



Tiger Conservation in the Endau-Rompin landscape of Peninsular Malaysia

Background

In Peninsular Malaysia wild tigers now persist primarily in three main landscapes; Belum-Temenggor in the north, Taman Negara in the center, and Endau-Rompin in the south (Figure 1). Each of these three landscapes has the potential to hold approximately 100 tigers at their natural carrying capacity. However due to poaching of tigers, poaching of tiger prey and habitat degradation, the number of tigers in each of these landscapes is below their carrying capacity.

WCS-Malaysia's overall tiger program in the Endau-Rompin landscape

For the past four years WCS-Malaysia has been working with the State Governments of Johor and Pahang (in Peninsular Malaysia) to initiate a recovery of the tigers and other wildlife of the Endau-Rompin landscape. WCS-Malaysia is committed to work in this landscape over the multiple years it will take to achieve this tiger population recovery.

There are three main direct threats to tigers in the Endau-Rompin landscape: habitat loss in key corridor areas (Figure 2), direct killing of tigers by poachers (Figures 3 and 4), and killing of tiger prey by poachers (Figure 5). To address these threats WCS-Malaysia works closely with the state and federal governments of Malaysia to undertake the following interventions: tiger-friendly land-use planning in the key corridor areas (Figure 2); a robust, continuous, on-the-ground anti-poaching effort across the whole Endau-Rompin landscape (Figure 6); outreach with local communities living in and adjacent to the Endau-Rompin landscape to support the anti-poaching work (Figures 7 and 8); and regular monitoring of tiger and tiger prey population numbers to determine if the conservation efforts are successful (Figure 9). All of these interventions are ongoing and will require steady funding over the long-term to ensure the recovery and then maintenance of the tiger population of Endau-Rompin.

Option 1 for support: Anti-poaching Efforts

The anti-poaching efforts of the WCS-Malaysia Endau-Rompin tiger conservation program consists of several main activities. The first is catalyzing and supporting on-the-ground ranger patrolling across the Endau-Rompin landscape. Some patrols are on foot in the backcountry (Figure 6), and some patrols are by vehicles and boats along all the major and minor roads and rivers of Endau-Rompin (Figure 10). Along the access points to Endau-Rompin WCS and the Government of Malaysia also employ moveable roadblocks and static checkpoints as further means of deterring the high number of

relatively less-committed, minor poachers and capturing the smaller number of more committed, high-value poachers (Figures 11 and 12). Dismantling illegal snares is another major activity of the anti-poaching teams (Figure 5). WCS-Malaysia's engagement with the enforcement units of the state governments has led to a dramatic increase in the effectiveness of the on-the-ground anti-poaching activities, for example with hundreds of snares removed, arrests of poachers, guns seized, and many warnings issued by these agencies.

A second major anti-poaching activity of WCS-Malaysia is to strengthen as much as possible the laws that impact poaching in Endau-Rompin. For example WCS was successful in helping initiate a discussion which culminated in a ban on licenses to commercially hunt wildlife in Endau-Rompin, which previously had served as a means to launder much illegally poached tiger prey (Figure 13). Another example of WCS-Malaysia's persistence is to help ensure the auditors of the Malaysian Timber Certification Council (similar to Forest Stewardship Council) check on hunting infringements during field audits on sustainable logging practices (which includes maintaining biodiversity in the concessions).

The third major anti-poaching activity of WCS-Malaysia is extensive formal and informal engagement and conservation education activities with adults and children in the villages and schools in priority areas in the landscape (Figures 7 and 8). The main purpose of this engagement is to try and increase the acceptance of all the tiger conservation activities happening in the Endau-Rompin landscape, including most importantly the anti-poaching activities. We have repeatedly found that in the absence of such regular outreach activities with local communities that instead of viewing conservation as either neutral or mildly positive that local communities instead look upon the conservation activities of WCS and the Government of Malaysia with suspicion and concern. WCS-Malaysia also regularly engages in discussions with senior leaders in Malaysian society whose endorsement of the tiger conservation activities leads to significant buy-in for anti-poaching efforts from across Malaysian society.

Your support for WCS-Malaysia's anti-poaching efforts will enable a vital and constant on-the-ground presence of robust ranger patrols who will protect and allow for the recovery of wild tigers across the Endau-Rompin landscape.

