be easily understood (Friends of Penang, 1991). For Bukit Larut, the interpretative materials should inform the public about the importance of Bukit Larut as a water catchment area for Taiping and surrounding towns. It should explain what a water catchment is in a simple format with diagrams. This information can be displayed as a notice board at the foot of Bukit Larut, in a strategic location. Other information that should be provided includes the animals and plants of special interest that are found on Bukit Larut, where they are found and why they are special. Such information will enhance the visitors' experience of Bukit Larut and raise awareness about the importance of such areas. Historical information on Bukit Larut and its colonial heritage is also useful. These signs or displays should be attractive, brief, clear and educational. Although there has been some attempts at this in a small area within the BLFR, designated as "Educational Forest", it is suggested that the interpretative materials be bilingual and placed in more areas.

5.1.2 Entrance Area

At the entrance to Bukit Larut at present is a small office block where ticket are sold, some toilets and the entrance to the Hutan Lipur. The area is very basic and could be improved on. Various suggestions on how to improve this area are given below.

Interpretation / Information Centre:

An interpretation centre or an information area should be established at the entrance to Bukit Larut. Here visitors can collect information on Bukit Larut which should be made available in the form of maps, booklets, postcards, etc. The interpretation centre should incorporate both biological and historical information on Bukit Larut. Biological information would include which species of flora and fauna are found on Bukit Larut and their importance (for example, in the food chain). There is a potential for audio-visual presentations, educational programmes, nature skills development courses, species identification courses and other such activities. Information on other attractions in the district could also be provided here. Hotel/ Rest House information with prices, photographs and booking arrangements could also be made available. A city (historical) walking or cycling tour could be developed with interpretative booklets and additional information on local handicrafts and cultural events.

Facilities:

A. Lavatories:

The upgrading of facilities such as the lavatories should be undertaken. The lavatories should be for use by visitors to Bukit Larut, and be well maintained at all times. Visitors should be charged a minimum fee to ensure a well-kept facility.

B. Rubbish Bins:

A few large rubbish bins should be situated around the entrance area. These bins should be regularly cleared by the local services. There should also be notices to request visitors not to litter Bukit Larut and bring back all rubbish with them to dispose of later.



Plate 7: Example of a Nature Education Centre

C. Educational Forest:

The Educational Forest (Hutan Lipur) should also be promoted more extensively. There is also an educational forest area, within the Educational Forest, run by the DFO of the Larut Matang District, which is unknown to many visitors of Bukit Larut. The area also needs more interpretative information such as labels on trees and information on the forest type, for example. This area can take some pressure off Bukit Larut, especially for visitors who want to view wildlife, visit waterfalls and take a jungle walk, but do not necessarily have the time to ascend Bukit Larut.

D. Parking sites:

There is an area that can be used by visitors to Bukit Larut within the gates. There is also an area outside. This is sufficient to meet the needs of visitors to Bukit Larut at present.

E. Notice Boards:

There should be several different notice boards situated around the entrance area to inform visitors. Some suggestions for notices that are required include:

1. A simple map of Bukit Larut and a message that relates the importance of Bukit Larut. Activities which are not permitted should also be highlighted through simple diagrams. Examples of such activities include for example, littering, cutting of vegetation and no fires.
2. General information on access to Bukit Larut. The board should inform visitors how to purchase tickets, the different prices of jeep rides, the bungalows available and their prices and the opening times. There should also be information on how to book jeep rides ahead of time, or for the return journey. This should be situated at the entrance gates to Bukit Larut.



Plate 8: Example of an Interpretative Sign

5.1.3 Stop-off Sites

There are only stop-off sites for pedestrian visitors as no private vehicles are allowed on Bukit Larut. These have already been established on Bukit Larut. There are various sites where visitors can stop view and the vistas. There are also several shelters along the road to the summit of Bukit Larut. Some of these provide good views. There are also benches and swings at strategic locations further up the hill closer to the administrative centre and the bungalows. It is suggested that some of the shelters be upgraded as they are in need of repairs. It would also be useful to highlight the sites from which there are good views. This can be presented in the form of a map showing the various stop-off sites and what can be seen at each of them. Areas where wildlife are regularly spotted should also be included.

5.1.4 Forest Trails

To date there is only one forest trail that is known. The trail leads to the peak of Gunung Hijau. This trail needs to be reopened for public use. The trail should be selectively cleared and marked. The trail is quite narrow and dangerous in places (but should not be widened) this should also be highlighted. A suggestion would be to provide trained guides to take visitors through the trail from the information area or interpretation centre, if established.

5.1.5 Packaging the tourism product

A course on packaging, marketing, pricing and product development can be offered to the local communities to assist them in developing tourism manuals for marketing, pricing, etc.

Tour circuits of various lengths targetted to the different visitor groups (see Section 4.3.1) can be established. These circuits can be published in a tour manual for marketing purposes and also in a booklet format for distribution to visitors. The booklet should contain suggested places of interest, driving routes, prices, accommodation list, activities, list of guides, etc.

5.1.6 Pricing the product:

People will accept paying for something of quality, especially if they know what the money is being used for. Let them know either on the ticket or on a sign board at the entrance way what the money is going towards, ie: safety, trail and road maintenance, conservation, biodiversity studies, community development projects, education programmes, waste management, etc.

Different pricing options for entry to Bukit Larut:

- multiple entry passes: for local residents
- family ticket prices
- student ticket prices
- group prices (10 pax +)
- multi attraction pass for people visiting Bukit Larut and other attractions in the area
- supplement if using the forest trail

Different pricing options for guides:

- custom guided walks
- group guided walks
- school group activities

5.1.7 Management infrastructure

A management infrastructure should be developed to look after the different areas and their roles need to be clearly defined:

A. Tourism Association: could develop a marketing plan, product packaging, marketing and promotion, setting policy, establishing regulations for visitation, brochure publication, monitoring the effects of tourist visits on the community, running the interpretation centre, coordinating the production of education materials, working with guides, gatekeepers, accommodation and restaurant managers, maintenance workers and other stakeholders.

B. Guide Association: guide training and certification, enforcing visitor regulations and code of ethics, trail construction and maintenance.

C. Gatekeepers: collect entrance fees, promote visitor regulations, distribute educational materials, maintain carrying capacity, gather visitor data.

D. Hotel/ Rest House Managers: promote tour circuits, promote visitor code of ethics, distribute educational materials.

5.1.8 Code of ethics for management:

Environmental sensitivity: all construction, design and maintenance work should have minimal environmental impact. Safety standards should be enforced and maintained. An acceptable carrying capacity should be set and maintained.

5.1.9 Code of ethics for the traveller: -do's and dont's:

- Do not disturb or wilfully damage flora or fauna
- No littering
- Stay on marked trails
- Listen to guide
- Follow all regulations and respect rules of local community

5.1.10 Programmes

Below are some suggestions for programmes to enhance the visitor experience through increased awareness, better management of existing facilities and the preservation of the ecological and biological values of Bukit Larut.

1. Pre-departure Programmes:

- visitor predeparture information and education (ethics, equipment, ecosystems)

2. Guiding Programmes:

- prepare visitors for encounters with wildlife through briefings and quality interpretative materials;
- minimize visitor impacts on the environment through briefings, literature and by example.

3. Monitoring Programmes:

- prevention of accumulated impacts of tourism (erosion, waste, litter, noise, species harassment, water pollution, illegal harvesting) through carrying capacity management and proper programme design.

4. Management Programmes:

- create a management code of ethics that all employees and partners must follow;
- ensure proper training (conservation issues, communication skills, business skills, interpersonal skills, safety) of all staff;
- set up conservation programmes which insure that tourism revenues go toward protected area management and conservation initiatives;
- ensure that tourism initiatives benefit the local community - job creation, purchasing local goods, hiring local contractors, contributing some of the tourism revenues to local enterprises and developments.



Plate 9: Example of a Forest Trail

5.2 SUMMARY

The visitor experience to Bukit Larut can be enhanced through the improvement of basic facilities. Interpretative materials are essential to the enhancement of the visitors' experience to a tourism site. Bukit Larut has many unique characteristics and ecological functions that should be highlighted and made available to tourists. Facilities such as clean toilets, proper waste disposal and efficient customer services are important to improve the tourism potential of the area.

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Chapter 6: CONCLUSION

6.1 CONCLUSION

This study has provided a preliminary assessment of the flora and fauna of Bukit Larut, and ascertained compatible and multiple uses for the natural resources of the area. Some management options and appropriate legal options for the effective management of the area have been recommended. These outputs are intended to provide the basis for the development of a detailed management plan for Bukit Larut and its surroundings.

6.1.1 Ecological Importance

Bukit Larut possesses a unique and wide diversity of flora and fauna. The forests of Bukit Larut contain a wealth of species of trees, ferns, orchids and other plants, some of which are endemic to the area. The abundance of floral species at Bukit Larut is yet to be fully documented. There is a need to further assess and compile this information. The fauna of Bukit Larut is also rich, with many interesting and rare species of vertebrate mammals, and around 200 species of birds recorded.

Bukit Larut not only serves as an important habitat for the flora and fauna mentioned above, but also plays an important role in ecological and hydrological processes. There are three known water catchment areas in the BLFR, which supply water to Taiping and surrounding towns. The forests of the BLFR not only aid in providing water, but also help in minimising soil erosion, flash floods and landslides.

The importance and unique nature of Bukit Larut's ecological value is one that should not be overlooked. The implications of inappropriate development on Bukit Larut and the purposes it serves would be immense. It is important that Bukit Larut be recognised as a valuable asset which should be maintained in its present condition with a focus on improvements to the quality of services provided.

6.1.2 Land Status

At present Bukit Larut is a Permanent Forest Estate (PFE) managed by the District Forestry Offices of the Larut-Matang and Kuala Kangsar districts. It is approximately 6878.30 ha, of which 2247 ha comprises the VJR. There are three known water catchment areas within the PFE which supply water to Taiping and surrounding towns. The current legal status of Bukit Larut does not assure that sections of the forest will not be excised from the PFE. If this were to happen, it would have serious implications on the integrity of the hill and its ecological and environmental services. The need to strengthen the protection of the area is essential in view of the recent, reportedly shelved, development plans for Bukit Larut. Options for strengthening the legal protection of Bukit Larut include:

1. Strengthening the legal protection of the BLFR (PFE) through supplementary and complementary legislative provisions;
2. establishment of a (Green) Heritage Site; and
3. establishment of a State Park.

The protection of the water catchment areas in Bukit Larut through a declaration under the Perak Water Enactment 1984 would be a priority to ensure that the source of water for Taiping is protected. Another priority would be protect the BLFR as hill land to guard against soil erosion under the Land Conservation Act 1960. These options for strengthening the protection of Bukit Larut do not have any major implications on the administration and management of Bukit Larut (refer to 4.4.1 above).

It is also recommended that further long term action be taken to protect Bukit Larut as a Cultural Heritage Site or a State Park, in which case a State Heritage Council or a State Park Authority may need to be established to oversee the general policy and management decisions. These options need not directly affect the day-to-day management in the area although they will entail some changes to the administrative structure, in that the management agencies would then be accountable to the Council or Authority.

6.1.3 Tourism

Bukit Larut is located in the northwestern region of Peninsular Malaysia, in the State of Perak. It is a unique ecological and heritage site that has been a popular tourist destination for over a century. It's rich biodiversity, cool highland climate and historical and cultural values form the essential part of Bukit Larut's attraction.

Bukit Larut is a sensitive habitat, characterised by steep granite slopes which are unstable and can easily erode. It also functions as an important water catchment area for Taiping and surrounding towns. Bukit Larut also harbours a wide range of flora and fauna. These characteristics make Bukit Larut unsuitable for mass tourism.

Enhancement of the visitor experience to Bukit Larut can be achieved through improvements of the existing facilities and some minor additions. Existing facilities that need to be improved include the jeep service, the bungalows, the provision of meals, waste disposal and the lavatories. Interpretative materials need to be developed for Bukit Larut. An interpretation/information centre at the base of Bukit Larut could provide visitors with information on the biological and historical aspects of Bukit Larut and also provide information on other attractions within the district. Other interpretative materials such as signs and notice boards would also help to improve the visitor experience.

Bukit Larut should not be promoted for mass tourism, but can be a part of a tourism circuit in this region of Perak. Bukit Larut is not suitable for mass tourism due to its limited capacity and sensitive ecology, but other attractions in and around Taiping and Ipoh can be more widely promoted and integrated to increase tourism in the region.

A detailed management plan should be developed for the Bukit Larut area, to provide the basis for an effective legal and administrative framework. The long-term maintenance of the biological diversity, ecological values and cultural assets of Bukit Larut should form the basis for the plan.

6.2 FUTURE DEVELOPMENTS

BOX 4: There are several principles that should be adhered to when any development plans for Bukit Larut are proposed. These include:

1. There are important constraints to growth or development on and around Bukit Larut, including physical and ecological limits and the importance of the water catchments.
2. Any proposal must not damage the environment and the area's ecological integrity.
3. Access to Bukit Larut should be carefully considered in view of the limits placed by carrying capacity.
4. Commercialisation of Bukit Larut should be avoided. Property and land belonging to the State and public should not be privatised but should remain a public heritage.
5. The special charm of Bukit Larut should be maintained, with its predominance of forest and nature, its tranquil and quiet atmosphere.

The first matter that should be dealt with is the legal status of Bukit Larut. There is considerable confusion over the status of the Forest Reserve and with regard to whether there are existing gazettements under categories such as water catchment. The legal status of Bukit Larut is essential to the preservation of the area. Once the status has been clarified, proposals for further protection of the area can proceed.

The DO of Taiping should be prepared to make any necessary changes to the management of Bukit Larut. This document provides some suggestions that can be used to formulate a more detailed management plan for Bukit Larut. A more detailed management plan should outline the management objectives and the activities to be undertaken by the authorities over Bukit Larut. The plan should be formulated to span a minimum of five years. Activities for each year should be determined and the plan monitored to ensure adherence. In this way the management of Bukit Larut will be more organised and will have focus. A management plan is a useful document to streamline the activities of all authorities involved in the management of Bukit Larut. It should be flexible to allow for changes, but also have a fairly structured idea of what changes need to be made, what maintenance needs to be done and how to improve on existing facilities. There should be some work done on identifying and promoting the range of tourist attractions in the region as identified in Section 3.4.

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APPENDICES

APPENDIX 1: NEWSPAPER CLIPPINGS

**APPENDIX 2: LIST OF FLOWERING PLANT SPECIES RECORDED
BUKIT LARUT**

**APPENDIX 3: LIST OF FERN SPECIES RECORDED AT BUKIT
LARUT**

**APPENDIX 4: LIST OF ORCHID SPECIES RECORDED BUKIT
LARUT**

**APPENDIX 5: LIST OF BIRD SPECIES RECORDED AT BUKIT
LARUT**

APPENDIX 6: EXAMPLE OF A NATURE TRAIL GUIDE

**APPENDIX 7: SABAH CULTURAL HERITAGE CONSERVATION
BILL**

**APPENDIX 8: NATIONAL PARKS (JOHOR) CORPORATION
ENACTMENT**

LETTER OF THE DAY

Don't spoil tranquillity of Bukit Larut, Lake Gardens

KHARUL Nasir Idris' letter "Please leave Bukit Larut alone" (NST, March 12), has prompted us, a group of pupils from Sekolah Menengah Jenis Kebangsaan Hua Lian, to voice our opinion on why we think Bukit Larut and the Taiping Lake Gardens should be left alone.

We feel the development that is going to be implemented will benefit only the visitors and not the residents of Taiping, especially the pupils. For your information, situated at the foothill of Bukit Larut and the Taiping Lake Gardens are a number of schools including Sekolah Rendah Kebangsaan King Edward VII, SRK Frencher Methodist, SRK Convent Klian Puan, Sekolah Menengah Sultan Azlan Shah, SM Taman Tasik, Maktab Rendah Sains Mara and SMK Hua Lian.

There are also residential areas near the Lake Gardens. Every morning, hundreds of pupils cycle to school using the road around the Lake Gardens, enjoying the breeze and cool morning air, and the serenity and beauty of the area.

If the authorities are to build supermarkets, shopping malls, foodstalls and hotels around this area,

can you imagine what will happen? There will be an influx of visitors and this will result in traffic jams and pollution.

The tranquillity of the place will be shattered. The safety of pupils who cycle to school through the garden will surely be endangered.

We will also be deprived of the simple joy of cycling to school.

The Bukit Larut and Taiping Lake Gardens are one of the most beautiful spots in the country. If development takes place, trees have to be chopped down and a large area of natural flora will be cleared. Doesn't this move contradict Prime Minister Datuk Seri Dr Mahatir Mohamad's call for a "garden city" environment?

Moreover, the building of a commercial and recreational centre here will bring with it more social ills which we are trying so hard to eradicate. Imagine having entertainment and shopping centres around schools! Pupils will spend a lot of their time loitering in these places. The teachers that they will be involved in inevitably activities are less.

