

The Need for the Conservation of Taman Negara

In this article the views of the Malayan Nature Society on the conservation and development of Taman Negara are set out in full.

It is considered that the whole of Taman Negara should be conserved intact in perpetuity as a reserve for the wild life of the Malay Peninsula as it has evolved over the last one hundred million or so years. The area should be primarily one for conservation of this, the most complex and species-rich community of plants and animals ever to develop anywhere on the earth, the pinnacle of natural creation. The Malaysian nation holds this community in trust for mankind. A National Park is a source of national pride and Taman Negara can help in nation building in a matter which quite transcends the interests of any single group living in the country.

The only feasible multiple use of the land besides conservation is for controlled scientific research, including the use of the Park's wild food plants to improve cultivated strains, and controlled tourism. These are both uses of the assets of the Park which can bring continuing and increasing benefit to the country including substantial financial return.

The principal reasons for the permanent conservation of Taman Negara are:—

- (i) the area contains a wide range of rock types and has land from below 250 ft to over 7000 ft elevation, including the country's highest mountain,
- (ii) therefore the area contains a wide range of vegetation types,
- (iii) therefore it supports a wide and representative range of all sorts of animals and contains a wide and representative range species including the wild ancestors of many cultivated fruit trees (e.g. banana, rambutan, rambai: *Musa*, *Nephelium*, *Baccaurea*).
- (iv) Taman Negara is a big area (1677 square miles) in which all these vegetation types and wildlife species live together and interact in the manner they have evolved. This is essential for their permanent well being. Large animals (e.g. elephant, rhinoceros, seladang) need large areas, such as the Park provides; small pockets scattered over the country are no substitute because they cannot sustain viable breeding groups.
- (v) Taman Negara offers important tourist attractions and is a rapidly growing resort area (1963: 34 visitors, 1966: 448, 1970: 895 who on average stayed for 5 nights each). For sophisticated international tourists it is potentially the major attraction of West Malaysia and will play an increasing role

in bringing jumbo jet loads of visitors to the country. Such persons need have a reasonable chance of seeing wild animals. Experience in Africa and India, as well as in Taman Negara itself, has clearly shown that protected animals do become fearless of man and can be approached by them.

- (vi) Dr. W. Stevens spent the two years 1966-8 in West Malaysia as a Colombo Plan expert and produced for Government a report on *The Conservation of Wildlife in West Malaysia* based on extensive observations throughout the country. His report (1968) develops a well argued case for conservation and central to the whole argument is the assumption that Taman Negara will remain inviolate as the main reserve of the lowland forests which contain most of the nation's animals (e.g. over 80% of the mammals).

Each of these reasons for conserving Taman Negara under virgin forest will now be considered in more detail.

GEOGRAPHY

The map on page 126 shows how Taman Negara lies on the boundaries of Kelantan, Trengganu and Pahang. It lies at the headwaters of three major river system (Lebir-Aring-Relai, Terenggan, Tembeling/Pahang). It is thus a natural area of retreat for big animals as the forests on the lower reaches of the rivers are destroyed or brought under commercial management. It acts as a gigantic sponge during the wet months of the north-east monsoon, and, under virgin forest, slowly releases the heavy monsoon rain into the main drainages. Forest felling would foul the streams, increase the rate of runoff and enormously increase the floods which already annually distress inhabitants along the lower reaches. About 57% of Taman Negara lies in Pahang, 24% in Kelantan, 19% in Trengganu. The map (p. 114) shows the land at different elevations in Taman Negara. The bulk, 57.6%, lies below 1000 ft (only 0.6% below 250 ft; 28% lies between 1000-2500 ft, 11% 2500-4000 ft, 2% 4000-5000 ft and 1% over 5000 ft. In Taman Negara the steep boundary lies at about 400 ft, roughly 30% of the Park lies below this level and is thus topographically suitable for agriculture. The poor sedimentary-derived soils of the part below the steep boundary are however probably unsuitable for agriculture.

GEOLOGY

Figure 1, shows in outline the geology of Taman Negara. Salient features are firstly the wide range of rock types, especially sedimentary types, with a marked difference between the western and eastern parts

of the Park; secondly, no deposits of economic minerals have been reported; thirdly the granite (igneous rock) areas in the east, all in rough mountainous country, occupy about 17% of the Park; fourthly, there is Quaternary alluvium in the south-east; and mainly, within the Park lie numerous limestone hills including at Gua Peningat in the west the highest (2342 ft) and one of the largest in the country.