Option 2 for support: Tiger and Prey Research

The regular monitoring of tigers and tiger prey of the WCS-Malaysia Endau-Rompin tiger conservation program consists of several main activities. The first is ad hoc camera trapping for tigers and other wildlife, with the main aim of obtaining images of wildlife that inspire partners, particularly Government of Malaysia officials. For example camera-trap images of tigers taken in 2007 led to the Johor State Government taking ownership over the tiger conservation project and to give it their full and legal endorsement (Figure 14).

A second major initiative is to undertake formal camera-trapping exercises in Endau-Rompin to determine tiger population densities using mark-recapture statistical approaches (Figure 15). Assessments of tiger population densities enable WCS to determine if the tiger conservation interventions are successful and to provide a transparent and scientifically-endorsed assessment of the status of tigers in Endau-Rompin. The first camera-trapping effort in 2009, done in only about 1/5 of the area of the Endau-Rompin landscape due to funding shortages, indicated a minimum of 6 individual tigers. The next camera-trapping population estimation, covering 3/5 of the Endau-Rompin landscape is ongoing and should be completed by December 2011. The aspiration is to undertake repeat tiger surveys at least every two years and to secure enough funds to cover the entire Endau-Rompin landscape. These camera-trapping efforts are also tremendous at training young WCS-Malaysia staff in wildlife science and statistical methods and further act as a magnet for talented young Malaysians interested in wildlife and wildlife science who wish to pursue their interests in a meaningful way. Finally these exercises also enable images of tigresses and their young to be photographed, which are vital reaffirmations of breeding (Figure 16). Given that the scientific evidence indicates that the current tiger population of Endau-Rompin is about 20 animals, all indications of tiger breeding are extremely important signs of hope and success.

A third major research initiative is periodic assessments of the status of tiger prey. Much of the Endau-Rompin landscape is primary rainforest, where animal densities are naturally low and thus WCS uses “occupancy” based statistical approaches, which are more suitable for low-density situations (Figure 9). Occupancy approaches provide index values rather than absolute densities, but they are very powerful and an increased index value is a clear sign of a greater number of tiger prey animals, a necessary step towards increased tiger populations. WCS-Malaysia completed its first tiger prey occupancy survey in 2009, with a total abundance index for all prey species (sambar, muntjac, bearded pig, wild pig, tapir) of 5406. This occupancy study also revealed that tiger prey species are found throughout the Endau-Rompin landscape (Figure 17). It should be noted that all of the scientific research studies require significant human-power to walk much of the Endau-Rompin landscape, all of which leads to powerful means of detecting threats (Figure 9).

A fourth major research initiative is ongoing assessments of tiger habitat in Endau-Rompin through remote sensing, GIS, satellite imagery and other mapping technologies. Ground-truthing of these mapping efforts is a regular, necessary step, given problems with cloud cover, limitations to current mapping technologies, and the need to be extremely vigilant to changes in habitat status in certain critical corridor areas (Figure 2).

Your support for WCS-Malaysia’s tiger and tiger prey research efforts will enable regular, transparent, scientifically rigorous assessments of the status of tigers, tiger prey and tiger habitat in the Endau-Rompin landscape. These studies also serve as ways to attract the most talented Malaysian wildlife conservationists and inspire WCS staff and partners in the Government of Malaysia. All of these outcomes are essential for the recovery of wild tigers across the Endau-Rompin landscape.