Without sound development here will be the ex-

pense of an ideal and conducive learning environment that we pupils are now enjoying. If any development is to be done in this area, we think developing an educational centre would be most appropriate.

With the influx of tourists, the prices of goods and foodstuffs will increase and this will see a consequent rise in the cost of living. This pensioner's paradise will become a pensioner's nightmare.

Of course, we cannot deny that development of this kind brings progress. Business will flourish and prosper in Taiping but the natural beauty and uniqueness of Bukit Larut and the Taiping Lake Gardens is too high a price to pay for recreational and commercial centres.

There are other areas in Taiping like Pokok Assam and Simpang which can be developed. Why not consider them? Besides thinking of the tourists who may stay for a few days, we hope the authorities will also think of us, the pupils who are permanent residents of Taiping.

Ed: This letter carries 42 signatures of the pupils of IAL, SMJK Hua Lian, Taiping.

APPENDIX 2: LIST OF FLOWERING PLANT SPECIES RECORDED AT BUKIT LARUT

Burkill & Henderson (1925) is the best floral documentation for Bukit Larut. It gives a checklist of about 1980 species with about 196 endemic species. However, about 380 species were eliminated from this list, as the origin of the plants do not fall within the range of Bukit Larut (by taking a cutting point of 250 ft. asl at the foothills as a general altitude guide). This leaves a total of 1,449 species as possibly local to Bukit Larut. However, only about 134 species in the checklist had direct references to known areas on Bukit Larut (as highlighted in the list below with the symbol *). There is, therefore a possibility that some of the listed species may not have been collected from Bukit Larut.

A preliminary checklist on the flora has been drawn up for Bukit Larut, and reflects the current knowledge of the flora in the area. However, it is necessary for further, more detailed surveys need to be conducted to establish the full range of flora found on Bukit Larut, as there are still many aspects to the flora of Bukit Larut which are still unknown (especially of the non-flowering plant groups).

Family	Species
Acanthaceae	* <i>Strobilanthes hirtisepalus</i> Clarke
Acanthaceae	* <i>Strobilanthes maingayi</i> Clarke
Acanthaceae	* <i>Strobilanthes rufosepalus</i> Clarke
Amarantaceae	* <i>Psilotrichum trichotomum</i> Bl.
Anacardiaceae	Gluta sp.
Annonaceae	* <i>Polyalthia asteriella</i> Ridl.
Annonaceae	* <i>Polyalthia hypogaea</i> King
Annonaceae	* <i>Popowia nervifolia</i> Maing.
Annonaceae	<i>Pseudouvaria taipingensis</i> Sinclair
Annonaceae	Xylopiia sp.
Apocynaceae	<i>Alyxia forbesii</i> King & Gamble
Apocynaceae	<i>Kopsia larutensis</i> King & Gamble
Apocynaceae	<i>Rouvolfi averticillata</i>
Apocynaceae	Willughbeia sp.
Aquifoliaceae	<i>Ilex glomerata</i> King
Aquifoliaceae	<i>Ilex sclerophylloides</i> Loes.
Araceae	<i>Allocasia beccarii</i> Engl.
Araceae	* <i>Amorphophallus minor</i> Ridl.
Araceae	* <i>Amorphophallus variabilis</i> Bl.
Araceae	<i>Arisaema anomalum</i> Hemsl.
Araceae	<i>Arisaema wrayi</i> Hemsl
Araceae	* <i>Homalomena griffithii</i> Hk. f.
Araceae	<i>Pothos latifolius</i> Hk. f.
Araceae	* <i>Rhaphidophora huegeliana</i> Schott.
Araceae	<i>Rhaphidophora korthalsii</i> Scott.
Araceae	* <i>Rhaphidophora laetivirens</i> Ridl.
Araceae	<i>Scindapsus scortechinii</i> Hk. f.
Araliaceae	* <i>Schefflera affinis</i> Viguier
Araliaceae	<i>Schefflera lurida</i> (King) Ridl.
Araliaceae	<i>Schefflera oxyphylla</i> (Miq.) Viguier
Araliaceae	<i>Schefflera ridleii</i> (King) Viguier
Araliaceae	<i>Schefflera simulans</i> Craib
Araliaceae	<i>Schefflera venulosa</i> Ridl.
Arecaceae	* <i>Areca pumila</i> Bl.
Arecaceae	* <i>Arenga westerhouti</i> Griff.
Arecaceae	* <i>Calamus curtisii</i> Ridl.
Arecaceae	* <i>Calamus diepenhorstii</i> Miq.
Arecaceae	* <i>Daemonorops leptopus</i> Marl.

Family	Species
Arecaceae	* <i>Licuala longipes</i> Griff.
Arecaceae	* <i>Nenga wendlandiana</i> Scheff.
Arecaceae	<i>Pinanga subruminata</i>
Aristolochiaceae	<i>Apama corymbosa</i> Soler.
Asclepiadaceae	* <i>Dischidia albidia</i> Griff.
Asclepiadaceae	<i>Dischidia astephana</i> Scort.
Asclepiadaceae	* <i>Dischidia tubiflora</i> King & Gamble
Asclepiadaceae	* <i>Goniostemma acuminata</i> Wight
Asclepiadaceae	<i>Heterostemma piperifolium</i> King & Gamble
Asclepiadaceae	* <i>Hoya revoluta</i> Wight
Asclepiadaceae	* <i>Physostelma wallichii</i> Wight
Asclepiadaceae	<i>Streptocaulon wallichii</i> Wight.
Asteraceae	* <i>Bidens pilosa</i> Linn.
Asteraceae	* <i>Blumea membranacea</i> DC.
Asteraceae	<i>Dicrocephala latifolia</i> DC.
Asteraceae	<i>Elephantopus tomentosus</i> Linn.
Asteraceae	<i>Spilanthes acmella</i> Murr.
Balanophoraceae	<i>Balanophora multibrachiata</i> Fawcedd.
Balsaminaceae	<i>Impatiens curtisii</i>
Begoniaceae	<i>Begonia hirtella</i> Link.
Begoniaceae	<i>Begonia maxwelliana</i> King
Bignoniaceae	* <i>Pajanelia multijuga</i> DC.
Burseraceae	* <i>Canarium denticulatum</i> Bl.
Campanulaceae	<i>Isotoma longiflora</i> Prest.
Caprifoliaceae	<i>Viburnum sambucinum</i> Bl.
Clusiaceae	<i>Calophyllum symingtonianum</i> Hend. & Wyatt-Smith
Clusiaceae	<i>Garcinia costata</i> Hemsl. ex King
Clusiaceae	* <i>Garcinia gaudichaudii</i> Planch. & Triana.
Commelinaceae	* <i>Aneilema conspicuum</i> Kunth.
Commelinaceae	* <i>Forrestia marginata</i> Hassk.
Cyperaceae	* <i>Cyperus diffusus</i> Vahl. var. <i>pubisquama</i> Ridl.
Cyperaceae	<i>Mapania</i> sp.
Dipterocarpaceae	<i>Anisoptera curtisii</i> Dyer
Dipterocarpaceae	<i>Dipterocarpus fagineus</i> Vesq.
Dipterocarpaceae	<i>Dipterocarpus grandiflorus</i> Blanco
Dipterocarpaceae	<i>Dipterocarpus verrucosus</i> Foxw.
Dipterocarpaceae	* <i>Hopea pierrei</i> Hance.
Dipterocarpaceae	<i>Shorea hopeifolia</i> (Heim) Sym.
Dipterocarpaceae	<i>Shorea platyclados</i> V. Sl. ex Foxw.

Family	Species
Ebenaceae	* <i>Diospyros nutans</i> King & Gamble
Elaeocarpaceae	<i>Elaeocarpus mastersii</i> King.
Elaeocarpaceae	* <i>Elaeocarpus pedunculatus</i> Wall.
Elaeocarpaceae	<i>Elaeocarpus stipularis</i> Bl.
Ericaceae	<i>Gautheria leucocarpa</i> Bl.
Ericaceae	<i>Gaultheria malayana</i> Airy Shaw
Ericaceae	<i>Rhododendron jasminiflorum</i> Hk. f.
Ericaceae	<i>Rhododendron javanicum</i> (Bl.) Benn.
Ericaceae	<i>Rhododendron robinsonii</i> Ridl.
Ericaceae	<i>Rhododendron teysmanni</i> Miq.
Euphorbiaceae	* <i>Agrostistachys gaudichaudii</i> Mull.
Euphorbiaceae	<i>Antidesma japonica</i> Sieb. & Zucc.
Euphorbiaceae	<i>Aporusa</i> sp.
Euphorbiaceae	<i>Baccaurea velutina</i> (Ridl.) Ridl.
Euphorbiaceae	<i>Drypetes indica</i> (M.A.) P. & H.
Euphorbiaceae	<i>Glochidion superbum</i> Baill.
Euphorbiaceae	* <i>Ptychopyxis costata</i> Miq. var. <i>oblanceolata</i> Airy Shaw
Fabaceae	<i>Crotolaria striata</i>
Fabaceae	* <i>Saraca taipingensis</i> Cantley
Flacourtiaceae	<i>Casearia tuberculata</i> Bl.
Flacourtiaceae	<i>Hydnocarpus humei</i> Ridl.
Flagellariaceae	<i>Flagellaria indica</i> Linn.
Gesneriaceae	<i>Aeschynanthus parvifolia</i> R.Br.
Gesneriaceae	<i>Aeschynanthus perakensis</i> Ridl.
Gesneriaceae	<i>Aeschynanthus purpurascens</i> Hassk.
Gesneriaceae	<i>Aeschynanthus rhododendron</i> Ridl.
Gesneriaceae	<i>Agalmyla staminea</i> Bl.
Gesneriaceae	<i>Chirita elata</i> Ridl.
Gesneriaceae	<i>Cyrtandra pilosa</i> Bl.
Gesneriaceae	<i>Cyrtandromoea acuminata</i> Benth. & Hook.
Gesneriaceae	<i>Didymocarpus albomarginata</i> Hemsl.
Gesneriaceae	* <i>Didymocarpus corchorifolia</i> R. Br.
Gesneriaceae	<i>Didymocarpus crinita</i> Jack.
Gesneriaceae	<i>Didymocarpus flava</i> Ridl.
Gesneriaceae	* <i>Didymocarpus hirsuta</i> Ridl.
Gesneriaceae	<i>Didymocarpus hispida</i> Ridl.
Gesneriaceae	* <i>Didymocarpus sulphurea</i> Ridl.
Gesneriaceae	<i>Didissandra quercifolia</i> Ridl.
Gesneriaceae	<i>Loxocarpus caerulea</i> Ridl.

Family	Species
Gesneriaceae	<i>Paraboea cordata</i> Ridl.
Gesneriaceae	<i>Rhynchoglossum obliquum</i> Bl.
Gnetaceae	Gnetum sp.
Illiciaceae	<i>Illicium cambodianum</i> Hance
Lauraceae	Litsea sp.
Lauraceae	<i>Phoebe scortechinii</i> (Gamble) Kochumm.
Lecythidaceae	Lecythidaceae sp. B
Liliaceae	* <i>Dracaena robusta</i> Ridl.
Liliaceae	* <i>Peliosanthes grandiflora</i> Ridl.
Liliaceae	* <i>Peliosanthes violacea</i> Wall.
Liliaceae	<i>Petrosavia stellaris</i>
Liliaceae	* <i>Smilax leucophylla</i> Bl.
Loranthaceae	* <i>Loranthus crassipetalus</i> King
Loranthaceae	<i>Loranthus pentapetalus</i> Roxb.
Magnoliaceae	<i>Manglietia</i> sp. nov.
Melastomataceae	<i>Blastus caudatus</i>
Melastomataceae	<i>Dissochaeta gracilis</i> (Jack) Bl.
Melastomataceae	<i>Marumia nemorosa</i> Bl.
Melastomataceae	* <i>Medinilla clarkei</i> King
Melastomataceae	<i>Medinilla crassinervia</i> Bl.
Melastomataceae	<i>Medinilla scandens</i> King
Melastomataceae	<i>Medinilla scortechinii</i> King
Melastomataceae	<i>Medinilla speciosa</i> Bl.
Melastomataceae	* <i>Medinilla venusta</i> King
Melastomataceae	<i>Melastoma molle</i> Wall.
Melastomataceae	* <i>Memecylon oligoneuron</i> Bl.
Melastomataceae	* <i>Osbeckia perakensis</i> Ridl
Melastomataceae	<i>Phyllagathis hispida</i> King
Melastomataceae	* <i>Pogonanthera pulverulenta</i> Bl.
Melastomataceae	<i>Ptenandra echinata</i> Jack.
Melastomataceae	<i>Sonerila erecta</i> Jack.
Melastomataceae	<i>Sonerila integrifolia</i> Stapf.
Melastomataceae	<i>Sonerila picta</i> Korth.
Melastomataceae	<i>Sonerila repens</i> Stapf.
Meliaceae	* <i>Aglaiia trichostemon</i> C. DC.
Meliaceae	<i>Chisocheton perakensi</i> (Hemsl.) Mabb.
Meliaceae	<i>Dysoxylum</i> sp.
Meliaceae	<i>Melia</i> sp.
Menispermaceae	* <i>Cyclea laxiflora</i> Miers.

Family	Species
Menispermaceae	<i>Tiliacora petiolare</i>
Moraceae	<i>Ficus aurata</i> Miq.
Moraceae	* <i>Ficus cunia</i> Ham.
Moraceae	* <i>Ficus pyriformis</i> Hk. & Arn.
Musaceae	* <i>Musa truncata</i> Ridl.
Myristicaceae	* <i>Knema curtisii</i> Warb.
Myristicaceae	* <i>Knema oblongifolia</i> Warb.
Myristicaceae	<i>Horsfieldia brachiata</i> (King) Warb. var. <i>sumatrana</i> (Miq.) Sinclair ex Whitm.
Myrsinaceae	* <i>Ardisia andamanica</i> Kurz
Myrsinaceae	<i>Ardisia barnesii</i> Ridl.
Myrsinaceae	<i>Ardisia labisiaefolia</i> King & Gamble
Myrsinaceae	<i>Ardisia ridleii</i> King & Gamble
Myrsinaceae	<i>Ardisia virens</i> Kurz
Myrsinaceae	<i>Maesa ramentacea</i> Wall.
Myrtaceae	<i>Eugenia</i> sp.
Nepenthaceae	<i>Nepenthes gracilis</i> Korth.
Nepenthaceae	<i>Nepenthes rafflesiana</i> Jack
Olacaceae	<i>Scorodocarpus borneensis</i> Becc.
Oleaceae	<i>Jasminum scortechinii</i> King & Gamble
Oxalidaceae	* <i>Connaropsis laxa</i> Ridl.
Oxalidaceae	<i>Sarcotheca glomerula</i> Veldkamp.
Orchidaceae	See Appendix 4
Pandanaceae	<i>Freycinetia javanica</i>
Pandanaceae	* <i>Pandanus perakensis</i> Ridl.
Piperaceae	* <i>Piper flavimarginatum</i> C. DC.
Piperaceae	<i>Piper magnibaccum</i> C. DC.
Piperaceae	<i>Piper ridleii</i> C. DC.
Poaceae	* <i>Andropogon aciculatus</i> Retz.
Poaceae	* <i>Dendrocalamus giganteus</i> Munro.
Poaceae	* <i>Leptaspis urceolata</i> Br.
Poaceae	<i>Pennisetum purpureum</i> Schumanch
Rafflesiaceae	* <i>Rafflesia hasseltii</i> Suringar
Rosaceae	<i>Rubus glomeratus</i> Bl.
Rosaceae	<i>Rubus sorbifolius</i>
Rubiaceae	<i>Argostemma involucreatum</i> Hemsl.
Rubiaceae	<i>Argostemma pictum</i> Wall.
Rubiaceae	<i>Argostemma spinulosum</i> Clarke
Rubiaceae	<i>Argostemma unifolioide</i> King

Family	Species
Rubiaceae	* <i>Hedyotis hispida</i> Relz.
Rubiaceae	<i>Hedyotis verticillata</i>
Rubiaceae	* <i>Lasianthus attenuatus</i> Jack.
Rubiaceae	<i>Mussaenda</i> sp.
Rubiaceae	<i>Ophiorrhiza communis</i> Ridl.
Rubiaceae	* <i>Ophiorrhiza major</i> Ridl.
Rubiaceae	* <i>Pavetta graciliflora</i> Wall.
Rubiaceae	* <i>Petunga venulosa</i> Hk. f.
Rubiaceae	<i>Prismatomeris malayana</i> Ridl.
Rubiaceae	* <i>Psychotria angulata</i> Korth.
Rubiaceae	* <i>Psychotria calocarpa</i> Kurz
Rubiaceae	* <i>Psychotria montana</i> Bl.
Rubiaceae	* <i>Psychotria penangensis</i> Hk. f.
Rubiaceae	* <i>Psychotria sarmentosa</i> Bl.
Rubiaceae	* <i>Psychotria stipulacea</i> Wall.
Rubiaceae	* <i>Spermacoce ocymoides</i> Burm.
Rubiaceae	* <i>Tarenna grandifolia</i> Ridl.
Rubiaceae	* <i>Tarenna ridleyi</i> Pearson
Rubiaceae	* <i>Urophyllum griffithianum</i> Hk. f.
Rubiaceae	<i>Wendlandia paniculata</i> Ridl.
Rutaceae	<i>Euodia</i> sp.
Sapindaceae	* <i>Allophyllus glaber</i> Roxb.
Sapotaceae	<i>Gamua curtisii</i> (King & Gamble) Lam
Sapotaceae	<i>Madhuca kunstleri</i> (Brace) Lam
Sapotaceae	<i>Palaquium oxleyanum</i> Pierre
Saurauiceae	<i>Saurauia leprosa</i> Korth.
Saxifragaceae	<i>Dichroa febrifuga</i> Lour.
Saxifragaceae	<i>Polyosma intergrifolia</i> Bl.
Scrophulariaceae	<i>Torenia atropurpurea</i> Ridl.
Staphyleaceae	<i>Turpinia pomifera</i> (Roxb.) DC.
Symplocaceae	<i>Symplocos crassipes</i> Clarke var. <i>ernae</i> (Brand.) Noot.
Symplocaceae	* <i>Symplocos ferruginea</i> Roxb.
Symplocaceae	<i>Symplocos laeteviridis</i> Staff.
Theaceae	<i>Adinandra macrantha</i> Teys. & Binn.
Theaceae	<i>Eurya acuminata</i> DC.
Theaceae	<i>Gordonia taipingensis</i> Burkill
Theaceae	<i>Schima noronhae</i> Reind.
Ulmaceae	* <i>Gironmiera parviflora</i> Planch.
Umbelliferae	<i>Hydrocotyle javanica</i> Thunb.