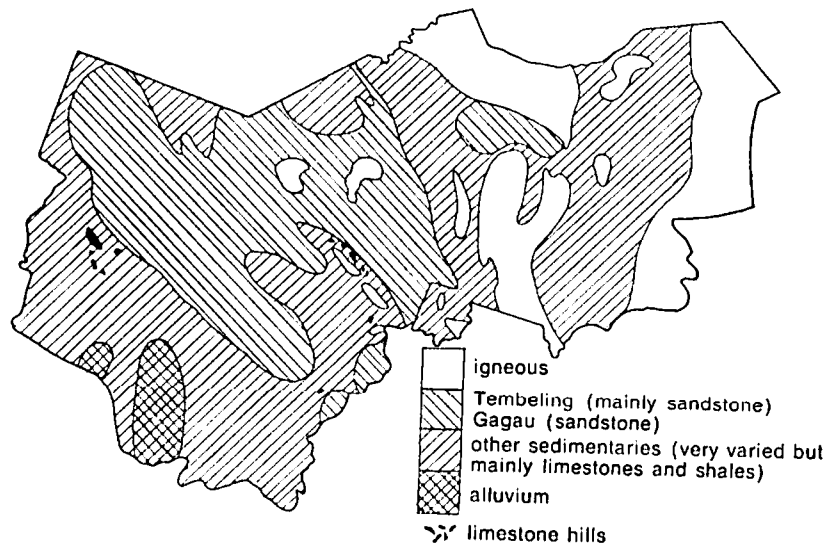


FIGURE 1. Outline geology of Taman Negara.

THE FORESTS

Figure 2, is a very approximate attempt, based on air photos, to separate the non-commercial montane forest, together with the other poor quality forest of the area, from the remaining forest which is of average to good commercial value. This is a very rough first approximation and more detailed interpretation of the aerial photos and further ground survey are certain to alter details and maps on a bigger scale will show small pockets of different forest types, but the broad picture is established. The salient features are that at least half the Park bears poor forest with small crowns which has small commercial potential or is non-commercial montane forest above about 2500 ft. Further, as with the geology, there is a difference between the western and eastern halves. The high yielding forest of trees with big crowns is principally in the foothills of the Gunung Tahan massif and the centre of the Park north of Sg. Tembeling. The area in the northeast in the Ulu Terenggan is of only average quality and is at the present day extremely inaccessible.

It would wreck the Park to log in the areas around G. Tahan and in the centre. The southwest and west portions which are now accessible by logging road carry poor quality forest and have ten of the fourteen known salt licks in the Park and big numbers of game animals — see below. These salt licks are all along the edges of the Park. They are an absolutely essential feature of the Park and to exclude them or in any way tamper with the forest round them is quite unthinkable, as it would completely defeat every purpose for which the Park exists.

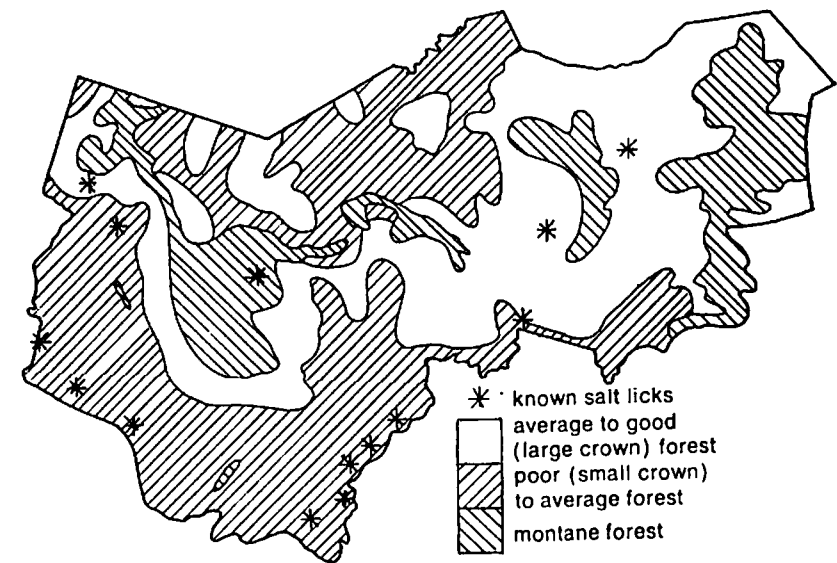


FIGURE 2. Outline forest types of Taman Negara.