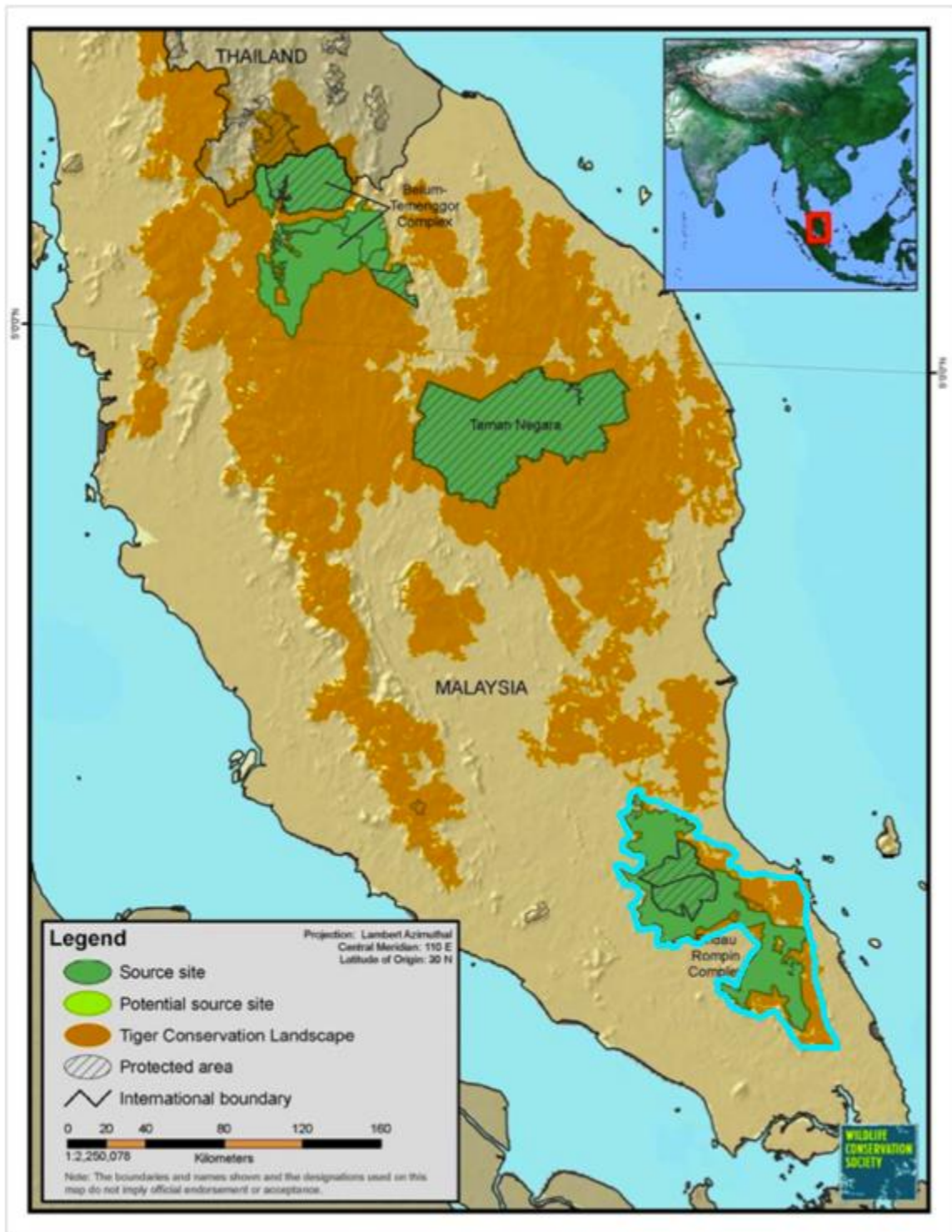


Figure 1 - location of the three main tiger conservation landscapes in Peninsular Malaysia.