Family	Species
Urticaceae	<i>Conophalus amoenus</i> Hk. f.
Urticaceae	Dendrocnide sp.
Urticaceae	* <i>Debregeasia squamata</i> Hk. f.
Urticaceae	* <i>Elatostemma acuminata</i> Brngn.
Urticaceae	* <i>Pellionia duvauana</i> N.E.Br. var. <i>viridis</i> Ridl.
Urticaceae	* <i>Pellionia javanica</i> Wedd.
Urticaceae	* <i>Procris latifolia</i> Bl.
Verbenaceae	<i>Vitex vestita</i> Wall ex Schau
Violaceae	* <i>Alsodeia floribunda</i> King
Vitaceae	<i>Ampelocissus ascendiflora</i> Latiff
Vitaceae	<i>Ampelocissus thyrsiflora</i> (Bl.) Planch.
Vitaceae	<i>Leea indica</i> (Burm.f.) Merr.
Vitaceae	* <i>Pterisanthes eriopoda</i> Planch.
Vitaceae	<i>Pterisanthes pedata</i> Lawson
Vitaceae	<i>Tetragium hookeri</i> (Laws.) Planch.
Vitaceae	* <i>Vitis novemfolia</i> Wall.
Vitaceae	* <i>Vitis wrayi</i> King
Zingiberaceae	<i>Alpinia petiolata</i> Baker
Zingiberaceae	<i>Amomum lappaceum</i> Ridl.
Zingiberaceae	<i>Camptandra parvula</i> Ridl.
Zingiberaceae	<i>Costus speciosus</i> Smith var. <i>argyrophyllus</i> Wall.
Zingiberaceae	* <i>Gastrochilus albosanguinea</i> Ridl.
Zingiberaceae	<i>Geostachys montana</i>
Zingiberaceae	* <i>Globba uliginosa</i> Miq.
Zingiberaceae	* <i>Hedychium longicornutum</i> Baker
Zingiberaceae	* <i>Hornstedtia fulgens</i> Ridl.
Zingiberaceae	<i>Hornstedtia scyphifera</i>
Zingiberaceae	* <i>Phrynium malaccense</i> Ridl.

APPENDIX 3: LIST OF FERN SPECIES RECORDED AT BUKIT LARUT

In Malaysia, the natural vegetation is tropical rainforest and ferns are a significant, ubiquitous and integral part of its flora. At Bukit Larut, ferns are abundant, and can be found almost everywhere - growing on the ground or on top of trees and rock boulders, either as epiphytes or as climbers; in exposed areas along the road, on mountain summits or in clearly very disturbed areas along forest fringes. Ferns can also be abundant in somewhat shaded areas within the thick forest and along the wet river valleys. In Peninsular Malaysia, fern species account for about 500 of the total species found (Piggot, 1988), and Bukit Larut harbours about 98 species or 1/5 of the total numbers for the Peninsula. As most of the fern species listed here are commonly considered to be plants of damp shady places, the undoubtedly rich flora at Bukit Larut can be attributed to the vast pristine forested environment that still exists within the area.

Family	Species
Athyriaceae	<i>Athyrium anisopterum</i> Christ
Athyriaceae	<i>Diplazium accedens</i> Bl.
Athyriaceae	<i>Diplazium bantamense</i> Bl.
Athyriaceae	<i>Diplazium cordifolium</i> Bl.
Athyriaceae	<i>Diplazium simplicivenium</i> Holtt.
Athyriaceae	<i>Diplazium subintegrum</i> Holtt.
Athyriaceae	<i>Diplazium xiphophyllum</i> (Bak.) C. Chr.
Athyriaceae	<i>Lunathyrium japonicum</i> (Thunb.) Kurata
Aspidiaceae	<i>Didymochlaena truncatula</i> (Sw.) J. Sm.
Aspidiaceae	<i>Dryopteris sparsa</i> (Don)). O. Kunze
Aspidiaceae	<i>Pleocnemia hemiteliiformis</i> (Racib.) Holtt.
Aspidiaceae	<i>Pteridrys australis</i> Ching
Aspidiaceae	<i>Tectaria crenata</i> Cav.
Aspidiaceae	<i>Tectaria griffithii</i> (Bak.) C. Chr.
Aspidiaceae	<i>Tectaria singaporeana</i> (Wall. ex Hk. & Grev.) Copel.
Aspleniaceae	<i>Asplenium affine</i> Sw.
Aspleniaceae	<i>Asplenium perakense</i> Matthew & Christ
Aspleniaceae	<i>Asplenium phyllitidis</i> Don. subsp. malesicum Holtt.
Aspleniaceae	<i>Asplenium scalare</i> Rosenst.
Aspleniaceae	<i>Asplenium scortechinii</i> Bedd.
Aspleniaceae	<i>Asplenium thunbergii</i> Kunze
Athyriaceae	<i>Athyrium insigne</i> (Holtt.) Holtt.
Cyatheaceae	<i>Cyathea contaminans</i> (Hk.) Copel.
Cyatheaceae	<i>Cyathea obscura</i> (Scort.) Copel.
Cyatheaceae	<i>Cyathea recommutata</i> Copel.

Family	Species
Davalliaceae	<i>Davallia corniculata</i> Moore
Davalliaceae	<i>Leucostegia pallida</i> (Mett.) Copel.
Dennstaedtiaceae	<i>Dennstaedtia ampla</i> (Bak.) Bedd.
Dennstaedtiaceae	<i>Microlepia todayensis</i> Christ
Dennstaedtiaceae	<i>Orthiopteris kingii</i> (Bedd.) Holtt.
Gleicheniaceae	<i>Gleichenia blotiana</i> C. Chr. = rare in PM
Gleicheniaceae	<i>Dicranopteris pubigera</i> (Bl.) Nakai
Grammitidaceae	<i>Acrosorus triangularis</i> (Scort.) Copel.
Grammitidaceae	<i>Calymmodon asiaticus</i> Copel
Grammitidaceae	<i>Calymmodon cucullatus</i> (Nees & Bl.) Presl
Grammitidaceae	<i>Ctenopteris alata</i> (Bl.) Holtt.
Grammitidaceae	<i>Ctenopteris barathrophylla</i> (Baker) Parnis
Grammitidaceae	<i>Ctenopteris contigua</i> (Forst.) Holtt.
Grammitidaceae	<i>Ctenopteris minuta</i> (Bl.) Holtt.
Grammitidaceae	<i>Ctenopteris moultoni</i> (Copel.) Holtt.
Grammitidaceae	<i>Ctenopteris obliquata</i> (Bl.) Copel
Grammitidaceae	<i>Ctenopteris subminuta</i> (v.A.v.R.) Holtt.
Grammitidaceae	<i>Grammitis crispatula</i> Holtt.
Grammitidaceae	<i>Scleroglossum pusillum</i> (Bl.) v.A.v.R.
Hemionitidaceae	<i>Coniogramme fraxinea</i> (D. Don) Diels
Hemionitidaceae	<i>Syngramma alismifolia</i> (Prain) J. Sw.
Hemionitidaceae	<i>Syngramma quinata</i> (Hk.) Carr.
Hymenophyllaceae	<i>Hymenophyllum badium</i> Hk. & Grev.
Hymenophyllaceae	<i>Hymenophyllum holochilum</i> (V.D.B.) C. Chr.
Hymenophyllaceae	<i>Hymenophyllum productum</i> Kunze
Hymenophyllaceae	<i>Hymenophyllum treubii</i> Racib.
Hymenophyllaceae	<i>Trichomanes palmatifidum</i> C. Muell.
Hypolepidaceae	<i>Hypolepis beddomei</i> (Kunst.) Nair & Ghosh
Hypolepidaceae	<i>Hypolepis brooksiae</i> v.A.v.R
Hypolepidaceae	<i>Pteridium aquilinum</i> (L.) Kuhn var. <i>wightianum</i> (Agardh) Tryon
Hypolepidaceae	<i>Pteridium caudatum</i> (L.) Maxon subsp. <i>yarrabense</i> (Domin) Parris
Lindsaeaceae	<i>Lindsaea decomposita</i> Willd.
Lindsaeaceae	<i>Lindsaea malayensis</i> Holtt.
Lindsaeaceae	<i>Lindsaea oblanceolata</i> v.A.v.R.
Lindsaeace	<i>Lindsaea rigida</i> J.Sm.

Family	Species
Lindsaeaceae	<i>Sphenomeris chinensis</i> (L.) Maxon var. <i>divaricata</i> (Christ) Kramer
Lomariopsidaceae	<i>Elaphoglossum callifolium</i> (Bl.) Moore
Lomariopsidaceae	<i>Lomariopsis perakense</i> v.A.v.R.
Lomariopsidaceae	<i>Teratophyllum aculeatum</i> (Bl.) Mett. var. <i>montanum</i> Holtt.
Lycopodiaceae	<i>Huperzia squarosa</i> (G. Forst.) Treisson
Marattiaceae	<i>Angiopteris angustifolia</i> Presl
Marattiaceae	<i>Christensenia aesculifolia</i> (Bl.) Maxon
Nephrolepidaceae	<i>Nephrolepis tuberosa</i> (Bory) Presl
Oleandraceae	<i>Oleandra pistillaris</i> (S.) C. Chr.
Ophioglossaceae	<i>Ophioglossum reticulatum</i> Linn.
Polypodiaceae	<i>Belvisia revoluta</i> (Bl.) Copel.
Polypodiaceae	<i>Cheiropleuria bicuspis</i> (Bl.) Presl
Polypodiaceae	<i>Crypsinopsis enervis</i> (Cav.) Pichi Serm
Polypodiaceae	<i>Crypsinus taeniatus</i> (Sw.) Copel.
Polypodiaceae	<i>Crypsinus wrayi</i> (Bak.) Copel.
Polypodiaceae	<i>Dipteris conjugata</i> Reinw.
Polypodiaceae	<i>Goniophlebium persicifolium</i> (Desv.) Presl
Polypodiaceae	<i>Goniophlebium subauriculatum</i> (Bl.) Presl
Polypodiaceae	<i>Lecanopteris carnosa</i> (Reiw.) Bl. var. <i>pumila</i> (Bl.) v.A.v.R.
Polypodiaceae	<i>Lepisorus longifolius</i> (Bl.) Holtt.
Polypodiaceae	<i>Leptochilus decurrens</i> Bl.
Polypodiaceae	<i>Microsorium sarawakense</i> (Bak.) Holtt.
Pteridaceae	<i>Pteris excelsa</i> Gaud.
Thelypteridaceae	<i>Abacopteris lineata</i> (Bl.) Ching
Thelypteridaceae	<i>Coryphopteris pectiniformis</i> (C. Chr.) Holtt. var. <i>pectiniformis</i>
Thelypteridaceae	<i>Mesophlebion motleyanum</i> (Hk.) Holtt.
Thelypteridaceae	<i>Mesophlebion trichopodium</i> (C. Chr.) Holtt.
Thelypteridaceae	<i>Metathelypteris dayi</i> (Bedd.) Holtt.
Thelypteridaceae	<i>Metathelypteris flaccida</i> (Bl.) Ching
Thelypteridaceae	<i>Parathelypteris beddomei</i> (Bak.) Ching
Thelypteridaceae	<i>Pronephrium rubicundum</i> (v.A.v.R.) Holtt.
Thelypteridaceae	<i>Pronephrium salicifolium</i> (Holtt.) Holtt.
Thelypteridaceae	<i>Sphaerostephanos larutensis</i> (Bedd.) C. Chr.
Thelypteridaceae	<i>Trigonospora ciliata</i> (Benth.) Holtt

Family	Species
Vittariaceae	<i>Antrophyum latifolium</i> Bl.
Vittariaceae	<i>Mogramma trichoides</i> J. Sm.
Vittariaceae	<i>Vittaria angustifolia</i> Bl.
Vittariaceae	<i>Vittaria scolopendrina</i> (Bory) Thw.



Plate 10: *Dicranopteris pubigera*

APPENDIX 4: LIST OF ORCHID SPECIES RECORDED AT BUKIT LARUT

Orchids can be found in most places except in the coldest and driest regions of the world. Being one of the largest families among higher plants, it has been suggested that about 10% of all species of higher plants belongs in the family *Orchidaceae*. The general estimate for orchids would be around 740 genera with a total of some 19,000 species. The present enumeration for Malaysia, comprises of about 850 species of orchids, (Seidenfaden, G & Wood, J.J., 1992).

Bukit Larut.

The largest number of orchids are found in tropical regions with a high annual rainfall without too much seasonal variation through the year and without too severe or long dry seasons. This is the climatic situation in Malaysia (Seidenfaden, G & Wood, J.J., 1992). A fine example of this climate in Peninsular Malaysia, would be the district of Taiping, Perak, known to be the 'wettest' place in Peninsular Malaysia, with the highest reported rainfall annually (Balu, P. & Shahril, K.Z., 1997-WWF Malaysia Hydrological study for the state of Perak Darul Ridzuan). Bukit Larut is situated here, and forms part of the Bintang Range, one of the smaller mountain ranges in the country. Due to its climactic situation, many specialised flora are known to thrive here. Records and collections of orchids date as far back as the late 1800's. Many of the species recorded here are unique only to montane habitats and endemic to this region, with collections known only from Bukit Larut.

Table 1: Percentage of montane orchids compared to the total Malaysian enumeration.

Total Malaysian orchids:	850 species(100%)
Total montane orchids:	411 species(48%)

Table 2: Percentage of Bukit Larut orchids compared to total Malaysian montane orchids.

Malaysian montane orchids:	411(100%)
Orchids of Bukit Larut:	71(17%)
Specifically montane orchids:	55(14%)
Endemic/ restricted to Bukit Larut/or found only on few other locations.	27(7%)



PLATE 11: *Liparis maingayi*

Of the 850 species recorded in Malaysia, 411 have been recorded in montane habitats. Although a large percentage of these records occur in the mountains, some can be found in lowland forests. There are currently 37 genera of orchids occurring on Bukit Larut of which 71 species have been recorded so far. Out of this, 56 species are specifically montane and 14 species occur elsewhere in hills and lowland forest. 6 species are endemic to Malaysia, 11 are either known only to occur on Bukit Larut or have only been collected there, while another 8 species are only from Bukit Larut.

Field studies.

Compared to neighbouring countries, the number of orchid species in Malaysia is still quite low, for instance in Thailand, Java and Sumatra, the most recent enumeration comprises about 1000 species each and in Borneo the number of species probably exceeds 1200.

The lower number of species in Malaysia is possibly due to the lack of suitable habitats, insufficient field work and collection activities. Large areas of forests have yet to be explored and since the 1930's, when most of the 850 species in Malaysia were recorded, there has been little work done. Very little exploration has been undertaken in the last 50 years or so, except for the most recent work in the early 1990's where another 50-60 new records were made (Seidenfaden, G & Wood, J.I.- 1992). This is very much the case with areas like Bukit Larut where very little work has been done to re-explore and update collections made over 50 ago. As such, the species count could prove to be higher than its present number.