It is essential for the future scientific management of the forests of the country for the commercial production of timber and for hydrological research that a representative range of undisturbed virgin forests remains as a control, against which the long term, sometimes insidious and cumulative, effects of management can be measured. Taman Negara is just such a control area. For forest research it needs to be supplemented by additional areas such as the Forest Department's Virgin Jungle Reserves provide.

THE ANIMALS

Mohd. Khan elsewhere in this issue has written fully on the distribution of large animals in Taman Negara. The map Fig. 3 summarises what is known of the distribution of seladang, elephant and Sumatran rhinoceros, based on his data. All the other *big mammals* known for West Malaysia are known or suspected to occur within Taman Negara,

there are no known absentees. By the end of this century, only 30 years hence, big animals which need big lowland rangers are likely to be extinct outside extensive sanctuaries such as Taman Negara. No one knows if the estimated total populations in the Park of 58-67 elephants and 62-68 seladang are enough to preserve the species; the rhinoceros with 3-4 isolated individuals will probably become extinct unless man intervenes. Does the nation wish to ensure the extinction of elephant and seladang too? Taman Negara contains a high concentration of animals; they are less shy than elsewhere and some are relatively easily seen by visitors. These are both striking features and contrast strongly with most other forests of the Peninsula. They are due at least in part to the 35 years of protection from hunting and poaching since the Park was created. These animals have become accustomed to complete protection and would be extremely vulnerable to poachers if any timber working were permitted within the Park.

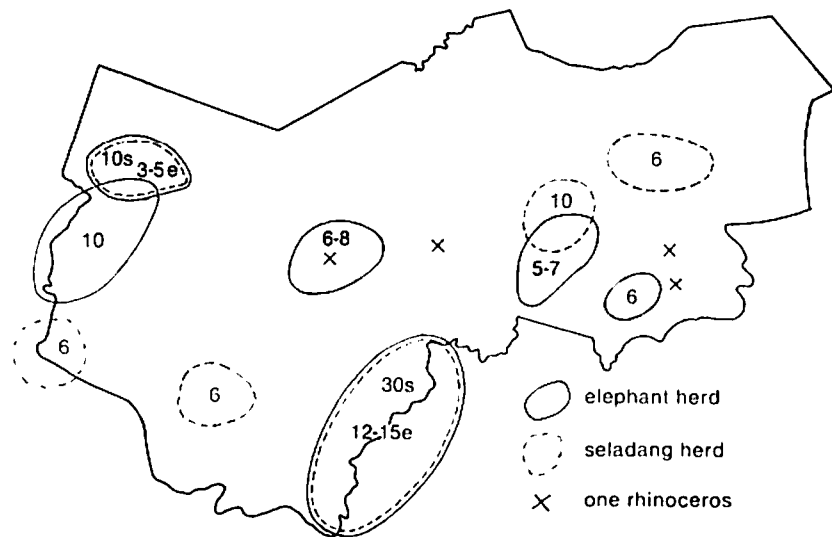


FIGURE 3. Known distribution of elephant and seladang herds and of Sumatran rhinoceros in Taman Negara.

Taman Negara probably contains virtually all the inland *birds* of the Malay Peninsula, 254 species had been reliably identified up to July 1970; 74% of the known species (168) of the lowlands and lower montane zone to 3000 ft, 66% (51) of the species of the montane zone over 3000 ft, and 20 species of common open country and river fringe birds; these figures do not include migrants, which remain largely unstudied in Taman Negara.

Lower animals remain little studied. These river headwaters probably act as important breeding grounds for fish which are caught for food in lower reaches outside the Park.

Concerning *small mammals*, Stevens, in appendix 1 to his report, analysed the habitat requirements of all Malayan mammals excluding bats. Important points from his conclusions are:—

- (i) 51% of mammals live on the ground, 37% in trees, 8% both, 4% in water;
- (ii) 53% are confined to primary forest, 25% live in primary and tall secondary forest, 12% live in either of these or cultivated areas;
- (iii) 52% live below 1000 ft, 81% below 2000 ft.

Stevens concludes 'the only way in which the native land mammals of Malaysia can be preserved is in the undisturbed lowland rain forest in which they evolved ... establishing formal reserves and parks large enough ... such reserves and parks must be ... permanent because the treasures they protect have lived there for 30 million years and should have the right to expect a similar future'.