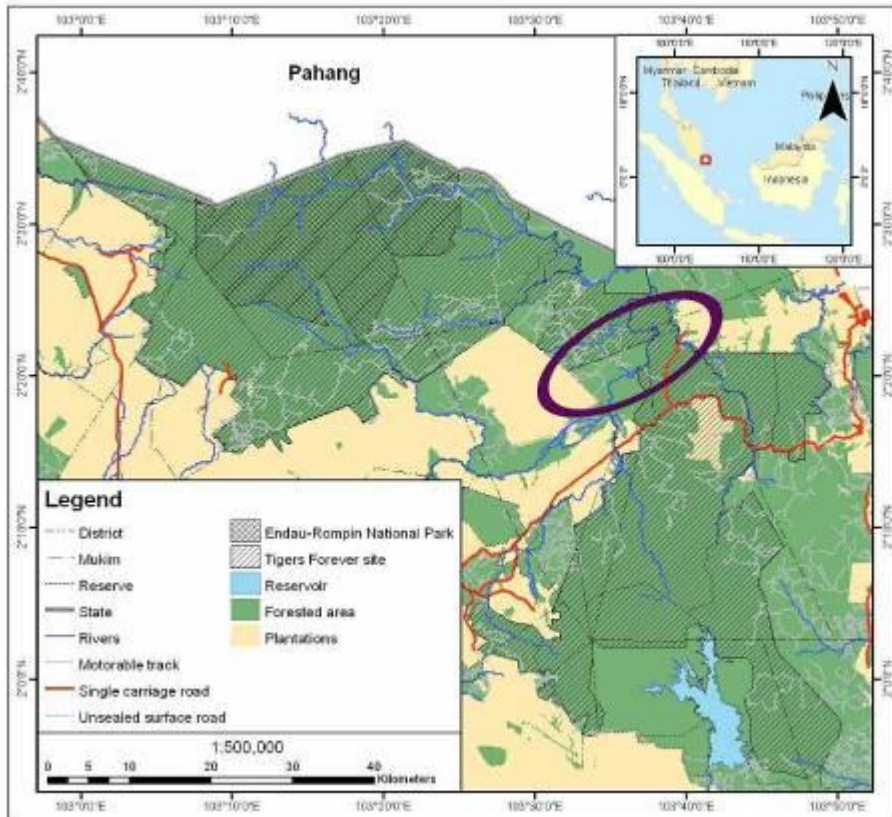


Figure 2 – a major corridor area of the Endau-Rompin landscape is circled in purple. Much of this area was slated for conversion to industrial monocultures such as oil palm and rubber. With input and discussions from WCS, the State Government of Johor did a 'swap' whereby nearby lands less critical for tiger conservation were converted and the area in purple was retained as native forests.



Figure 3 – poachers that deliberately kill tigers are a major threat in Peninsular Malaysia.

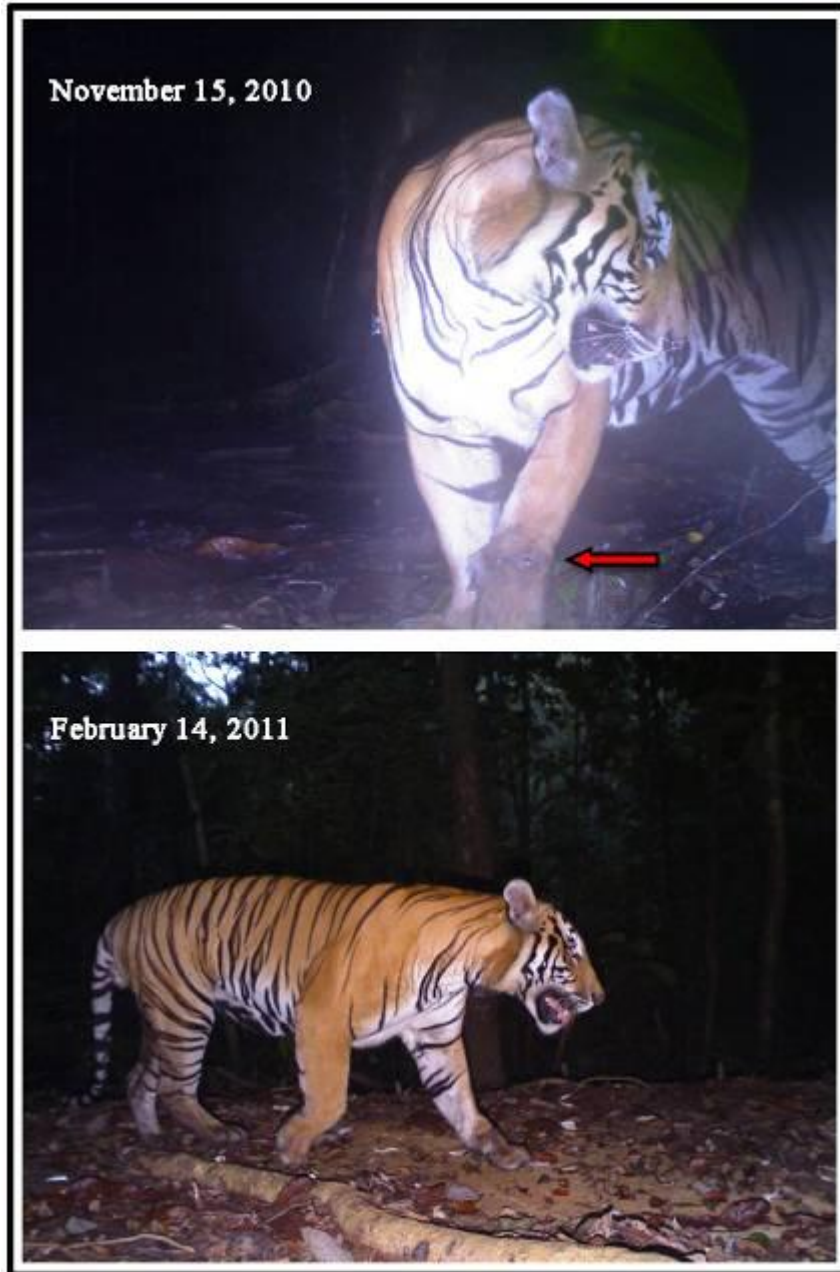


Figure 4 – snares set for mammals such as sambar or muntjac can injure or kill tigers. For example the top image shows a tiger camera-trapped in November 2010 in the Johor region of the Endau-Rompin landscape. The red arrow in the top image points to injuries on the animal's front left foot. Such injuries are extremely likely to have been caused by snares, as such injuries are seen on snared tigers across southeast and south Asia. In the case of this particular tiger he appears to have been fortunate as he was subsequently photographed 3 months later with an apparently healed front left foot (lower image is one of a number that were taken in mid-February of this animal, all of which indicated a recovered tiger).