Genera	Species	Habitat	Status	Other Localities
<i>Cryptostylis</i>	<i>conspicua</i>	Montane		CH, FH, UK, GL & GT.
<i>Erythrodes</i>	<i>latifolia</i>	Hills to Montane		FH, UL, & GAP.
<i>Hylophila</i>	<i>mollis</i>	Lowland swamp forest to Montane		SPM, & GJ.
<i>Goodyera</i>	<i>bifida</i>	Montane		FH & GB.
<i>Cystorchis</i>	<i>gracilis</i>	Montane	Known only from Bukit Larut.	None.
<i>Anoectochilus</i>	<i>albolineatus</i>	Montane		Widespread.
	<i>calcaratus</i>	Montane		CH.
	<i>brevistylus</i>	Montane		CH.
	<i>pectinatus</i>	Montane	Found only on Gunung Hijau.	None
<i>Pristiglottis</i>	<i>macrantha</i>	Montane	Known from Bukit Larut	GBa.
<i>Peristylus</i>	<i>grandis</i>	Hills to Montane		FH, BP, MG, UK & CH.
<i>Crystosia</i>	<i>javanica</i>	Montane		CH & UK.
<i>Mischobulbum</i>	<i>wrayanum</i>	Montane		GBb, GBP, GJ & BB.
<i>Tainia</i>	<i>penangiana</i>	Hills to Montane.		PNG & GG.
<i>Spathoglottis</i>	<i>plicata</i>	Lowland to Montane.		Widespread.
	<i>aurea</i>	Lowland to Montane.		Widespread.
<i>Calanthe</i>	<i>albolutea</i>	Montane.		GJ & GBM.
	<i>lyroglossa</i>	Montane.		UK.
<i>Phaius</i>	<i>pauciflorum</i> <i>var. pallidus</i>	Montane.	Endemic	MR

Genera	Species	Habitat	Status	Other Localities
<i>Dendrochilum</i>	<i>kingii</i>	Montane.	Only found a few specimens on Bukit Larut	MR.
	<i>odoratum</i>	Montane.	Endemic to Malaysia.	FH,CH & GJ.
	<i>gracile</i>	Montane.		UK & MR.
	<i>crassum</i>	Montane.	Known from only one collection from Bukit Larut.	None.
<i>Pholidota</i>	<i>articulata</i>	Montane.		LIAM & UK.
<i>Coelogyne</i>	<i>prasina</i>	Montane.		FH,CH, & GJ.
	<i>pallens</i>	Montane.		GJ & GBM.
	<i>flexuosa</i>	Montane.	Only collection made from Bukit Larut.	GBK.
	<i>kaliana</i>	Montane.		GH,CH & UK.
	<i>swaniana</i>	Montane.	Only found on Bukit Larut.	None.
	<i>judithiae</i>	Montane.	Only found on Bukit Larut.	None.
<i>Malaxis</i>	<i>acutangula</i>	Hills to Montane.		BH & KTN.
	<i>micrantha</i>	Lowland to Montane.		FH & TGN.
<i>Liparis</i>	<i>maingayi</i>	Montane.		GJ,BB, & GL.
	<i>parvula</i>	Montane.	Only species known from Bukit Larut.	None.
	<i>atrosanguinea</i>	Montane.	Found only on Bukit Larut.	None.
	<i>lacerata</i>	Lowland to Montane.		KT.
<i>Oberonia</i>	<i>rosea</i>	Montane.	found twice; on Bukit Larut	GBP.
	<i>pumilio</i>	Montane.		BB & FH.

Genera	Species	Habitat	Status	Other Localities
	<i>lunata</i>	Montane.		BH & CH.
<i>Trichotosia</i>	<i>aporina</i>	Montane.		FH,GJ & CH.
<i>Eria</i>	<i>leiophylla</i>	Montane.	Only known from Bukit Larut	BB & TGN.
	<i>pachystachya</i>	Montane.		CH,UK,FH & GH.
	<i>densa</i>	Montane.		Widespread.
	<i>pilifera</i>	Montane.	Only known from Bukit Larut	FH, but probably widely distributed in the mountains.
	<i>hyacinthoides</i>	Montane.		GAP.
	<i>romulosa</i>	Montane.	Single collection from Bukit Larut.	None.
<i>Ceratostylis</i>	<i>puncticulata</i>	Montane.	Endemic species known only from Gunung Hijau.(1893)	None.
<i>Agrostophyllum</i>	<i>tenue</i>	Montane.	Gunung Hijau.	GS, & FH.
<i>Appendicula</i>	<i>torta</i>	Lowland, Limestone to Montane.		BC & GM.
<i>Thelasis</i>	<i>macrobulbon</i>	Lowland to Montane.		FH,UK & SgT.
<i>Phreatia</i>	<i>listrophora</i>	Montane.		GH & GB.
	<i>densiflora</i>	Montane		CH & UK.
<i>Dendrobium</i>	<i>erosum</i>	Lowland to Montane.		UK & BPa.
	<i>foxii</i>	Montane.	Known only from Bukit Larut.	None.
	<i>roseatum</i>	Montane.		MR.

Genera	Species	Habitat	Status	Other Localities
	<i>heterocarpum</i>	Montane.	Found only once at Bukit Larut.	Probably occurring elsewhere.
	<i>singaporense</i>	Lowland to Montane.		PNG,GJ & KL, probably other places in PHG & SGR.
	<i>kentrophyllum</i>	Montane.		CH,FH & UK.
<i>Bulbophyllum</i>	<i>linearifolium</i>	Montane.	Endemic species found on Bukit Larut	GJ,FH,GAP & GS.
	<i>modestum</i>	Montane.		MR & GT.
	<i>wrayi</i>	Montane.	Endemic found on Bukit Larut	CH,FH & UK.
	<i>mematocaulon</i>	Montane.		SGR,FH & GT.
<i>Bromheadia</i>	<i>brevifolia</i>	Montane.	Endemic found on Bukit Larut	CH,LKP & UK.
<i>Chrysoglossum</i>	<i>vilossum</i>	Montane	Found only once in Bukit Larut(1880's).	Recently recorded by from FH & UK.
<i>Collabium</i>	<i>simplex</i>	Montane.		CH.
<i>Diglyphosa</i>	<i>latifolia</i>	Montane.	Only found on Bukit Larut	UK & CH.
<i>Cymbidium</i>	<i>lancifolium</i>	Hills to Montane.		MR.
<i>Thecopus</i>	<i>secunda</i>	Lowland to Montane.		GP & TPH.
<i>Cleisostoma</i>	<i>odoratum</i>	Montane.	Only known from Taipig Hills.	None.
<i>Thrixspermum</i>	<i>pauciflorum</i>	Montane.	Found only once on Bukit Larut.	None.

Key to abbreviation

BB	-Bukit Bendera.
BC	-Batu Caves.
BH	-Bukit Hitam.
BP	-Batang Padang.
Bpa	-Batu Pahat.
CH	-Cameron Highlands.
FH	-Fraser's Hill.
GAP	-The Gap, Selangor.
GB	-Gunung Berembang.
GBa	-Gunung Belumut.
GBb	-Gunung Bintang.
GBc	-Gunung Benom.
GBK	-Gombak.
GBM	-Gunung Bujang Melaka.
GBP	-Gunung Batu Puteh.
GG	-Gunung Gerinag
GG	-Gunung Geriang.
GH	-Genting Highlands.
GJ	-Gunung Jerai
GL	-Gunung Ledang.
GM	-Gua Musang.
GP	-Gunung Pantii
GS	-Gunung Semangkok.
GT	-Gunung Tahan.
KT	-Kuala Teku
KTN	-Kelantan.
LKP	-Langkap.
MG	-Menuang Gosing.
MR	-Main Range (Titiwangsa Mountain Range)
PHG	-Pahang.
PNG	-Pinang.
SGR	-Selangor.
SgT	-Sungai Teku.
SPM	-South Peninsular Malaysia.
TGN	-Terengganu.
TPH	-Tengah.
UK	-Gunung Ulu Kali.
UL	-Ulu Langat.

APPENDIX 5: LIST OF BIRD SPECIES RECORDED AT BUKIT LARUT AND TAIPING AREA

	Low	Mont	LG
Black Baza <i>Aviceda leuphotes</i>	Low		
Crested Honey-buzzard <i>Pernis ptilorhynchus</i>	Low		
Crested Serpent-eagle <i>Spilornis cheela</i>	Low	Mont	
Japanese Sparrowhawk <i>Accipiter gularis</i>	Low		
Black Eagle <i>Ictinaetus malayensis</i>		Mont	
Rufous-bellied Eagle <i>Hieraetus kienerii</i>	Low	Mont	
Changeable Hawk-eagle <i>Spizaetus cirrhatu</i>	Low		
Blyth's Hawk-eagle <i>Spizaetus alboniger</i>	Low	Mont	
Black-thighed Falconet <i>Microhierax fringillarius</i>	Low		LG
Peregrine Falcon <i>Falco peregrinus</i>	Low	Mont	
Bar-backed Partridge <i>Arborophila orientalis</i>		Mont	
Crested Wood-partridge <i>Rollulus rouloul</i>	Low		
Red Junglefowl <i>Gallus gallus</i>	Low		LG
Mountain Peacock-pheasant <i>Polyplectron inopinatum</i>		Mont	
Great Argus <i>Argusianus argus</i>	Low		
White-breasted Waterhen <i>Amaurornis phoenicurus</i>			LG
Wedge-tailed Pigeon <i>Treron sphenura</i>		Mont	
Thick-billed Pigeon <i>Treron curvirostra</i>	Low	Mont	
Pink-necked Pigeon <i>Treron vernans</i>	Low		LG
Jambu Fruit-dove <i>Ptilinopus jambu</i>	Low	Mont	
Green Imperial Pigeon <i>Ducula aenea</i>	Low		
Mountain Imperial Pigeon <i>Ducula badia</i>		Mont	
Barred Cuckoo-dove <i>Macropygia unchall</i>		Mont	
Little Cuckoo-dove <i>Macropygia ruficeps</i>		Mont	
Spotted Dove <i>Streptopelia chinensis</i>			LG
Barred Ground-dove <i>Geopelia striata</i>			LG
Green-winged Pigeon <i>Chalcophaps indica</i>	Low	Mont	
Blue-crowned Hanging-parrot <i>Loriculus galgulus</i>	Low		
Large Hawk-cuckoo <i>Cuculus sparverioides</i>		Mont	
Hodgson's Hawk-cuckoo <i>Cuculus fugax</i>	Low		
Indian Cuckoo <i>Cuculus micropterus</i>	Low	Mont	
Oriental Cuckoo <i>Cuculus saturatus</i>		Mont	
Banded Bay Cuckoo <i>Cacomantis sonneratii</i>	Low		LG
Drongo Cuckoo <i>Surniculus lugubris</i>	Low		
Common Koel <i>Eudynamys scolopacea</i>			LG
Green-billed Malkoha <i>Phaenicophaeus tristis</i>		Mont	
Red-billed Malkoha <i>Phaenicophaeus javanicus</i>	Low		
Chestnut-breasted Malkoha <i>Phaenicophaeus curvirostris</i>	Low		
Greater Coucal <i>Centropus sinensis</i>			LG
Reddish Scops-owl <i>Otus rufescens</i>	Low		
Mountain Scops-owl <i>Otus spilocephalus</i>		Mont	
Collared Scops-owl <i>Otus bakkamoena</i>	Low		

Brown Wood-owl <i>Strix leptogrammica</i>	Low		
Barred Eagle-owl <i>Bubo sumatranus</i>	Low		
Collared Owlet <i>Glaucidium brodiei</i>		Mont	
Grey Nightjar <i>Caprimulgus indicus</i>	Low	Mont	
Large-tailed Nightjar <i>Caprimulgus macrurus</i>			LG
White-bellied Swiftlet <i>Collocalia esculenta</i>	Low	Mont	LG
Brown Needletail <i>Hirundapus giganteus</i>	Low	Mont	
House Swift <i>Apus affinis</i>	Low	Mont	LG
Asian Palm-swift <i>Cypsiurus balasiensis</i>			LG
Orange-breasted Trogon <i>Harpactes oreskios</i>	Low	Mont	
Red-headed Trogon <i>Harpactes erythrocephalus</i>		Mont	
Common Kingfisher <i>Alcedo atthis</i>			LG
Stork-billed Kingfisher <i>Pelargopsis capensis</i>			LG
Banded Kingfisher <i>Lacedo pulchella</i>	Low		
White-throated Kingfisher <i>Halcyon smyrnensis</i>			LG
Blue-tailed Bee-eater <i>Merops philippinus</i>			LG
Blue-throated Bee-eater <i>Merops viridis</i>	Low		LG
Red-bearded Bee-eater <i>Nyctyornis amictus</i>	Low	Mont	
Dollarbird <i>Eurystomus orientalis</i>			LG
White-crowned Hornbill <i>Berenicornis comatus</i>	Low	Mont	
Bushy-crested Hornbill <i>Annorhinus galeritus</i>	Low	Mont	
Wrinkled Hornbill <i>Rhyticeros corrugatus</i>	Low		
Wreathed Hornbill <i>Rhyticeros undulatus</i>	Low	Mont	
Rhinoceros Hornbill <i>Buceros rhinoceros</i>	Low	Mont	
Great Hornbill <i>Buceros bicornis</i>	Low	Mont	
Helmeted Hornbill <i>Rhinoplax vigil</i>	Low		
Fire-tufted Barbet <i>Psilopogon pyrolophus</i>		Mont	
Gold-whiskered Barbet <i>Megalaima chrysopogon</i>	Low		
Red-throated Barbet <i>Megalaima mystacophanos</i>	Low		
Golden-throated Barbet <i>Megalaima franklinii</i>		Mont	
Black-browed Barbet <i>Megalaima oorti</i>		Mont	
Yellow-crowned Barbet <i>Megalaima henricii</i>	Low		
Blue-eared Barbet <i>Megalaima australis</i>	Low		
Coppersmith Barbet <i>Megalaima haemacephala</i>			LG
Brown Barbet <i>Calorhamphus fuliginosus</i>	Low		
Speckled Piculet <i>Picumnus innominatus</i>		Mont	
Rufous Woodpecker <i>Celeus brachyurus</i>	Low		LG
Crimson-winged Woodpecker <i>Picus puniceus</i>	Low	Mont	
Lesser Yellownape <i>Picus chlorolophus</i>		Mont	
Banded Woodpecker <i>Picus miniaceus</i>	Low		
Common Goldenback <i>Dinopium javanense</i>			LG
Buff-rumped Woodpecker <i>Meiglyptes tristis</i>	Low		
Grey-capped Woodpecker <i>Picoides moluccensis</i>			LG
Maroon Woodpecker <i>Blythipicus rubiginosus</i>	Low		
Dusky Broadbill <i>Corydon sumatranus</i>	Low		
Black-and-Yellow Broadbill			
<i>Eurylaimus ochromalus</i>	Low		
Silver-breasted Broadbill <i>Serilophus lunatus</i>		Mont	
Long-tailed Broadbill <i>Psarisomus dalhousiae</i>		Mont	
Rusty-naped Pitta <i>Pitta oatesi</i>		Mont	