Concerning *plants*, Taman Negara is and should remain an important reservoir of wild plant species growing, competing and evolving together as they have probably since the Cretaceous period, i.e. for about the last one hundred million years. It is not widely realised that flowering plants probably evolved in the tropics, possibly somewhere between Assam and Fiji (Takhtajan, *Flowering Plants, Origin and Dispersal*, 1969) and there are indications that the Malay Peninsula, which is part of the ancient Sunda continent and has the richest flora of any country in the world, lies at the heart of this area. Many plant species grow as widely scattered solitary plants, e.g. wild rambutan, durian and asam gelugor, (*Nephelium*, *Durio*, *Garcinia*), as described later in this issue by Ho and by Whitmore. To ensure they do not become extinct it is essential to conserve large tracts or virgin forest covering a wide range of rocks and altitudes. This is exactly what Taman Negara does. It is a huge 'bank' of wild plants many of which may have potential drug value or be valuable for improving cultivated strains of fruit trees etc. The map, Fig. 4 shows the approximate places where botanists have worked. It can be seen that exploration is very incomplete except for the tourist route to and up Gunong Tahan. Investigations by other scientists have been even more local. The high plateau (padang) of G. Tahan has several species of flowering plants and ferns which grow either nowhere else in the world or else are unique here for West Malaysia.

Concerning *tourism*, Taman Negara offers the tourist easy access by river and by well maintained paths into the interior of the Malayan

mixed lowland dipterocarp forests, the most magnificent and exciting forests the world has ever known, and which a little diligence he can see a wide range of mammals, besides birds and butterflies in profusion.

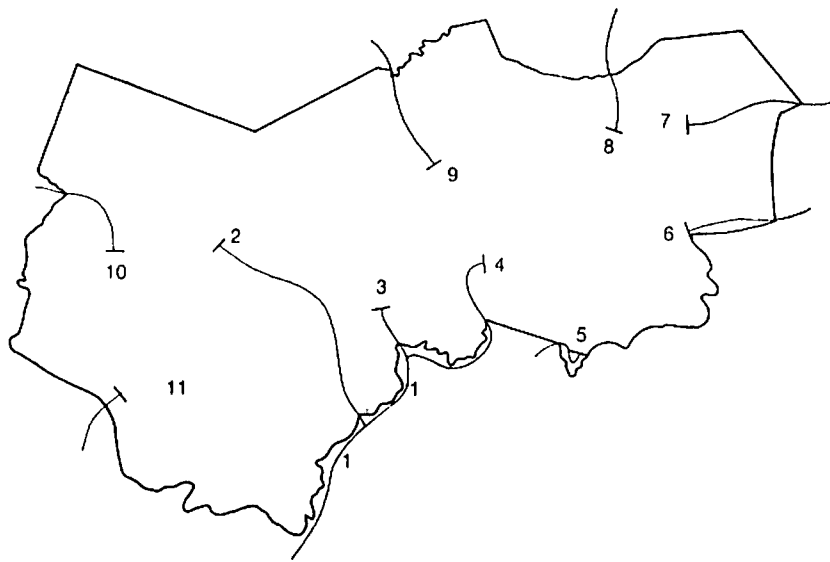


FIGURE 4. Botanical exploration of Taman Negara. 1: (Sg. Tembeling) many persons; 2: (G. Tahan) principally Ridley, Low, Holttum, Corner, Henderson, Wyatt-Smith & Wong, Ng, Dransfield, Shah & Whitmore, Soepadmo, 1906-70. 3: Dransfield, Shah & Whitmore, 1968. 4: Henderson 1929, Whitmore 1970. 5: Whitmore, 1970. 6: Cockburn & Whitmore 1968. 7: Moyses & Kiah 1934, Whitmore 1969. 8: Cockburn 1968. 9: Haniff & Nur, 1923, Cockburn & Whitmore, 1967. 10: Burgess & Loh, 1970. 11: Machado 1903.

The limestone hills are tourist spectacles of the first order, Gua Peningat, of potentially easy access near Merapoh in the west, is the highest limestone hill in the country. Gua Kenyam has aboriginal cave paintings.

The cliffs of the Teku gorge (Plate 33b) south of Gunong Tahan are spectacular, as is the padang of Gunong Tahan itself. These are deservedly popular with the more energetic visitors who make the long trip to the mountain.

The Tembeling runs through a gorge from K. Kenyam down to K. Tahan (see the map) with high forested bluffs on both banks and numerous exciting rapids in the river bed, to be shot in small perahus. Most tourists experience this gorge as a highlight of their visit. The smaller streams, of which the Sg. Tahan and Sg. Kenyam are the most accessible, have the attraction of overhanging neram trees (*Dipterocarpus oblongifolius*).