Figure 5 – Snares collected by enforcement staff from the Government of Malaysia. WCS is part of the advisory and back-up team for such enforcement activities.



Figure 6 – on-the-ground ranger patrols across the Endau-Rompin landscape are a major conservation intervention.



Figure 7 – conservation education activities with children from local communities are a regular and helpful conservation intervention.



Figure 8 – conservation education activities with adults from local communities are a regular and helpful conservation intervention. Here adults do an activity called the “Web of Life” in which the idea that is being taught is that impacts on one component of an ecosystem will impact other components.

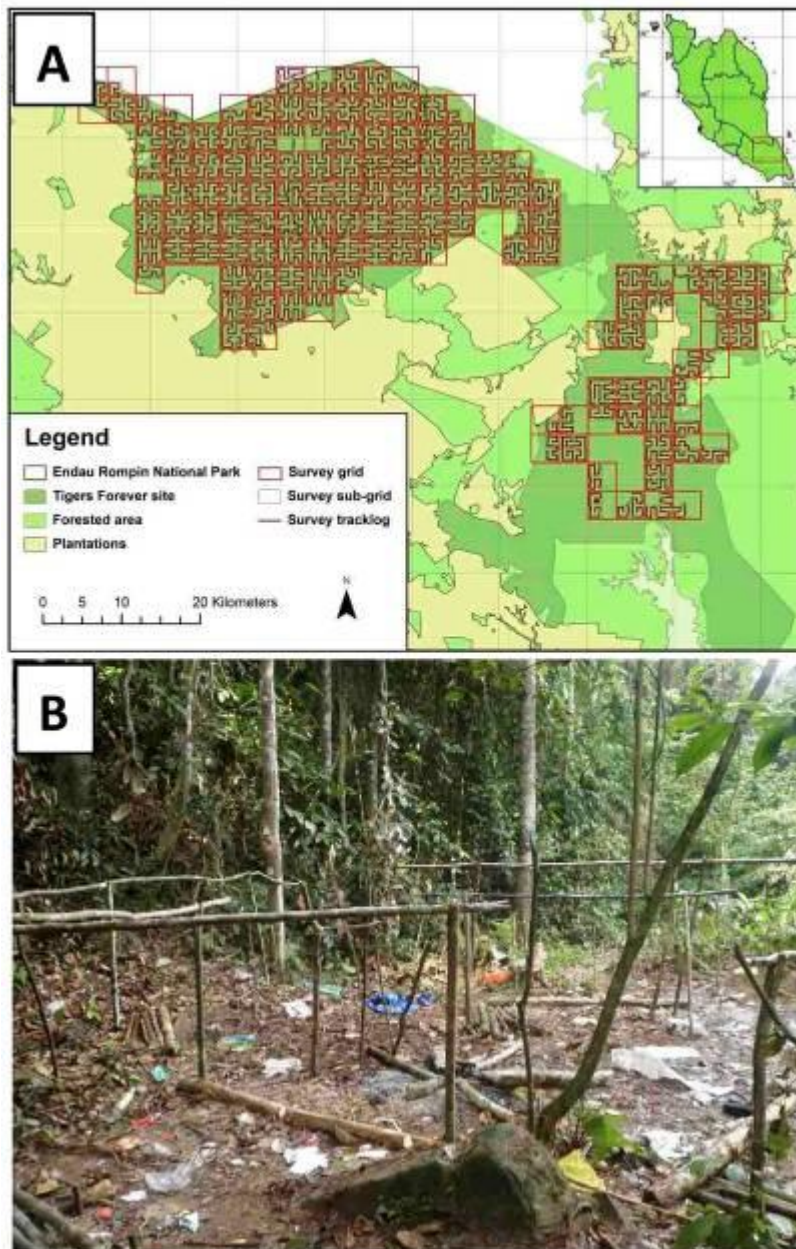


Figure 9 – A) WCS biological surveys extensively cover the whole Endau-Rompin landscape and do so in a highly intensive and systematic fashion, meaning that they attempt to cover “every inch of the ground”. B) Such biological surveys also serve as detectors of threats such as this poacher camp (illustrated) that bore the hallmarks of possibly being a camp set up by poachers who focus on high-value wildlife. These hallmarks typically include indications that the poachers were camping the in the jungle for weeks at a time, such as bags of rice. However it is worth recognizing that a camp such as the one illustrated may also belong to a group of individuals who collect high-value timber such as agarwood. Such groups, although they do hunt for tiger prey, typically do not target high-value wildlife.