Blue-winged Pitta <i>Pitta moluccensis</i>	Low	Mont	
Hooded Pitta <i>Pitta sordida</i>	Low		
Barn Swallow <i>Hirundo rustica</i>	Low	Mont	LG
Pacific Swallow <i>Hirundo tahitica</i>	Low	Mont	LG
Red-rumped Swallow <i>Hirundo daurica</i>	Low		LG
Asian House-martin <i>Delichon dasypus</i>		Mont	
Bar-winged Flycatcher-shrike <i>Hemipus picatus</i>	Low	Mont	
Large Cuckoo-shrike <i>Coracina novaehollandiae</i>		Mont	
Lesser Cuckoo-shrike <i>Coracina fimbriata</i>	Low		
Grey-chinned Minivet <i>Pericrocotus solaris</i>		Mont	
Common Iora <i>Aegithina tiphia</i>			LG
Blue-winged Leafbird			
<i>Chloropsis cochinchinensis</i>	Low		
Orange-bellied Leafbird <i>Chloropsis hardwickii</i>		Mont	
Black-headed Bulbul <i>Pycnonotus atriceps</i>	Low	Mont	
Black-crested Bulbul <i>Pycnonotus melanicterus</i>	Low	Mont	
Stripe-throated Bulbul <i>Pycnonotus finlaysoni</i>		Mont	
Yellow-vented Bulbul <i>Pycnonotus goiavier</i>			LG
Olive-winged Bulbul <i>Pycnonotus plumosus</i>			LG
Red-eyed Bulbul <i>Pycnonotus brunneus</i>	Low		
Spectacled Bulbul <i>Pycnonotus erythrophthalmos</i>	Low		
Ochraceous Bulbul <i>Crimiger ochraceus</i>		Mont	
Mountain Bulbul <i>Hypsipetes mccllellandii</i>		Mont	
Ashy Bulbul <i>Hypsipetes flavala</i>		Mont	
Crow-billed Drongo <i>Dicrurus annectans</i>	Low		
Bronzed Drongo <i>Dicrurus aeneus</i>	Low		
Lesser Racquet-tailed Drongo <i>Dicrurus remifer</i>		Mont	
Greater Racquet-tailed Drongo			
<i>Dicrurus paradiseus</i>	Low		
Black-naped Oriole <i>Oriolus chinensis</i>			LG
Black-and-Crimson Oriole <i>Oriolus cruentus</i>		Mont	
Asian Fairy Bluebird <i>Irena puella</i>	Low	Mont	
Green Magpie <i>Cissa chinensis</i>		Mont	
Large-billed Crow <i>Corvus macrorhynchus</i>			LG
Sultan Tit <i>Melanochlora sultanea</i>	Low	Mont	
Velvet-fronted Nuthatch <i>Sitta frontalis</i>	Low	Mont	
Blue Nuthatch <i>Sitta azurea</i>		Mont	
Large Scimitar-babbler <i>Pomatorhinus hypoleucos</i>		Mont	
Chestnut-backed Scimitar-babbler			
<i>Pomatorhinus montanus</i>	Low	Mont	
Marbled Wren-babbler <i>Napothera marmorata</i>		Mont	
Streaked Wren-babbler <i>Napothera brevicaudata</i>		Mont	
Pygmy Wren-babbler <i>Pnoepyga pusilla</i>		Mont	
Golden Babbler <i>Stachyris chrysaea</i>		Mont	
Grey-throated Babbler <i>Stachyris nigriceps</i>	Low	Mont	
Grey-headed Babbler <i>Stachyris poliocephala</i>	Low		
Striped Tit-babbler <i>Macronous gularis</i>	Low		
Chestnut-capped Laughingthrush <i>Garrulax mitratus</i>	Mont		
Chestnut-crowned Laughingthrush			
<i>Garrulax erythrocephalus</i>		Mont	

Silver-eared Mesia <i>Leiothrix argentauris</i>		Mont	
Cutia <i>Cutia nipalensis</i>		Mont	
White-browed Shrike-babbler <i>Pteruthius flaviscapis</i>		Mont	
Blue-winged Minla <i>Minla cyanouroptera</i>		Mont	
Rufous-winged Fulvetta <i>Alcippe castaneiceps</i>		Mont	
Mountain Fulvetta <i>Alcippe peracensis</i>		Mont	
Long-tailed Sibia <i>Heterophasia picaoides</i>		Mont	
White-bellied Yuhina <i>Yuhina zantholeuca</i>	Low	Mont	
Lesser Shortwing <i>Brachypteryx leucophrys</i>		Mont	
Magpie Robin <i>Copsychus saularis</i>			LG
White-rumped Shama <i>Copsychus malabaricus</i>	Low		
White-tailed Robin <i>Cinclidium leucurum</i>		Mont	
Chestnut-naped Forktail <i>Enicurus ruficapillus</i>	Low		
Slaty-backed Forktail <i>Enicurus velatus</i>		Mont	
White-throated Rock-thrush <i>Monticola gularis</i>	Low		
Orange-headed Thrush <i>Zoothera citrina</i>	Low		
Siberian Thrush <i>Zoothera sibirica</i>	Low	Mont	
Eyebrowed Thrush <i>Turdus obscurus</i>		Mont	
Chestnut-crowned Warbler <i>Seicercus castaniceps</i>		Mont	
Yellow-bellied Warbler <i>Abroscopus superciliaris</i>		Mont	
Inornate Warbler <i>Phylloscopus inornatus</i>	Low	Mont	
Eastern Crowned Warbler <i>Phylloscopus coronatus</i>	Low		
Mountain Leaf-warbler <i>Phylloscopus trivirgatus</i>		Mont	
Common Tailorbird <i>Orthotomus sutorius</i>			LG
Dark-necked Tailorbird <i>Orthotomus atrogularis</i>	Low	Mont	
Mountain Tailorbird <i>Orthotomus cuculatus</i>		Mont	
Asian Brown Flycatcher <i>Muscicapa latirostris</i>	Low		
Ferruginous Flycatcher <i>Muscicapa ferruginea</i>	Low		
Verditer Flycatcher <i>Muscicapa thalassina</i>	Low		
Yellow-rumped Flycatcher <i>Ficedula zanthopygia</i>	Low	Mont	
Mugimaki Flycatcher <i>Ficedula mugimaki</i>	Low		
Rufous-browed Flycatcher <i>Ficedula solitaria</i>		Mont	
Little Pied Flycatcher <i>Ficedula westermanni</i>		Mont	
Blue-and-White Flycatcher <i>Cyanoptera cyanomelana</i>		Mont	
Large Niltava <i>Niltava grandis</i>		Mont	
Hill Blue Flycatcher <i>Cyornis banyumas</i>		Mont	
Tickell's Blue Flycatcher <i>Cyornis tickelliae</i>	Low		
Pygmy Blue Flycatcher <i>Muscicapella hodgsoni</i>		Mont	
Grey-headed Flycatcher <i>Culicicapa ceylonensis</i>	Low		
White-throated Fantail <i>Rhipidura albicollis</i>		Mont	
Spotted Fantail <i>Rhipidura perlata</i>	Low		
Pied Fantail <i>Rhipidura javanica</i>			LG
Rufous-winged Flycatcher <i>Philentoma pyrhopterum</i>	Low		
Asian Paradise Flycatcher <i>Terpsiphone paradisi</i>	Low		
Grey Wagtail <i>Motacilla cinerea</i>	Low	Mont	
Forest Wagtail <i>Dendronanthus indicus</i>	Low		
Olive Tree-pipit <i>Anthus hodgsoni</i>	Low		

Brown Shrike <i>Lanius cristatus</i>			LG
Tiger Shrike <i>Lanius tigrinus</i>	Low		LG
Philippine Glossy Starling <i>Aplonis panayensis</i>			LG
Common Myna <i>Acridotheres tristis</i>			LG
Jungle Myna <i>Acridotheres fuscus</i>			LG
Brown-throated Sunbird <i>Anthreptes malaccensis</i>			LG
Black-throated Sunbird <i>Aethopyga saturata</i>		Mont	
Scarlet Sunbird <i>Aethopyga mystacalis</i>		Mont	
Little Spiderhunter <i>Arachnothera longirostra</i>	Low	Mont	
Long-billed Spiderhunter <i>Arachnothera robusta</i>	Low		
Streaked Spiderhunter <i>Arachnothera magna</i>		Mont	
Crimson-breasted Flowerpecker			
<i>Prionochilus percussus</i>	Low		
Scarlet-backed Flowerpecker <i>Dicaeum cruentatum</i>			LG
Buff-bellied Flowerpecker <i>Dicaeum ignipectus</i>	Low	Mont	
Everett's White-eye <i>Zosterops everetti</i>		Mont	
Eurasian Tree-sparrow <i>Passer montanus</i>			LG
Scaly-breasted Munia <i>Lonchura punctulata</i>			LG
Sharp-tailed Munia <i>Lonchura striata</i>	Low	Mont	
Tawny-breasted Parrotfinch <i>Erythrura hyperythra</i>		Mont	

Low Lowland (occurring below about 3,000 ft (900 m))

Mont Montane (occurring above about 3,000 ft (900 m))

LG Taiping Lake Gardens

APPENDIX 5(cont.): List of Birds from Forested Areas of Bukit Larut Only

	Resident	Migrant
Black Baza <i>Aviceda leuphotes</i>		M
Crested Honey-buzzard <i>Pernis ptilorhynchus</i>	R	M
Crested Serpent-eagle <i>Spilornis cheela</i>	R	
Japanese Sparrowhawk <i>Accipiter gularis</i>		M
Black Eagle <i>Ictinaetus malayensis</i>	R	
Rufous-bellied Eagle <i>Hieraaetus kienerii</i>	R	
Changeable Hawk-eagle <i>Spizaetus cirrhatus</i>	R	
Blyth's Hawk-eagle <i>Spizaetus alboniger</i>	R	
Peregrine Falcon <i>Falco peregrinus</i>	R	
Bar-backed Partridge <i>Arborophila orientalis</i>	R	
Crested Wood-partridge <i>Rollulus rouloul</i>	R	
Red Junglefowl <i>Gallus gallus</i>	R	
Mountain Peacock-pheasant <i>Polyplectron inopinatum</i>	R	
Great Argus <i>Argusianus argus</i>	R	
Wedge-tailed Pigeon <i>Treron sphenura</i>	R	
Thick-billed Pigeon <i>Treron curvirostra</i>	R*	
Jambu Fruit-dove <i>Ptilinopus jambu</i>	R*	
Green Imperial Pigeon <i>Ducula aenea</i>	R	
Mountain Imperial Pigeon <i>Ducula badia</i>	R*	
Barred Cuckoo-dove <i>Macropygia unchall</i>	R*	
Little Cuckoo-dove <i>Macropygia ruficeps</i>	R*	
Green-winged Pigeon <i>Chalcophaps indica</i>	R*	
Blue-crowned Hanging-parrot <i>Loriculus galgulus</i>	R	
Large Hawk-cuckoo <i>Cuculus sparverioides</i>	R	
Hodgson's Hawk-cuckoo <i>Cuculus fugax</i>	R	
Indian Cuckoo <i>Cuculus micropterus</i>	R	M
Oriental Cuckoo <i>Cuculus saturatus</i>	R	M
Banded Bay Cuckoo <i>Cacomantis sonneratii</i>	R	
Drongo Cuckoo <i>Surniculus lugubris</i>	R	M
Green-billed Malkoha <i>Phaenicophaeus tristis</i>	R	
Red-billed Malkoha <i>Phaenicophaeus javanicus</i>	R	
Chestnut-breasted Malkoha <i>Phaenicophaeus curvirostris</i>	R	
Reddish Scops-owl <i>Otus rufescens</i>	R	
Mountain Scops-owl <i>Otus spilocephalus</i>	R	
Collared Scops-owl <i>Otus bakkamoena</i>	R	
Brown Wood-owl <i>Strix leptogrammica</i>	R	
Barred Eagle-owl <i>Bubo sumatranus</i>	R	
Collared Owlet <i>Glaucidium brodiei</i>	R	
Grey Nightjar <i>Caprimulgus indicus</i>		M
White-bellied Swiftlet <i>Collocalia esculenta</i>	R	
Brown Needletail <i>Hirundapus giganteus</i>	R	
House Swift <i>Apus affinis</i>	R	
Orange-breasted Trogon <i>Harpactes oreskios</i>	R	
Red-headed Trogon <i>Harpactes erythrocephalus</i>	R	
Banded Kingfisher <i>Lacedo pulchella</i>	R	

Blue-tailed Bee-eater <i>Merops philippinus</i>	R	M
Blue-throated Bee-eater <i>Merops viridis</i>	R	M
Red-bearded Bee-eater <i>Nyctyornis amictus</i>	R	
White-crowned Hornbill <i>Berenicornis comatus</i>	R	
Bushy-crested Hornbill <i>Annorhinus galeritus</i>	R	
Wrinkled Hornbill <i>Rhyticeros corrugatus</i>	R	
Wreathed Hornbill <i>Rhyticeros undulatus</i>	R	
Rhinoceros Hornbill <i>Buceros rhinoceros</i>	R	
Great Hornbill <i>Buceros bicornis</i>	R	
Helmeted Hornbill <i>Rhinoplax vigil</i>	R	
Fire-tufted Barbet <i>Psilopogon pyrolophus</i>	R	
Gold-whiskered Barbet <i>Megalaima chrysopogon</i>	R	
Red-throated Barbet <i>Megalaima mystacophanos</i>	R	
Golden-throated Barbet <i>Megalaima franklinii</i>	R	
Black-browed Barbet <i>Megalaima oorti</i>	R	
Yellow-crowned Barbet <i>Megalaima henricii</i>	R	
Blue-eared Barbet <i>Megalaima australis</i>	R	
Brown Barbet <i>Calorhamphus fuliginosus</i>	R	
Speckled Piculet <i>Picumus innominatus</i>	R	
Crimson-winged Woodpecker <i>Picus puniceus</i>	R	
Lesser Yellownape <i>Picus chlorolophus</i>	R	
Banded Woodpecker <i>Picus miniaceus</i>	R	
Buff-rumped Woodpecker <i>Meiglyptes tristis</i>	R	
Maroon Woodpecker <i>Blythipicus rubiginosus</i>	R	
Dusky Broadbill <i>Corydon sumatranus</i>	R	
Black-and-Yellow Broadbill <i>Eurylaimus ochromalus</i>	R	
Silver-breasted Broadbill <i>Serilophus lunatus</i>	R	
Long-tailed Broadbill <i>Psarisomus dalhousiae</i>	R	
Rusty-naped Pitta <i>Pitta oatesi</i>	R	
Blue-winged Pitta <i>Pitta moluccensis</i>	R	M
Hooded Pitta <i>Pitta sordida</i>	R	M
Barn Swallow <i>Hirundo rustica</i>		M
Pacific Swallow <i>Hirundo tahitica</i>	R	
Red-rumped Swallow <i>Hirundo daurica</i>	R	M
Asian House-martin <i>Delichon dasypus</i>		M
Bar-winged Flycatcher-shrike <i>Hemipus picatus</i>	R	
Large Cuckoo-shrike <i>Coracina novaehollandiae</i>	R	
Lesser Cuckoo-shrike <i>Coracina fimbriata</i>	R	
Grey-chinned Minivet <i>Pericrocotus solaris</i>	R	
Blue-winged Leafbird <i>Chloropsis cochinchinensis</i>	R	
Orange-bellied Leafbird <i>Chloropsis hardwickii</i>	R	
Black-headed Bulbul <i>Pycnonotus atriceps</i>	R	
Black-crested Bulbul <i>Pycnonotus melanicterus</i>	R	
Red-eyed Bulbul <i>Pycnonotus brunneus</i>	R	
Spectacled Bulbul <i>Pycnonotus erythrophthalmos</i>	R	
Ochraceous Bulbul <i>Criniger ochraceus</i>	R	
Mountain Bulbul <i>Hypsipetes mcclllandii</i>	R	
Ashy Bulbul <i>Hypsipetes flavala</i>	R	
Crow-billed Drongo <i>Dicrurus annectans</i>		M
Bronzed Drongo <i>Dicrurus aeneus</i>	R	

Lesser Racquet-tailed Drongo <i>Dicrurus remifer</i>	R	
Greater Racquet-tailed Drongo <i>Dicrurus paradiseus</i>	R	
Black-and-Crimson Oriole <i>Oriolus cruentus</i>	R	
Asian Fairy Bluebird <i>Irena puella</i>	R	
Green Magpie <i>Cissa chinensis</i>	R	
Sultan Tit <i>Melanochlora sultanea</i>	R	
Velvet-fronted Nuthatch <i>Sitta frontalis</i>	R	
Blue Nuthatch <i>Sitta azurea</i>	R	
Large Scimitar-babbler <i>Pomatorhinus hypoleucos</i>	R	
Chestnut-backed Scimitar-babbler <i>Pomatorhinus montanus</i>	R	
Marbled Wren-babbler <i>Napothera marmorata</i>	R	
Streaked Wren-babbler <i>Napothera brevicaudata</i>	R	
Pygmy Wren-babbler <i>Pnoepyga pusilla</i>	R	
Golden Babbler <i>Stachyris chrysaea</i>	R	
Grey-throated Babbler <i>Stachyris nigriceps</i>	R	
Grey-headed Babbler <i>Stachyris poliocephala</i>	R	
Striped Tit-babbler <i>Macronous gularis</i>	R	
Chestnut-capped Laughingthrush <i>Garrulax mitratus</i>	R	
Chestnut-crowned Laughingthrush <i>Garrulax erythrocephalus</i>	R	
Silver-eared Mesia <i>Leiothrix argenteauris</i>	R	
Cutia <i>Cutia nipalensis</i>	R	
White-browed Shrike-babbler <i>Pteruthius flaviscapis</i>	R	
Blue-winged Minla <i>Minla cyanouroptera</i>	R	
Rufous-winged Fulvetta <i>Alcippe castaneiceps</i>	R	
Mountain Fulvetta <i>Alcippe peracensis</i>	R	
Long-tailed Sibia <i>Heterophasia picaoides</i>	R	
White-bellied Yuhina <i>Yuhina zantholeuca</i>	R	
Lesser Shortwing <i>Brachypteryx leucophrys</i>	R	
White-rumped Shama <i>Copsychus malabaricus</i>	R	
White-tailed Robin <i>Cinclidium leucurum</i>	R	
Chestnut-naped Forktail <i>Enicurus ruficapillus</i>	R	
Slaty-backed Forktail <i>Enicurus velatus</i>	R	
White-throated Rock-thrush <i>Monticola gularis</i>		M
Orange-headed Thrush <i>Zoothera citrina</i>		M
Siberian Thrush <i>Zoothera sibirica</i>		M
Eyebrowed Thrush <i>Turdus obscurus</i>		M
Chestnut-crowned Warbler <i>Seicercus castaniceps</i>	R	
Yellow-bellied Warbler <i>Abroscopus superciliaris</i>	R	
Inornate Warbler <i>Phylloscopus inornatus</i>		M
Eastern Crowned Warbler <i>Phylloscopus coronatus</i>	R	
Mountain Leaf-warbler <i>Phylloscopus trivirgatus</i>	R	
Dark-necked Tailorbird <i>Orthotomus atrogularis</i>	R	
Mountain Tailorbird <i>Orthotomus cuculatus</i>	R	
Asian Brown Flycatcher <i>Muscicapa latirostris</i>	R	M
Ferruginous Flycatcher <i>Muscicapa ferruginea</i>		M
Verditer Flycatcher <i>Muscicapa thalassina</i>		M
Yellow-rumped Flycatcher <i>Ficedula zanthopygia</i>		M
Mugimaki Flycatcher <i>Ficedula mugimaki</i>		M

