HCV 3 Forest areas that are in or contain rare, threatened or endangered ecosystems

Definition

Forest areas that is in or contains rare, threatened or endangered ecosystem. Any forest area that contains an ecosystem/habitat type identified as a priority for protection by National Conservation Strategy (NCS), PERHILITAN Ecosystem Assessment report, Forestry Departments, FRIM or SFC, and/or is confirmed as such by current expert opinion, is HCV 3. Some ecosystems are naturally rare, but some others are becoming increasingly threatened by pressure from human activities. Due to rapid changes, existing data may be outdated and some particularly threatened ecosystems may already need to be considered Priority 1. A good example of this would be Lowland Dipterocarp Forests, Peat Swamps Forests and Limestone Habitats. Always refer to current expert opinion for confirmation.

Findings	• There are considerable number of plants and animals species but low in abundance value, including mammals, birds and insects that are listed as endangered or endemics especially those residing in the extreme lowland classified as mixed dipterocarp with mixture of kerangas forest and limestone vegetation.
Management Prescription	• Conduct periodic patrolling and surveillance in designated HCV areas to curb illegal activities such as encroachment and poaching. Any signs of encroachment should be reported and dealt with immediate actions. • Establish a long term biodiversity monitoring system for critical forest ecosystem, flora and fauna.
Monitoring	• Periodic monitoring and control should be carried out to prevent encroachment in the HCV areas. • Twice yearly progress reports in reporting of the progress of activities as prescribed in the approved Annual Work Plan (AWP), encompassing reporting of monitoring results of known HCV attributes. • Periodic monitoring by conducting re-enumeration of all the trees in the permanent sample plots and to be conducted once every three years to get indication of changes in tree structure and species assemblages

Site perspective

Based on the HCV assessment, NGR FMU contains seven forest formations, namely lowland mixed dipterocarp, upland mixed dipterocarp, lowland mixed dipterocarp and kerangas, lowland mixed dipterocarp and limestone, lower montane, lowland seasonal freshwater swamp, lowland freshwater swamp and lower montane forest (Figure 5). As described earlier, most of the forest in NGR has been exploited by

series of timber extraction activities in the past as the presence of numerous network of roads can be seen from the satellite image taken on 2009 (Fig. 4). Large tract of lowland and upland forests, especially along roads and skid trails were degenerated into low diversity and structure secondary forests. Most of the disturbed and regenerating original forest that possessed the previous functional tree family group and species composition are found sporadically on ridges, steep slopes and nutrient poor areas such as in podzolic and ultrabasic substrates that generally have low number of large trees with diameter more than 60 cm. Though, occasionally relics of climax species could be found in secondary species dominated forest, however, the chances of this low diversity and productivity forest revert naturally into high structural diversity forest is still doubtful. However, there are considerable species of plants and animals but low in abundance value, including mammals, birds and insects that are listed as endangered or endemics especially those residing in the lowland area of 200 m a.s.l. (Sugau, pers. comm; Chung, pers. comm; HCV report by Anna Wong & team).

In relation to the National Conservation Strategy (NCS) listing, about 27 % of NGR FMU categorised under HCV 3. Both extreme lowland area classified as mixed dipterocarp with mixture of kerangas forest and limestone vegetation still contain high conservation value flora and fauna as mention earlier in section 4.1–4.2 that could be currently rare elsewhere in the state. In view that NCS has classified this forest type as high priority, there will be a need for a good management practice and monitoring programme to be installed for this particular forest area. Thus giving lowland forest types a high priority for conservation.