Coverage of vehicle and boat patrols from 2009-2011

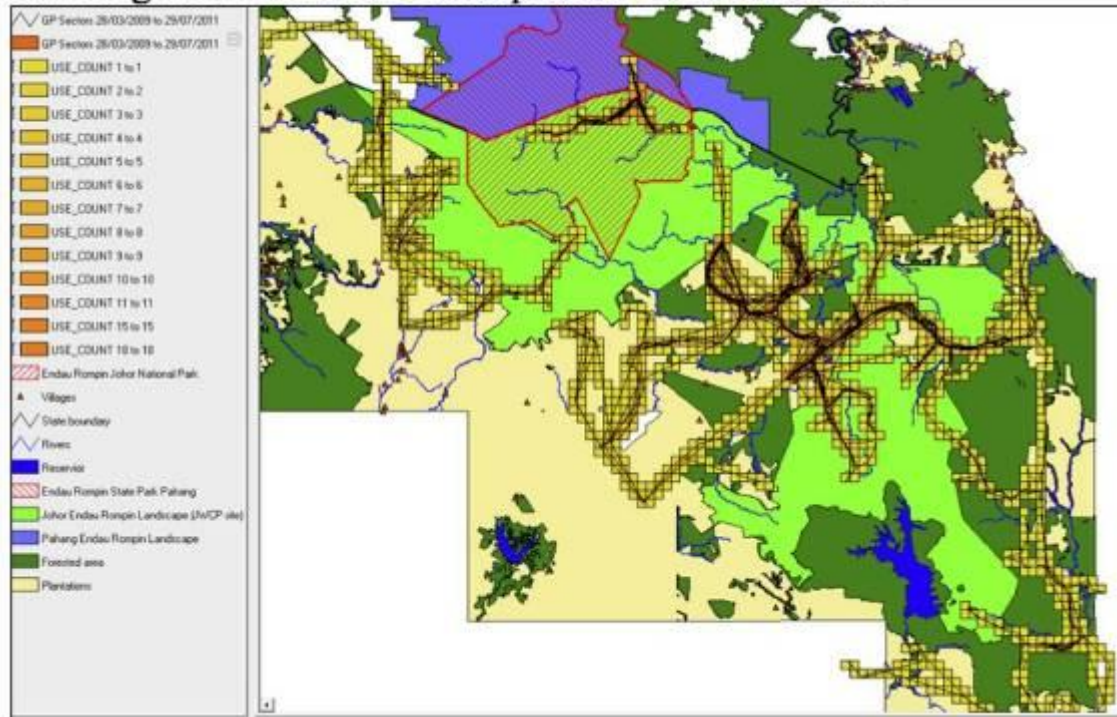


Figure 10 – vehicle and boat patrols in the Johor region of the Endau-Rompin landscape.



Figure 11 – a gun held illegally by its owner that was subsequently seized by Government of Malaysia staff manning a temporary “surprise” roadblock.



Figure 12 – A stationary checkpoint along one of the major access routes into Endau-Rompin. Staff check all vehicles for illegal wildlife, illegal guns and other illegal activities.

Tigers have Johor to themselves

JOHOR has banned all commercial hunting in the state.

It is the first state to do this and is pushing the Federal Government to enforce it.

And the reason for this historic move? Johor hopes to increase the prey in the parks to support the tiger population and enable it to grow 50 per cent over the next decade.

Over 2,000 hunting licenses were issued for various species of wildlife in Johor in 2006, according to Wildlife and National Parks Department (PERHILITAN).

These included licenses to hunt tiger prey like wild baur (750 li-cornet), barking deer (25) and sambar deer (22).

But the corporation, a statutory body that sponsors and manages parks under the state government's care, began lobbying for the ban last year.

No hunting or harvesting licenses have been issued by the state Perhilitan since April, said Johor National Parks Corporation director Abu Bakar Mohamed Salleh.

And the ban stays until the state decides otherwise, confirmed Perhilitan deputy director-general I Masliah Mohd Yusoff.