Rufous-browed Flycatcher <i>Ficedula solitaria</i>	R	
Little Pied Flycatcher <i>Ficedula westermanni</i>	R	
Blue-and-White Flycatcher <i>Cyanoptera cyanomelana</i>		M
Large Niltava <i>Niltava grandis</i>	R	
Hill Blue Flycatcher <i>Cyornis banyumas</i>	R	
Tickell's Blue Flycatcher <i>Cyornis tickelliae</i>		M
Pygmy Blue Flycatcher <i>Muscicapella hodgsoni</i>	R	
Grey-headed Flycatcher <i>Culicicapa ceylonensis</i>	R	
White-throated Fantail <i>Rhipidura albicollis</i>	R	
Spotted Fantail <i>Rhipidura perlata</i>	R	
Rufous-winged Flycatcher <i>Philentoma pyrhopterum</i>	R	
Asian Paradise Flycatcher <i>Terpsiphone paradisi</i>	R	
Grey Wagtail <i>Motacilla cinerea</i>		M
Forest Wagtail <i>Dendronanthus indicus</i>		M
Olive Tree-pipit <i>Anthus hodgsoni</i>		M
Black-throated Sunbird <i>Aethopyga saturata</i>	R	
Scarlet Sunbird <i>Aethopyga mystacalis</i>	R	
Little Spiderhunter <i>Arachnothera longirostra</i>	R	
Long-billed Spiderhunter <i>Arachnothera robusta</i>	R	
Streaked Spiderhunter <i>Arachnothera magna</i>	R	
Crimson-breasted Flowerpecker		
<i>Prionochilus percussus</i>	R	
Buff-bellied Flowerpecker <i>Dicaeum ignipectus</i>	R	
Everett's White-eye <i>Zosterops everetti</i>	R	
Tawny-breasted Parrotfinch <i>Erythrura hyperythra</i>	R	
Sharp-tailed Munia <i>Lonchura striata</i>	R	

R Resident

R* Resident but making long-distance movements within the country

M Migrant

APPENDIX 6: EXAMPLE OF NATURE EDUCATION TRAIL GUIDE



Ref: Bishop's Trail Fraser's Hill
WWFM & FHVEC

ARRANGEMENT OF CLAUSES

Clause

1. Short title and commencement.
2. Definition.
3. Establishment of Council.
4. Power to declare.
5. Jurisdiction for control etc. of cultural heritage and conservation areas.
6. Register.
7. Proposals and programmes for preservation or conservation.
8. Power of authorised officer.
9. Restriction of planning permission.
10. Responsibility to acquire.
11. Inquiry by owner.
12. Repair of cultural heritage.
13. Power to make private arrangement and removal.
14. Establishment of the Fund
15. Financial incentives.
16. Levy of charges.
17. Penalty.
18. Immunity from legal action.
19. Power to delegate.
20. Compounding of offences.
21. Power to prosecute.
22. Provisions of this Enactment to prevail.
23. Power to make regulations.



STATE OF SABAH

A BILL

intituled

An enactment to make provisions for the presevation, conservation and enhancement of cultural heritage and for matters incidental thereto.

ENACTED by the Legislature of State of Sabah as follows:

1. This Enactment may be cited as the cultural (Conservation) Enactment 1997 and shall come into force on such date as the Minister may, by notification in the *Gazette*, apoint.

Short title and commencement

Definition

2. In this Enactment, unless the context otherwise requires -

"adaptation" means the process of modifying a cultural heritage or a conservation area to suit a proposed compatible use;

Enactment No 11
of 1977.

"ancient monument" has the same meaning assigned thereto under the Antiquities and Treasure Trove Enactment 1977;

Enactment No. 11
of 1977

"antiquity" has the same meaning assigned thereto under the Antiquities and Treasure Trove Enactment 1977;

"conservation" means the process of looking after a cultural heritage or a conservation area so as to retain its significance, and includes maintenance, preservation, restoration, reconstruction, adaptation or a combination of two or more of these;

"conservation area" means an area declared as a conservation area under section 4(1);

"Council" means the State Cultural Heritage Council established under section 3;

"cultural heritage" includes any antiquity, historical object, historical site, site, area (whether on land or in the sea), fabric, building, structure, ethnographic matter, work of art, manuscript, coin, currency note, medal, badge, insignia, crest, flag, armour, vehicle, ship and tree, which has a significant and special architectural, aesthetic, historical, cultural, scientific, economic, environmental or any other interest or value and has been declared to be subject to preservation or conservation under section 4(1);

"historical object" means any artifact or other object to which religious, traditional, artistic or historic interest is attached and includes any:-

- (a) ethnographic material such as a household or agricultural implement, decorative article, personal ornament;
- (b) work of art such as a carving, sculpture, painting, architecture, textile, musical instrument, weapon and any other handicraft.

(c) manuscript, coin, currency note, medal, badge, insignia, coat of arms, crest, flag, arms and armour; and

(d) vehicle, ship and boat, in part or in whole, whose production has been ceased;

"historical site" has the same meaning assigned thereto under the Antiquities and Treasure Trove Enactment 1977;

Enactment No 11 of 1977

"maintenance" means the continuous protection and care of a cultural heritage or a conservation area as distinguished from repair which involves restoration or construction;

"member" includes the Chairman and the Deputy Chairman;

"Minister" means the Minister for the time being responsible for matters relating to cultural heritage;

"monument" has the same meaning assigned thereto under the Antiquities and Treasure Trove Enactment 1977;

Enactment No 11 of 1977

"occupier" means any person in actual possession, management or control of any movable or immovable property;

"owner" in relation to any land, means the registered owner;

"preservation" means the process of maintaining a cultural heritage or a conservation area in its existing state or form and retarding deterioration;

"reconstruction" means the process of returning a cultural heritage or a conservation area as nearly as possible to an earlier known state or form by the introduction of new or old materials thereto;

"restoration" means the process of returning the existing cultural heritage or a conservation area to an earlier known state or form by removing accretion or by reassembling the existing repairs without the introduction of new materials.

"Secretary" means the Secretary of the Council.

3. (1) For the purpose of this Enactment, there shall be established a council to be known as "the State Cultural Heritage Council" whose responsibility shall be to advise the State Government on matters of policy, administration and management of cultural heritage and conservation areas.

(2) The Council shall consist of:

- (a) a Chairman, who shall be the person for the time being holding the office of the Minister;
- (b) a Deputy Chairman appointed by the Yang di-Pertua Negeri;
- (c) the Permanent Secretary of the Ministry of Tourism and Environmental Development or his authorised representative, who shall be the Secretary;
- (d) the Permanent Secretary of the Ministry of Culture, Youth and Sports or his authorised representative;
- (e) the Secretary of National Resources or his authorised representative;
- (f) the Curator of the Sabah Museum or his authorised representative;
- (g) a representative of the Heritage Trust of Malaysia appointed by the Yang di-Pertua Negeri; and
- (h) not more than five other persons who have wide experience and expertise in the field of preservation and conservation of cultural heritage appointed by the Yang di-Pertua Negeri.

(3) Any member of the Council appointed under subsection (2) shall, unless he sooner resigns his office or his appointment is sooner revoked, hold office for such period not exceeding three years as may be specified in his instrument of appointment and shall be eligible for reappointment.

(4) Any member of the Council who is not a member of the public service may be paid such allowances as the Minister may approve.

(5) The quorum necessary for the transaction of business of the Council shall be seven members.

(6) Questions arising at any meeting of the Council shall be decided by the votes of the majority of members present thereat and voting thereon and in case of an equality of votes the Chairman or other person presiding thereat shall have a second or casting vote.

(7) Subject to the provisions of this section, the Council shall have power to make standing orders to regulate its own proceedings.

4. (1) The Yang di-Pertua Negeri may on the recommendation of the Council, by notification in the *Gazette*, declare-

Power to
declare

(a) any cultural heritage the character or appearance of which it is desirable to preserve or conserve, to enhance or to be subject to preservation or conservation; and

(b) any area as conservation area to be preserved or conserved as a cultural heritage.

(2) Any person who has in his possession any cultural heritage which for the time being has not been declared under subsection (1) may apply in the prescribed form to the Council for such declaration. The Council shall process the application and make recommendation to the Yang di-Pertua Negeri.

(3) The Yang di-Pertua Negeri may from time to time on the recommendation of the Council revoke or amend any declaration made under subsection (1);

Provided no such declaration shall be revoked or amended without prior approval of the State Legislative Assembly given by way of a resolution.

(4) The Secretary shall serve a notice in the prescribed form on the owner thereof as soon as may be after such declaration, notifying that his cultural heritage or area is subject to preservation or conservation.

5. The jurisdiction for the control, enforcement, development, preservation or conservation of every cultural heritage and conservation area shall be vested in the State Government.

Jurisdiction for control etc. of
cultural heritage and
conservation areas

Register

6. (1) There shall be a register maintained by the Secretary in which all cultural heritage or conservation areas have been declared to be subject to preservation or conservation shall be registered.

(2) The Secretary shall keep a register open for inspection during the official working hours free of charge. Copies of the entries made therein may be supplied to any interested person upon request on payment of a prescribed fee.

Proposals and programmes for preservation or conservation

7. (1) It shall be the duty of the Secretary from time to time to formulate and publish, as directed by the Council, proposals and programmes for the preservation or conservation and enhancement of cultural heritage or conservation areas.

(2) The Secretary shall publish or cause to be published such proposal or programme in any form whatsoever so as to render every information pertaining thereto readily accessible to any interested party.

(3) The owner of any cultural heritage or the conservation area shall within a time to be prescribed by the Council implement the proposal or the programme.

(4) Notwithstanding the provision of subsection (1), the Secretary may require the owner of a cultural heritage or conservation area to submit proposals to the Council within a prescribed time for the preservation or conservation and enhancement of his cultural heritage or conservation area. The Council may with or without modification approve the proposal and thereafter the owner shall within a prescribed time implement the proposals as approved.

Power of authorised officer

8. (1) Any officer of the State Government authorised in writing in that behalf by the Council may:

(a) at all reasonable times, inspect any cultural heritage or conservation area in the possession of any person;

(b) either orally or in writing, require any person to supply him any information relating to anything he believes or has reasonable ground to believe to be a cultural heritage or area which may be declared under section 4(1) to be subject to preservation or conservation.

(2) It shall be the duty of every person who is in possession of a cultural heritage or conservation area to permit such inspection and to give reasonable facility and assistance for such officer in the performance of his duties.

(3) The owner of a cultural heritage or conservation area shall at all reasonable times permit such officer to enter upon a site for inspection and to carry out any study or work necessary for restoration, repair, alteration, maintenance, preservation or conservation thereof which appears to him to be expedient or necessary:

Provided that the liability imposed by this section shall arise only if such owner has been notified within fourteen days in writing of the proposed entry:

Provided further that if any person objects to such entry or execution of such work on religious grounds, such entry or work shall not be effected or executed except with the permission in writing of the Council.

9. (1) No person shall in the case of any cultural heritage without the consent in writing of the Council and except in the manner and in accordance with such conditions as it may impose therein-

Restriction of planning permission

- (a) demolish, disturb, modify, mark, pull down or remove the heritage or any part thereof; or
- (b) make alteration, addition, repair, renovation, restoration, construction, reconstruction, remodelling and adaptation to the heritage; or
- (c) erect building or walls abutting upon the heritage; or
- (d) make any change including painting to the exterior of the heritage.

(2) No person shall in the case of any conservation area without the consent in writing of the Council and except in the manner and in accordance with such conditions as it may impose therein-

- (a) erect any building or structure on such area, fell or otherwise destroy any tree standing in such area; or
- (b) otherwise encroach on such area; or
- (c) clear or break up for cultivation or cultivate any part of such area; or
- (d) dig, excavate, quarry, irrigate, deposit earth or refuse, carry out reclamation work, or otherwise disturb the landscaping and physical features of such area.

(3) In granting the consent under this section, the Council may impose conditions with respect to:

- (a) preserving or conserving particular features of the cultural heritage or the conservation area or part of it or severance therefrom;
- (b) making good, after the works are completed, of any damage caused to the cultural heritage by the works; and
- (c) in the case of building, the reconstruction of it or any part of it following the execution of works, with the use of original material so far as practicable and that such alteration to the interior of the building may be specified in the permission.

10. (1) In the case of a cultural heritage in the nature of a building or a conservation area, whenever by reason of the refusal to grant consent under section 9(1) or 9(2), the building or the area is incapable of reasonable beneficial use by the owner or the occupier, the owner may serve on the Council a purchase notice in the prescribed form requiring his building or area to be purchased in accordance with this section.

Responsibility
to acquire

(2) There shall be served with the purchase notice a statement of the facts and the reasons to justify the claim in the notice together with the copies of any available documents, including affidavit which may provide proof of the facts and the reasons.

(3) The Council shall investigate the claim made in the purchase notice and if satisfied that the building or the area is incapable of reasonable beneficial use by reason of the said refusal, the Council shall initiate steps towards the acquisition of the area or the building in accordance with the provisions of the Land Acquisition Ordinance.

Cap. 69.

(4) For the purpose of the Land Acquisition Ordinance, any area or building intended to be acquired pursuant to this section shall be deemed to be acquired for a public purpose.

Cap. 69

11. Any person who proposes to carry out any work in respect of a cultural heritage or conservation area, or to make any change in the use of the area may apply to the Council to have it determined whether the work or the change of use requires consent in respect thereof under Section 9.

Inquiry by owner

12. (1) Whenever a cultural heritage in the nature of a building, whether occupied or otherwise, requires urgent work or repair to be carried out, the Council may make arrangement with the owner or the occupier, as the case may be, for the work or the repair to be executed and for such purpose may make contribution towards the cost thereof.

Repair of cultural heritage

(2) Where the building has not been declared to be subject to preservation or conservation but is located in a conservation area and requires urgent work or repair to be carried out necessary for the purpose of preservation or conservation so as to maintain the harmonious character or appearance of the conservation area, the Council may make arrangement with the owner or the occupier, as the case may be, for the work or the repair to be carried out and may for such purpose make contribution towards the cost thereof.

(3) Where the Council has made contribution towards the cost of carrying out the work or the repair under this section, such work or repair shall be carried out in accordance with such direction as the Council may give.

(4) Where it appears to the Council that the owner or the occupier of the building, as the case may be, has refused to enter into such arrangement, the Council may execute the work or the repair after giving the owner or the occupier of the building not less than fourteen days notice in writing of its intention to do so.

(5) The Council may give notice to the owner of the building requiring him to pay for the expenses of the work or repair executed under subsection (4) and, if such notice is given, the amount specified therein shall, subject to subsection (6), be recoverable from the owner.

(6) Within fourteen days of date of notice, the owner may make an objection in the prescribed form to the Council-

- (a) that the amount specified in the notice is unreasonable; or
- (b) that some or all of works are unnecessary for the preservation or conservation of the heritage or the area.

(7) The Council shall decide on the objection and thereafter serve on the owner notice of such decision including the amount, if any, which is recoverable from him.

(8) In the event the owner is dissatisfied with the determination of the Council, he shall within fourteen days from the date of service of such notice make an appeal in a prescribed form to the Yang di-Pertua Negeri whose decision on the appeal shall be final.