These are all things which are 'different from home' and are therefore potentially powerful attractions to even the most jaded international tourist. However, this potential remains largely undeveloped, for although 80% visitors to the Park are foreigners (i.e. only 20% Malaysians), in 1970 up to end July only 68 of the visitors (11%) gave an overseas address when booking. Malaysia is already only 18 hours by air from Europe and only a day away from America, Japan is even nearer. There is already a small airstrip near Park Headquarters at K. Tahan.

The boundaries of Taman Negara are worth a moment's attention. The Sg. Tembeling is a natural boundary to much of the southern and eastern border. The other boundaries were laid down before the topographic survey and therefore in some places cut across the country in an arbitrary manner. There is room for local minor realignment especially in the eastern mountainous part of the Park so that the boundaries follow ridges or run down to main kualas.

There have been minor encroachments on the park (i) in the north west near Merapoh where logging has penetrated two miles; (ii) in the southeast near K. Kelapah, Sg. Sat and (iii) between the Sg. Sat and Sg. Sepia north of Kg. Lanchar: both permanent padi areas penetrating several miles into the park; (iv) rubber is cultivated in the Ulu Lebir in the central north of the Park; (v) fish and rusa are probably poached along most borders, and rotan manau is extracted by orang asli from the Ulu Sat.

The Malayan Nature Society considers that there is no case at all for major realignment of the boundaries of Taman Negara. Its function as a conservation area are well met within its present boundaries which were established after exhaustive study and field investigation by T.R. Hubback, Malaya's first Chief Game Warden. The forests to its immediate south are now logged and roads penetrate close to its southern edge. But the forests within the Park at this place have little timber and better than being logged should be kept as a national reserve of virgin forest, a continuing asset, for the reasons expounded above. Moreover, ten of the fourteen known salt licks occur in this part and thus so do big concentrations of the wild animals.

It is important to make the following small extensions to Taman Negara. see map (Fig. 5):— (i) the east bank of the Tembeling gorge between K. Kenyam and K. Tahan must be included to protect the scenery which is already a major tourist attraction. The east bank is state land and very rugged hills. A belt about 1 mile wide is needed, excluding the flat inhabited area round K. Pagi. This is an urgent need because logging cannot be many years off and this is in the most visited part of Taman Negara. (ii) the southeast corner of the Park is on shale

and is very unstable with numerous big landslips even now under virgin forest. This area should remain under virgin forest to protect against serious erosion, if for no other reason. The unstable area extends southwards and a protective forest reserve should be created there. (iii) the high land west and north of G. Rabong should be included within Taman Negara. G. Rabong forms the northwest corner of the Park and its upper slopes will remain protective forest in any case.



FIGURE 5. Proposed extensions to Taman Negara, for details see text.

Forest felling licences have been given out for much of Ulu Kelantan to the north of Taman Negara and logging approaches it from the west and south as well. At its narrow point the Park is only 24 miles from north to south. Already a certain amount of poaching takes place wherever people live near to the boundary. We consider it absolutely essential that a broad buffer zone of forest is maintained everywhere round the boundary of Taman Negara. This means that as land development proceeds the whole area around the Park should become either protective or productive forest and not plantations or padi land. Otherwise poaching will get worse and, more important, the big animals will wander outside the park into what they like much more, succulent padi, oil palm and young rubber.

Finally we wish to make a few suggestions for the main lines along which the potential of Taman Negara could be developed.

The Game Dept. (under which the Park is vested) should continue to develop tourist facilities, for instance there is an urgent need for

descriptive leaflets for the visitor arrived at Kuala Tahan. As access to Taman Negara becomes easier it will be essential to take stringent precautions against illegal encroachment by agriculturists and poachers.

The Game Dept. could usefully begin the collection of basic data for future scientific research projects, for instance by installing rain gauges and river height posts at all ranger posts and making daily observations.

Land use planning authorities should make provision for the buffer zone of forest all round the boundaries of Taman Negara discussed above.

Steps should be taken to make the small increases in the size of Taman Negara described above.

Steps should be taken by the Game Dept to attract the attention of visiting and resident biological scientists when research projects are being planned. Whenever possible these projects should be sited within the Park.

The Krau Game Reserve in west Pahang is an additional important reservoir of wild life. It contains Gunong Benom, a high granite mountain, one of the highest peaks in the country, 6916 ft. The one major range of forest types missing from Taman Negara is that which develops on high granite country, and if certain plants and animals are restricted to these habitats, which may well be the case, the Park does not include them, and the Krau Game Reserve forms an obvious additional area for continued conservation.