The surprise move is also part of a larger, serious effort to collect data, train staff, beef up enforcement and curb wildlife crime in its foremost park — the Endau-Rompin Johor National Park.

Johor has become the first state to ban commercial hunting. ELIZABETH JOHN studies the reasons behind this move



Johor hopes to boost the tiger population by banning the hunting of animals in its jungles.

In the long term, the corporation will produce a wildlife management plan for the whole of Johor, said Abu Bakar.

At present, it has begun working on two major projects in the park. The first is the Tiger Forever project in which nine countries are

participating worldwide. The project aims to increase animal population through surveys and enforcement work in the protected areas.

The second project is a survey, scheduled to begin next year, to estimate the elephant population in the area.

The survey will also help park managers identify high human-elephant conflict areas, said Abu Bakar.

This, he said, would become crucial as the state developed and brought the two into greater contact with each other.

Under this project, park staff will also undergo training in enforcement, how to track, collect data and identify high-threat zones.

More than a dozen staff and 32 local residents, including the Orang Asli, will be trained specially for the tiger project.

The projects are being jointly funded by the state, Wildlife Conservation Society Malaysia and New York-based Panthera Foundation.

More than RM600,000 was spent on the projects last year and RM700,000 this year.

Some of these funds will be spent on threat analysis which will single out hot spots and help the staff focus on their intervention programmes, said Dr Melvin Gamal, who heads Wildlife Conservation Society Malaysia, which provides much of the technical expertise for these projects.

"The state is putting in a lot of time and money and making a commitment to address wildlife conservation issues. It's setting a good example for others to follow."

There are also several other areas in the country where hunting and harvesting of wildlife is not allowed.

These include Langkawi, areas surrounding the Tirosengger, Kenyar and Pergau dams, the Kuala Gula bird sanctuary (Perak) and several reserves like the Ulu Mada, Hulu Terengganu and Ulu Lempur forests.

These have been "no-go" areas for hunters since the late 1990s but Johor remains the only state to impose a state-wide hunting ban.

THURSDAY 18 JUNE 2009

Poachers issued stern warning

Those caught hunting wildlife to face harsher penalties

By AUSTIN CAMOENS
newsdesk@thostar.com.my

JOHOR BARU: Tunjika Mahkota Johor Tunku Ibrahim Ismail Sultan Iskandar has issued a stern warning to hunters in the state in an effort to conserve wildlife.

He said harsher penalties should be imposed on people who were caught hunting wildlife.

He also said the same penalties should be imposed on restaurants and vendors selling exotic meats.

"Wildlife conservation is a matter that needs to be taken seriously by everyone and hunting in the forest of Johor should be banned to ensure the survival of the endangered wildlife," he said.

He also said that he would be working closely with the Wildlife

Department to ensure the proper enforcement.

He hoped that Johor would set an example for the other state's to look seriously into wildlife conservation efforts.

Tunjika Ibrahim was speaking at the launch of Kembara Mahkota Johor 2009 logo and Johor Wildlife Conservation Project (JWCP) at the Persada Johor International Convention Centre here on Monday.

Meanwhile, Malaysia Wildlife Conservation Society director Melvin Gamal said tigers and elephants were the first two species to be included in the JWCP, but it also involved all biodiversity conservation in the forests of Johor.

He said the society would be monitoring a 1,800 sq km field site

in Endau-Rompin and adjacent forests.

"The field site will include Endau Rompin Johor National Park and the adjacent forested land from permanent forest reserves of Labis to Ulu Sedili," he said.

Melvin said that the reason for working with such a vast area was because large wildlife like the tiger and elephants needed expansive areas to survive.

"Studies in the country have shown that a land area of about 10,000ha can only support about 11 to 13 tigers if there is ample prey within," he said adding that a similar sized area could only support about five to six elephants.

Melvin said the use of new technology in enforcement like the Management Information

System (MIST), which documents GPS tracking and camera traps helped get a good interpretation of wildlife in the area as well as poachers.

"The JWCP has been running since 2007 with the cooperation from agencies such as Johor National Parks Corporation (JNPC), State Forestry Department, Department of Wildlife and National Parks Johor (PERHILITAN), Wildlife Conservation Society (WCS) and the Royal Malaysian Police (PDRM), Kuala Lumpur, Malaysia and two other international agencies," he said.

Melvin said that the main purpose of this conservation program was to help enforcement agencies control poaching and illegal hunting in the area.

Figure 13 – ensuring that conservation minded newspaper articles are regularly published is a key outreach activity.