13. (1) In the case of any cultural heritage or conservation area, which in the opinion of the Council is of exceptional importance to the State and which is situated on a private property, the Council may direct the Secretary-

Power to make private arrangement and removal

- (a) to make arrangement to purchase or lease by agreement or acquire the same in accordance with the provisions of the Land Acquisition Ordinance; or
- (b) to remove the whole or any part thereof, making good any damage done to the heritage or to the area pursuant to such removal and paying compensation therefor, provided that the amount of such compensation shall be settled by agreement or, in case of dispute, shall be submitted to the Yang di-Pertua Negeri whose decision shall be final.

Cap. 69

(2) Any person who is aggrieved by the decision of the Council to acquire any cultural heritage or conservation area under subsection (1)(a) or to remove the whole or part thereof under subsection (1)(b) shall have the right of appeal against such decision to the High Court within thirty days from the date he was informed of the decision.

14. (1) For the purpose of this Enactment, there shall be established a fund known as "the Cultural Heritage Fund".

Establishment of
the Fund

(2) The Fund shall consist of -

- (a) such sums as may be provided by the State Legislative Assembly from time to time;
- (b) grants from the Federal Government;
- (c) donations and contributions paid into the Fund by any statutory body, body corporate, association or individual person; and
- (d) collections from the public.

(3) The Fund shall be operated in accordance with the Financial Procedure Act 1957 and any subsidiary legislation made thereunder.

Act 61.

(4) The Fund shall be expended for the purpose of-

- (a) maintenance, preservation, conservation and enhancement of any cultural heritage or conservation area;
- (b) acquiring any cultural heritage or conservation area of exceptional importance to the State;
- (c) carrying out any other projects or activities sponsored by the State Government such as the publication and exhibition of any cultural heritage or conservation area;
- (d) carrying out and organising campaign for the protection of cultural heritage or conservation area; and
- (e) paying any cost or expense lawfully incurred by the Council or the Secretary for the enforcement or carrying out into effect the provisions of this Enactment

15. Any person who has in his ownership or possession a cultural heritage or conservation area may apply to the State Government for financial assistance which includes grant, aid, loan, reduction of rates and rents and any other financial assistance which is necessary for the maintenance, preservation, conservation and enhancement of the heritage or the area.

Financial incentives

16. Any person who has in his ownership or possession a cultural heritage or conservation area may with the approval of the Council levy entrance charges into the cultural heritage or the conservation area, or any other charges.

Levy of charges

17. Any person who contravenes any provision of this Enactment shall be guilty of an offence and shall be liable on conviction to a fine not exceeding fifty thousand ringgit or to a term imprisonment not exceeding five years or to both.

Penalty

18. No action shall be brought against the State Government, the Council, the Secretary or any officer of the State Government authorised in writing by the Council or the Secretary in respect of anything done or omitted to be done by him in good faith in the execution of his functions under this Enactment.

Immunity from legal action

19. The Council or the Secretary may in writing generally or specifically authorise the exercise, performance or discharge of its powers or duties, as the case may be, under this Enactment or any regulations made thereunder by any officer of the State Government.

Power to delegate

20. (1) The Minister may compound any offence under this Enactment or any regulations made thereunder by making a written offer to such person to compound the offence upon payment to the State Government of such amount not exceeding the maximum fine for that offence within such time as may be specified in the offer.

Compounding of offences

(2) The offence which may be compounded under subsection (1) shall only be in respect of an offence committed for the first time.

(3) An offer under subsection (1) may be made at any time after the offence has been committed but before any prosecution for it has been instituted, and where the amount specified in the offer is not paid within the time specified in the offer or within such extended period as may be granted by the Minister, prosecution for the offence may be instituted at any time thereafter against the person to whom the offer was made.

(4) Where the amount specified in the offer is paid up within the time specified in the offer or within such extended period as may be granted by the Minister, no prosecution shall thereafter be instituted in respect of such offence against the person to whom the offer to compound was made.

21. Prosecution in respect of any offence committed under this Enactment may be conducted by the State Attorney-General, a legally qualified member of his Chambers or the Secretary.

Power to prosecute

22. In the event if any conflict between the provisions of this Enactment and the provisions of the Antiquities and Treasure Trove Enactment 1977, the provisions of this Enactment shall prevail over and supercede the inconsistent provisions of the said Enactment.

Provisions
this Enactment
to prevail.
Enactment
No. 11 of
1977

23. The Yang di -Pertua Negeri may make regulations specifically or generally for the purpose of maintenance, preservation or conservation and enhancement of any cultural heritage or conservation area and for the implementation of the provisions of this Enactment and, without prejudice to the generality of the foregoing, such regulations may provide for any of the following matters:

Power to
make regulations

- (a) to prescribe criteria for any cultural heritage to be declared subject to preservation or conservation;
- (b) to prescribe conditions to be observed by the planning authority in granting planning permission;
- (c) to regulate or prohibit the activities in any conservation area;
- (d) to prescribe conditions and procedure of application for any work or repair in respect of any cultural heritage or conservation area;
- (e) to prescribe offences and penalties for offences not exceeding fifty thousand ringgit or to a term of imprisonment not exceeding five years or to both;
- (f) to provide for such other measures as are necessary or of expedient nature to ensure the maintenance, preservation or conservation and enhancement of any cultural heritage or conservation area;
- (g) to promote, regulate and carry out exhibition or publication in respect of any cultural heritage or conservation area;
- (h) to prescribe conditions and restrictions including the amount of fees chargeable to members of the public for access to any cultural heritage or conservation area; and
- (i) to prescribe fees or regulate any other matters required to be prescribed under this Enactment.

EXPLANATORY STATEMENT

This Bill seeks to make provisions for the preservation, conservation and enhancement of cultural heritage in Sabah and for matters incidental thereto.

2. Clause 1 contains the short title and the provision for commencement.
3. Clause 2 contains the definitions of words and expressions used in the proposed Enactment.
4. Clause 3 seeks to establish "the Sabah Cultural Heritage Council" to advise the State Government on matters of policy, administration and management of cultural heritage and conservation areas and to provide for the composition of the Council, the appointment of Chairman and members and the procedure for decision making.
5. Clause 4 seeks to empower the Yang di-Pertua Negeri to declare any cultural heritage for preservation or conservation and to declare any conservation area.
6. Clause 5 seeks to vest in the State Government the jurisdiction for the control, enforcement, development, preservation or conservation of every cultural heritage and conservation.
7. Clause 6 seeks to provide for a register of cultural heritage or conservation areas to be maintained by the Secretary.
8. Clause 7 seeks to impose a duty on the Secretary from time to time to formulate and publish, as directed by the Council, proposals and programmes for the preservation or conservation and enhancement of cultural heritage or conservation areas in the State.
9. Clause 8 seeks to empower an officer of the State Government authorised in writing in that behalf by the Council to inspect any cultural heritage or conservation area or to require any person either orally or in writing to supply information relating to a cultural heritage or conservation area.
10. Clause 9 seeks to restrict the carrying out of certain acts relating to any cultural heritage or conservation area without the consent of the Council and except in accordance with such conditions as may be imposed by the Council.
11. Clause 10 seeks to empower the acquisition of any cultural heritage in the nature of a building or any conservation area in accordance with the land Acquisition Ordinance (Cap. 69).
12. Clause 11 seeks to enable any owner of a cultural heritage or conservation area to seek inquiry from the Council whether any work or change of use of such cultural heritage or conservation area requires consent under clause 9.
13. Clause 12 seeks to make provisions relating to the urgent work or repair to be carried out in respect of a building subject to preservation or conservation or a building not subject to preservation or conservation but located in a conservation area.
14. Clause 13 seeks to empower the Secretary as may be directed by the Council to acquire any cultural heritage or conservation area either through purchase, lease or compulsory acquisition under the Land Acquisition Ordinance (Cap. 69) or to remove such cultural heritage subject to making good any damage done and to the payment of compensation therefor.
15. Clause 14 seeks to establish "the Cultural Heritage Fund" for the purposes stated therein.
16. Clause 15 seeks to provide for financial incentives to any person who owns or possesses a cultural heritage or conservation area which is subject to preservation or conservation.

17. Clause 16 seeks to empower the owner of a cultural heritage or conservation area to levy entrance or other charges.
18. Clause 17 seeks to prescribe an offence for contravening any provision of the proposed Enactment and to provide a penalty for such offence.
19. Clause 18 seeks to provide immunity from legal action against the State Government, the Council, the Secretary or any officer of the State Government authorised in writing by the Council or the Secretary in respect of the performance of their duties in good faith under the proposed Enactment.
20. Clause 19 seeks to empower the Council and the Secretary to authorise any officer of the State Government to exercise its or his powers or to perform its or his duties under the proposed Enactment.
21. Clause 20 seeks to provide for the compounding of offences under the proposed Enactment.
22. Clause 21 seeks to empower certain officers to conduct prosecution for an offence under the proposed Enactment.
23. Clause 22 seeks to provide that the provisions of the proposed Enactment shall prevail over any inconsistent provisions of the Antiquities and Treasure Trove Enactment 1977.
24. Clause 23 seeks to empower the Yang di-Pertua Negeri to make regulations for the matters mentioned therein.

FINANCIAL IMPLICATIONS

This Bill will involve the State Government in extra financial expenditure the amount of which cannot at present be ascertained.

APPENDIX 8

NATIONAL PARKS (JOHOR) CORPORATION ENAKMEN 1989

ARRANGEMENT OF CLAUSES

PART I

PRELIMINARY

Clause

1. Short title and commencement.
2. Interpretation.

PART II

ESTABLISHMENT OF NATIONAL PARK

3. Establishment of National Parks.
4. Object of establishment of National Parks.
5. Occupation of land within National Parks.

PART III

THE CORPORATION

6. Establishment of National Parks (Johor) Corporation.
7. Membership of the Corporation.
8. Establishment of Technical Advisory Committee.
9. Seal of the Corporation.
10. Functions of the Corporation.
11. Powers of the Corporation.
12. Additional duties and powers of the Corporation.
13. Delegation of powers of the Corporation.
14. Power to employ agents.
15. Public Authorities Protection Act 1948
16. Public servants



**PART IV
ADMINISTRATION**

Clause

17. Appointment of Director of National Parks (Johor) and other officers of the Corporation.
18. Duties of the Director of National Parks (Johor).
19. Regulations governing conditions of service of officers and servants.

**PART V
FINANCE**

Clause

20. Establishment of the National parks (Johor) Fund.
21. Expenses to be charged on the National Parks (Johor) Fund.
22. Power to borrow.
23. Investment of the National Parks (Johor) Fund.
24. Bank account.
25. Accounts, records and audits.
26. Estimates.

**PART VI
MISCELLANEOUS**

27. Exemption from stamp duty.
28. Power to make regulations.
29. Penalty.
30. Powers of seizure and arrest, etc.
31. Sales of thing of a perishable nature.
32. Temporary return of vehicle, etc, seized.
33. Forfeiture of things seized.
34. Seizure and forfeiture of vehicle, etc.
35. No costs, damages, etc., on seizure.
36. Power to prosecute.
37. Jurisdiction of Subordinate Courts.
38. Enactment not to derogate from the Protection of Wild Life Act 1972

SCHEDULE



ENACTMENT NO 7 of 1989

1 ASSENT,
SULTAN ISKANDAR

Ruler's Sign Manual

21st December 1989



An Enactment to make provisions relating to the establishment and system of control of National Parks including the preservation and management of natural resources and wild life and matters connected or incidental, therewith.

IT IS HEREBY ENACTED by the Legislature of the State of Johor as follows:

PART I

PRELIMINARY

1. This Enactment may be cited as the National Parks (Johor) Corporation Enactment 1989 and shall come into force on such date as the State Authority may, by notification in the Gazette appoint.

Short title and commencement

2. In this Enactment, unless the context otherwise requires-

Interpretation

“Chairman” means the Chairman of the Corporation appointed under section 7;

“Corporation” means the Corporation established under section 6;



JOHOR NO 7 of 1989

“Director of National Parks (Johor)” means the Director of National Parks (Johor) appointed by the Corporation under section 17;

Act 317.

“Marine Parks” means the Marine Parks established under the Fisheries Act 1985;

“Member” means a member appointed under section 7;

“National Parks” means any National Parks established under section 3 and includes National Parks wherein the areas are surrounded by Marine Parks to be determined by the State Authority;

“Officer” means the Director of National Parks (Johor), any officer or servant appointed under section 17;

“State” means the State of Johor;

“The National Parks (Johor) Fund” means the Fund established under section 20.

PART II

ESTABLISHMENT OF NATIONAL PARK

Establishment of
National Parks

3. (1) The State Authority may reserve any State land for the purpose of a National Park under a name to be assigned to it.

(2) The area so reserved shall be placed under the management of the Corporation established under section 6.

(3) The State Authority may at anytime when it is found necessary cancel or change the reservation of any area or part thereof as National Park.

(4) Any reservation of land under this section shall be notified in the Gazette and such notification shall -

(a) describe the reserved land;

(b) designate the authority having the control of the land so reserved.

(c) be conclusive evidence that the land so described is reserved for the purposes of this Enactment.

Act 317.

(5) For the purpose of the management and administration of National Parks that are surrounded by Marine Parks the Corporation may with the approval of the State Authority delegate its powers to the Director General of Fisheries responsible for Marine Parks established under the Fisheries Act 1985 to control and administer such areas.

4. The object of the establishment of National Parks is the preservation and protection of wild life, plant life and objects of geological, archaeological, historical and ethnological and other scientific and scenic interest and through their conservation and utilization to promote the education, health, aesthetic values and recreation of the people.

Object of establishment of National Parks

5. (1) The State Authority may lease or permit the use or occupation of land within a National Park subject to such conditions and restrictions as it thinks fit to impose and for any of the following purposes only-

Occupation of land within National Parks

(a) the construction and maintenance of roads;

(b) the construction and maintenance of airstrips;

and

(c) the construction and maintenance of hotels, rest houses, dwelling houses, buildings and works of public utility; where the State Authority considers any of these purposes to be necessary and in the interest of the development of the National Parks in accordance with the object referred to in section 4.

(2) Any land leased by the State Authority or in respect of which any use or occupation has been permitted by the State Authority under subsection (1) shall continue to be subject to the provisions of this Enactment and of any regulations made thereunder save insofar as may be set out in any condition or restriction imposed by the State Authority under subsection (1).

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(3) Subject to this Enactment, any lease or permit to use or occupy land under this section shall be issued in accordance with the National Land Code.

(4) Save by virtue of any right conferred by or acquired under or in respect of any lease or permit under subsection (1) or as otherwise in this Enactment provided, no person other than an officer may reside on, enter, use or occupy any land within and forming part of a National Park without the permission of the Corporation.



PART III

THE CORPORATION

6. There is hereby established a body corporate by the name of "National Parks (Johor) Corporation" with perpetual succession and a common seal, which may sue and be sued in its name and, subject to and for the purposes of this Enactment, may enter into contracts and may acquire, purchase, take, hold and enjoy movable property of every description and to do all other matters and things incidental or appertaining to a body corporate.

Establishment of the National Parks (Johor) Corporation

7. (1) The Corporation shall consist of the following members-

(a) a Chairman, who shall be the person for the time being holding the office of Menteri Besar, Johor;

(b) a Deputy Chairman to be appointed by the State Authority;

(c) six ex-officio members who shall be the persons for the time being holding the offices of the State Secretary, the State Legal Adviser, the State Financial Officer, the Director of the State Economic Planning Unit, the State Director of Lands and Mines and the State Director of Forestry;

(d) a representative from the Technical Advisory Committee established under section 8 of this Enactment;

(e) not more than seven members to be appointed by the State Authority.

(2) A member shall, other than those mentioned in paragraphs (a), (b), (c) and (d) of subsection (1) hold office for a period not exceeding three years or as determined in the letter of appointment and may at any time by writing under his hand addressed to the Menteri Besar Johor resign his office.

(3) The State Authority may at any time revoke the appointment of any member other than members appointed by virtue of office without assigning any reason therefor.

(4) Any vacancy may be filled by any person appointed by the State Authority;

Provided that no act or proceedings of the Corporation shall be invalid, prejudiced or illegal by reason only of any such vacancy existing at the time of any act or proceeding.

(5) The members may be paid such remunerations or allowances as the State Authority may determine.

(6) The provisions of the Schedule shall apply to the Corporation.

8. The Corporation shall establish a Technical Advisory Committee comprising of members having expertise and experience in related fields to advise the Corporation for the better and effective carrying out of its functions.



9. (1) The Corporation shall have a common seal and may, from time to time, be broken, changed, altered or made anew as the Corporation deems fit;

Seal of the Corporation

Provided that until a seal is provided under this section a stamp bearing the inscription "The National Parks (Johor) Corporation" may be used and shall be deemed to be the common seal.

(2) All deeds, documents and other instruments requiring the seal of the Corporation shall be sealed accordingly in the presence of the Chairman or any member of the Corporation authorised by the Corporation who shall sign every deed, document or instrument to which the seal is affixed; and such signing shall without further attestation be sufficient evidence that the seal was duly and properly affixed and the same is the lawful seal of the Corporation.