The rationale for the identification of HCV attribute

The management indicates that the forested areas below 200 m a.s.l of seasonal freshwater swamp and mixed dipterocarp, including association of limestone vegetation and kerangas forest with the mixed deipterocarp forest within NGR FMU are important forest ecosystem and categorised as HCV 3 (Figure 1).
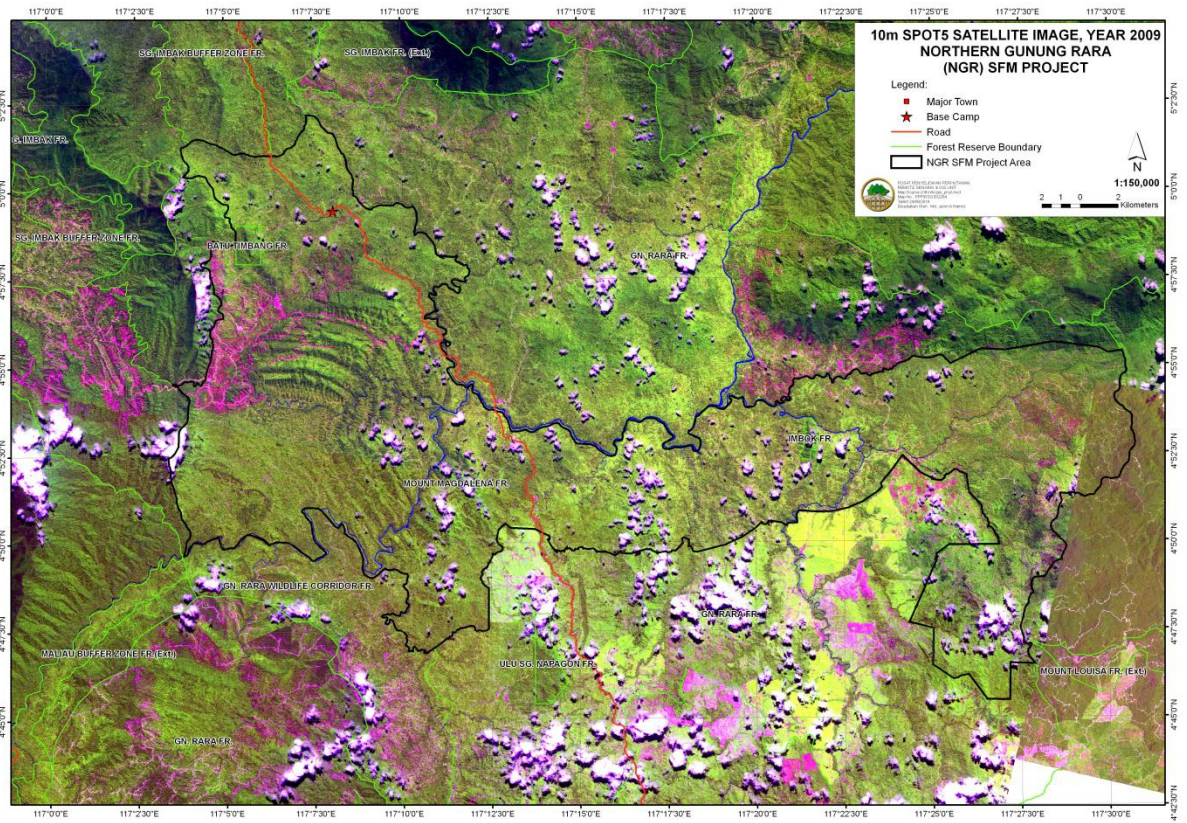
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Figure 1. A satellite image taken on 2009 showing the forest in NGR FMU has been exploited by series of timber extraction activities in the past as the presence of numerous network of roads can be seen from the satellite image.
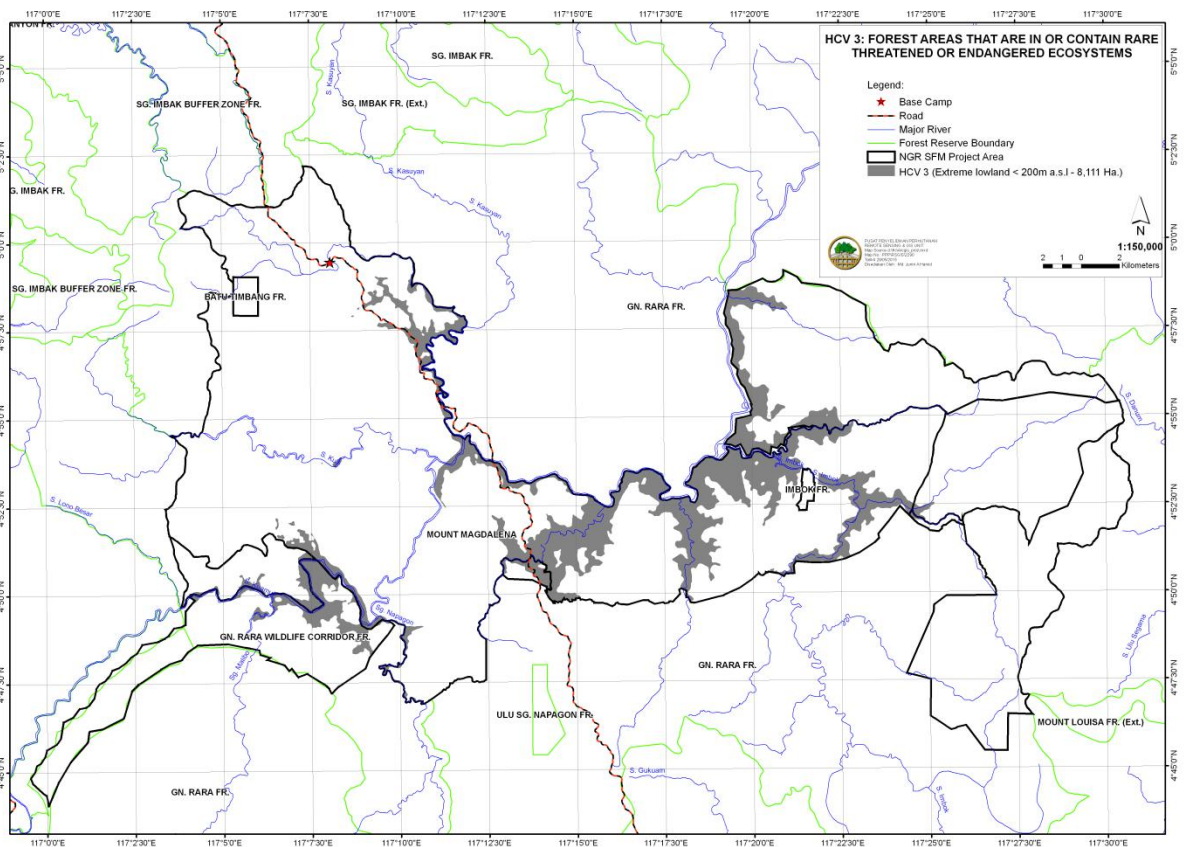

Figure 2. The location of extreme lowland forest in areas predominated with mixed Dipterocarp forest including association with Kerangas forest that are categorized as HCV 3 in Northern Gunung Rara Sustainable Forest Management Project Area.