Figure 14 – ad hoc camera-trap images of tigers in Endau-Rompin taken in 2007. These photos and others from 2007 inspired senior Malaysian government officials to fully endorse the tiger conservation efforts and to allocate increased Government funding and other resources to tiger protection.



Figure 15 – WCS-Malaysia staff setting up a camera trap in Endau-Rompin.



Figure 16 – two camera-trap images taken from the same location in the Johor region of the Endau-Rompin landscape. The top photo shows a female tigress with two of her cubs. The bottom photo, taken shortly after the top, shows that the tigress has three cubs.

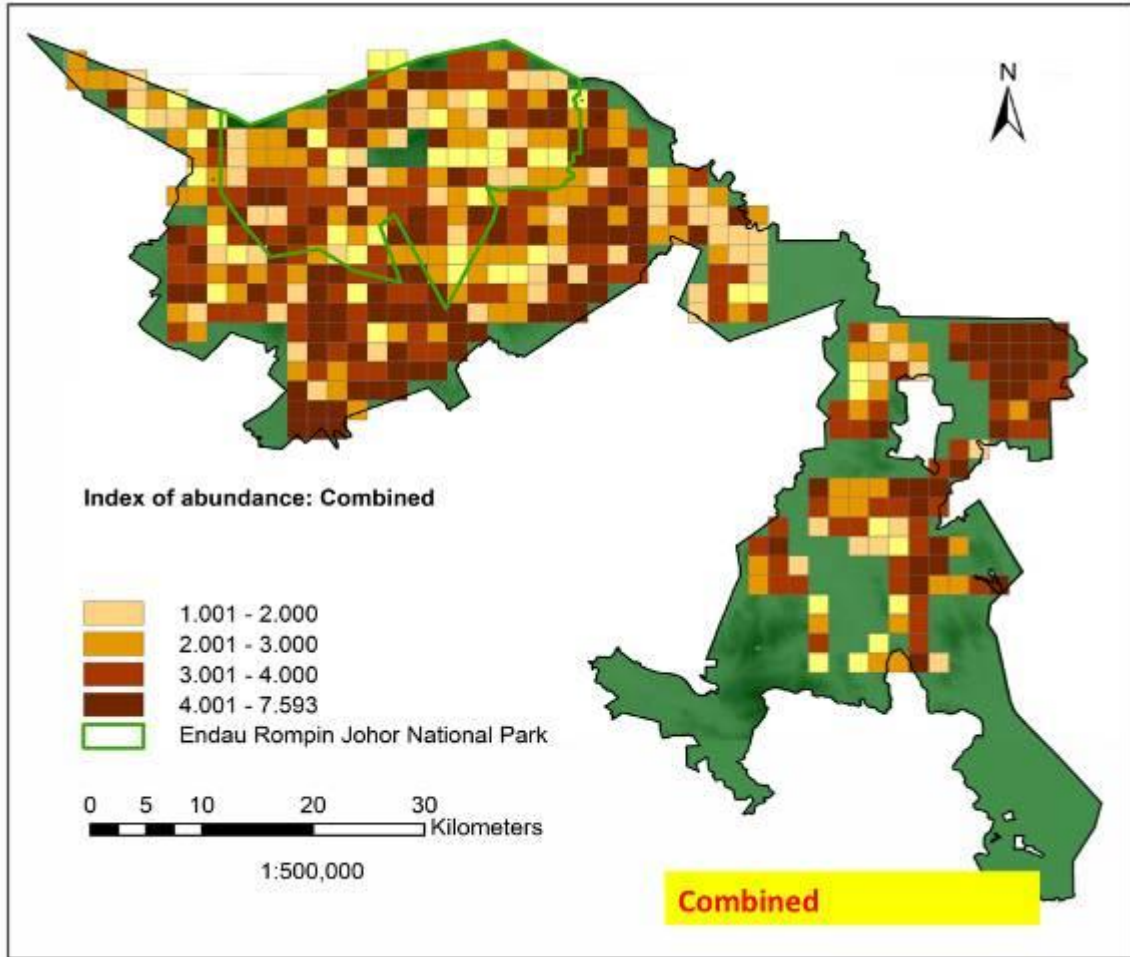


Figure 17 – tiger prey distribution data for the northern half of the Johor region of the greater Endau-Rompin landscape (the area to the southeast, known as Kota Tinggi, was not studied due to funding constraints). Data are from 2008, and show a combined index of abundance for all five major prey species (sambar, muntjac, wild pig, bearded pig and tapir).