(3) A deed, document or other instrument which if executed by a person not being a body corporate would not be required to be under seal may in like manner be executed by the Corporation and such deed, document or instrument may be executed on behalf of the Corporation by any officer or servants of the Corporation generally or specially authorised by the Corporation in that behalf.

(4) The seal of the Corporation shall be officially and judicially noticed.

10. The functions of the Corporation shall be -

Functions of the Corporation

- (a) to create nature parks having potential as National Parks and to maximise the benefits thereof in line with the multi purpose concept;
- (b) to advise the State Authority in respect of matters pertaining to the preservation, the utilization, the control, the management and the development of National Parks and any other matters as referred to it from time to time by the State Authority;
- (c) to commence, co-ordinate and control activities of National Parks established under this Enactment;
- (d) to introduce the State of Johor as a State that is rich in natural resources and as a centre of tourist attraction;
- (e) to administer and preserve the natural environment in accordance with a system of management of international standard;
- (f) to manage and administer the National Parks (Johor) Fund established under this Enactment.



11. The Corporation shall have powers -

Powers of the Corporation

- (a) to do study, research and inspection on National Parks and to provide sufficient and efficient services and facilities for better preservation thereof;
- (b) to take steps to ensure the safety and protection of wild life and plant life in National Parks are being preserved in its original and natural state;
- (c) to receive donations, grants, gifts of movable or immovable property from any source and raise funds by all lawful means;

- (d) to contribute by grant or loan towards the expenses incurred or to be incurred in the improvement and maintenance of National Parks established under this Enactment;
- (e) to allocate any area within the National Parks as a place for the breeding of wild life and as nurseries for plant life;
- (f) to provide for accommodation, facilities and services in the National Parks for the purpose of tourist attraction without affecting its reasonable maintenance, control and management; and
- (g) to arrange and control the admission of the public to the National Parks and to impose fees for their entry and enjoyment of the facilities and services provided.

Additional duties and powers of the Corporation

12. Notwithstanding section 11, the Corporation may undertake such other functions and duties and administer and expend such moneys for such purposes as the State Authority may assign to it and in so doing the Corporation shall be deemed to be fulfilling the purposes of this Enactment, and the provisions of this Enactment shall apply to the Corporation in respect of such functions and powers and the administration and expending of such money:

Provided always that such moneys and the accounts thereof shall be kept separate and apart from those of the National Parks (Johor) Fund.

Delegation of powers of the Corporation

13. (1) The Corporation may, subject to such conditions, limitations or restrictions as it thinks fit to impose, delegate to the Chairman, the Director of National Parks (Johor) or any other person the power and authority to exercise or perform on its behalf such powers, duties or functions by this Enactment vested in or imposed on the Corporation as the Corporation may determine, except the power to borrow money, raise loans or make regulation; and any power, duty or function so delegated may be exercised or performed by the Chairman or the Director of National Parks (Johor) or other person, as the case may be, in the name and on behalf of the Corporation.
- (2) Without prejudice to the generality of subsection (1) and to the other provisions of this Enactment, the Corporation may delegate to the Chairman or any of its other members or any other person authority to sanction expenditure from the National Parks (Johor) Fund or any other moneys vested in and under the control of the Corporation up to such limit as the Corporation shall specify.

Power to employ agents

14. The Corporation may employ and pay agents and technical advisers, including advocates and solicitors, bankers, surveyors, valuers or any other persons, to transact any business or to do any act required to be transacted or done in the execution of its duties or for the better carrying into effect for the purposes of this Enactment.

Public Authorities Protection Act 1948

15. The Public Authorities Protection Act 1948 shall apply to any action, suit, prosecution or proceedings against the Corporation or against any member, officer, servant or agent or the Corporation in respect of any act, neglect or default done or committed by him in such capacity.

Public Servants F.M.S. Cap. 45.

16. All members, officers and servants of the Corporation, while discharging their duties as such members, officers and servants, shall be deemed to be public servants within the meaning of the Penal Code.

**PART IV
ADMINISTRATION**

17. (1) The Corporation may appoint a Director of National Parks (Johor) to be the Chief Executive Officer and vest him with such powers and impose upon him such duties and functions as may be determined by the Corporation and such other officers and servants as may be necessary on such terms and conditions for carrying out the purposes of this Enactment.

Appointment of Director of National Parks (Johor) and other officers of the Corporation

(2) If the Director of National Parks (Johor) is temporarily absent from Malaysia or temporarily incapacitated through illness or for other sufficient reason from the performance of his duties, the Corporation may direct any other fit and proper person to perform his duties during such temporary absence or incapacity.

18. (1) The Director of National Parks (Johor) shall -

Duties of the Director of National Parks (Johor)

- (a) be responsible for the carrying out of the decisions of the Corporation and the directions of the Chairman;
 - (b) exercise general control over the officers and servants of the Corporation; and
 - (c) perform such other or further duties as the Corporation or the Chairman may from time to time direct.
- (2) The Director of National Parks (Johor) shall have the right to take part in the meetings of the Corporation but shall not have the right to vote at any meeting of the Corporation.

19. The Corporation may from time to time with the approval of the State Authority, make regulations governing the conditions of service of its officers and servants.

Regulations governing conditions of service of officers and servants

**PART V
FINANCE**

20. (1) For the purpose of this Enactment there is hereby established a fund known as "The National Parks (Johor) Fund" to be administered and controlled by the Corporation.

Establishment of the National Parks (Johor) Fund

- (2) The National Parks (Johor) Fund shall consist of -
- (i) such sums as may be provided from time to time by the State Legislative Assembly;
 - (ii) moneys earned by the operation of any project, scheme or enterprise financed from the National Parks (Johor) Fund;
 - (iii) all moneys earned by the Corporation;

- (iv) all moneys earned or arising from any property investments, mortgages, charges or debentures acquired by or vested in the Corporation;
- (v) sums borrowed by the Corporation for the purposes of meeting any of its obligations or discharging any of its duties;
- (vi) any fee or other charges prescribed and collected by the Corporation; and
- (vii) all other sums or property which may in any manner become payable to or vested in the Corporation in respect of any matter incidental to its powers and duties.

Expenses to be charges on the National Parks (Johor) Fund

- 21.** The National Parks (Johor) Fund shall be expended for the purpose of-
- (a) paying any expenses lawfully incurred by the Corporation, including survey, legal and other fees and costs, and the remuneration of officers and servants appointed and employed by the Corporation, including superannuation allowances, pensions or gratuities;
 - (b) paying any other expenses, costs or expenditure properly incurred or accepted by the Corporation in the execution of its duties or in the discharge of its functions under section 10;
 - (c) repaying any moneys borrowed under this Enactment and the interest due thereon; and
 - (d) generally, paying any expenses for carrying into effect the provisions of this Enactment.

Powers to borrow

- 22.** The Corporation may from time to time borrow, at such rate of interest and for such terms as to the time and method of repayment and otherwise as the State Authority may approve any sums required by the Corporation for meeting any of its obligations or discharging any of its duties.

Investment of the National Parks (Johor) Fund

- 23.** The National Parks (Johor) Fund shall, insofar as it is not required to be expended by the Corporation under this Enactment, be invested in such manner as the State Authority may approve.

Bank account

- 24.(1)** All moneys paid to the National Parks (Johor) Fund shall forthwith be paid into an account in such bank or banks as may be approved by the Corporation.
- (2)** All orders or cheques against the said account shall be signed by the Chairman and a member or an officer of the Corporation authorised by the Corporation.

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| <p>25. (1) The Corporation shall keep or cause to be kept proper accounts and other records in respect of its activities and shall cause to be prepared a statement of accounts in respect of each financial year.</p> <p>(2) The accounts of the Corporation shall be audited annually by the Auditor General or such auditor or auditors as may be appointed by the Corporation.</p> <p>(3) At the end of each financial year and as soon as the accounts of the Corporation have been audited, the Corporation shall cause a copy of the statement of accounts together with a copy of any observation made by the Auditor General or other auditor appointed under subsection (2) on the statement or on the accounts of the Corporation to be transmitted to the State Authority who shall cause the same to be laid before the Legislative Assembly.</p> | <p>Accounts, records and audits</p> |
| <p>26. (1) The financial year of the Corporation shall commence of the 1st January and end on the 31st December of each year.</p> <p>(2) The expenses of the Corporation up to such amounts as may be authorised by the State Authority for any one year shall be defrayed out of the National Parks (Johor) Fund.</p> <p>(3) Before the beginning of September of each year, the Corporation shall submit to the State Authority an estimate of the expenses for the following year in such form and with such particulars as the State Authority may require; and the State Authority shall, before the beginning of November of that year, notify the Corporation of the amount authorised for expenses generally or of the amount authorised for each description of expenditure.</p> <p>(4) The Corporation may at any time submit to the State Authority a supplementary estimate for any one year and the State Authority may allow the whole or any part of the expenditure included therein.</p> | <p>Estimates</p> |

**PART VI
MISCELLANEOUS**

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| <p>27. The Corporation shall be exempted from the payment of stamp duty under the Stamp Ordinance 1949.</p> | <p>Exemption from stamp duty
Ord. 59, 49</p> |
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Power to
make
regulations

28. (1) The Corporation may, with the approval of the State Authority, make such regulations as may be expedient or necessary for the better carrying out of the provisions of this Enactment.
- (2) Without prejudice to subsection (1), such regulations may provide for all or any of the following:
- (a) prescribing the manner in which documents, cheques and instruments of any description shall be signed or executed on behalf of the Corporation;
 - (b) prescribing for the responsibilities and control of officers and servants of the Corporation;
 - (c) imposing fees in such cases as may be determined by the Corporation;
 - (d) to regulate generally on matters pertaining to its powers and duties under the provisions of this Enactment.

Penalty

- 29.(1) Subject to the provisions of this Enactment and to any regulations made thereunder, no person other than the Director of National Parks (Johor) or any authorised officer acting in the performance of his duty while being in the National Parks shall do any of the following acts-
- (a) entering and bringing any weapon, explosives, traps, machineries, poisons or dangerous items;
 - (b) hunting, killing, injuring, catching or annoying any wild life or collecting or destroying any birds egg and nest;

Provided that any dangerous wild life may be killed in defence of human life or to prevent the infliction of personal injury;
 - (c) cutting, spoiling, injuring, destroying or burning any plant life or anything having geological, archaeological, historical and scientific interest;
 - (d) bring in any wild life or permitting any domestic animals to enter or stray therein or bringing in any plant life therein;
 - (e) removing any animal or plant whether dead or alive;
 - (f) removing any mineral or thing having geological, archaeological, historical or scientific interests;
 - (g) destroying or defacing anything whether living or not; or
 - (h) setting up any building therein.

- (2) Any person who contravenes the provisions of subsection (1) commits an offence and on conviction shall be liable to a fine of not more than five thousand ringgit or imprisonment not exceeding six months or both.
- 30.(1) The Director of National Parks (Johor) or any authorised officer of the Corporation or any police officer not below the rank of Inspector may without warrant while being in a National Park -
- (a) arrest any person found committing or attempting to commit or abetting the commission of an offence under this Enactment;
- (b) seize any vehicle, tractor, machinery, tool, implement or other thing whatsoever which he had reason to believe was used or is being used in the commission of an offence under this Enactment;
- (c) demolish or remove any building, or take possession of anything erected within the National Parks without the approval of the State Authority.
- (2) In the exercise of the powers conferred by subsection (1), the Director of National Parks (Johor) or any authorised officer of the Corporation may call upon any police officer for assistance and it shall be the duty of every police officer to comply with any such request.
31. Where anything seized under this Enactment is of a perishable nature or is subject to speedy and natural decay, the Director of National Parks (Johor) or any authorised officer of the Corporation may direct that such thing be sold at any time and the proceeds of the sale be held abide by the result of any prosecution or claim under the provisions of this Enactment.
32. (1) Where anything has been seized under section 30, the Director of National Parks (Johor), any authorised officer of the Corporation or a police officer not below the rank of Inspector may, at his discretion temporarily return such thing to the owner thereof subject to such terms and conditions as such officer may impose and subject, in any case to sufficient security being furnished to the satisfaction of such officer that the thing shall be surrendered to him on demand or to produce it before a court of competent jurisdiction.

Powers of seizure and arrest, etc.

Sales of thing of a perishable nature

Temporary return of vehicle etc. seized

- (2) Any person who -
 - (a) fails to surrender on demand to the Director of National Parks (Johor), any authorised officer of the Corporation or police officer not below the rank of Inspector the thing temporarily returned to him under subsection (1); or
 - (b) fails to comply with or contravenes any of the terms or conditions imposed under subsection (1),

shall be guilty of an offence, and liable on conviction to a fine not exceeding five thousand ringgit, or to imprisonment for a term not exceeding six months, or both.

Forfeiture
of things
seized

- 33.(1) An order for the forfeiture of for the release of anything seized in exercise of the powers conferred under subsection (1) of section 30, shall be made by the Subordinate Court before which the prosecution with regard thereto has been held and an order for the forfeiture of the thing shall be made if it is proved to the satisfaction of that court that an offence under this Enactment has been committed and that the thing was the subject matter of or was used in the commission of the offence notwithstanding that no person may have been convicted of such offence.
- (2) Anything ordered to be forfeited under subsection (1) or deemed or ordered to be forfeited under section 34 shall be delivered to the Director of National Parks (Johor) and disposed of in such manner as he may think fit.

Seizure and
forfeiture
of vehicle, etc.

- 34. (1) Where any vehicle, tractor, machinery, tool, implement or thing is seized under this Enactment and there is no prosecution in respect thereof, such vehicle, tractor, machinery, tool, implement or thing shall be held for a period of one calendar month from the date of seizure at the end of which period it shall be deemed to be forfeited, unless a written claim thereto is received within the aforesaid period.
- (2) Where any written claim is received under subsection (1), it shall be referred by the Director of National Parks (Johor) or any authorised officer of the Corporation to the Subordinate Court for its decision as to the disposal of the things seized.
- (3) The Court concerned shall issue a summons requiring the claimant and the person, if any, from whom the vehicle, tractor, machinery, tool, implement or thing was seized to appear before the Court and upon the appearance of such claimant or person or upon his failure so to do after reasonable notice, the Court shall proceed to examine the matter and make an order upon the facts proved.

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| 35. | No person shall in any proceedings before any court in respect of the seizure of anything seized in the exercise of the powers conferred under this Enactment be entitled to the costs of such proceedings or to any damages or other relief other than an order for the return of such thing or the payment of their value unless such seizure was made without reasonable or probable cause. | No costs, damages, etc., on seizure |
| 36. | Prosecutions in respect of any offence committed under this Enactment may be conducted by the Director of National Parks (Johor) or any authorised officer of the Corporation. | Power to prosecute |
| 37.(1) | Notwithstanding any other written law, a Subordinate Court shall have power to try any offence under this Enactment or regulations made thereunder and on conviction to impose the full penalty therefor. | Jurisdiction of Subordinate Courts |
| (2) | For the purpose of subsection (1), 'Subordinate Court' means a Sessions Court or a Magistrate's Court. | |
| 38. | Nothing in this Enactment shall derogate from the provisions of the Protection of Wild Life Act 1972. | Enactment to derogate from the Protection of Wild Life Act 1972 Act. 76 |

SCHEDULE
(Section 7)

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| 1. | The following persons shall be disqualified from being appointed or being members of the Corporation:
(a) a person who is of unsound mind or is otherwise incapable of performing his duties;
(b) a bankrupt;
(c) a person who has been convicted of an offence and sentenced to imprisonment for a term of one year or more. | Persons disqualified from being appointed members of the Corporation |
| 2. (1) | The Chairman or the Deputy Chairman presiding in the absence of the Chairman, and six other members shall form a quorum at a meeting of the Corporation | Quorum and presiding officer |
| (2) | In the absence of the Chairman, the Deputy Chairman shall preside at a meeting and he may exercise all the powers of the Chairman in respect of that meeting. | |

Chairman
to have
a casting
vote

3. If on any question to be determined by the Corporation there is an equality of votes, the Chairman or the member presiding shall have a casting vote in addition to his deliberative vote.

Corporation
to
determine its
procedure

4. Subject to the provisions of this Enactment, the Corporation shall determine its own procedures.

Corporation
may appoint
committees

5. (1) The Corporation may with the approval of the State Authority appoint such committees of its members with or without other persons as it may determine.

(2) Any committees so appointed shall conform to instructions that may from time to time to be given to it by the Corporation and the Corporation may with the approval of the State Authority at any time discontinue or alter the constitution of such committee.

(3) Subject to the direction of the Corporation, the quorum and procedure of a committee shall be determined by the committee.

Passed in the Johor Legislative Assembly on the 7th day of October, 1989.

MOHD. ZAINI BIN OSMAN
Clerk of the Legislative Assembly,
Johor



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