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Inventory of wildlife in the protected forest area Bukit Jambul Gunung Patah as basic data to support sustainable management

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Abstract. Bukit Jambul Gunung Patah protected forests is located at the Sumatran submontane and montane rainforest ecosystem region, South Sumatra. Various activities that exist around the area of protected forests can caused disruption of the existence and diversity of animals that inhabit the area. Therefore, a wildlife inventory survey is needed, particularly focus on mammals and birds taxa, because two taxa have clear data information in the region. This research has been carried out from April to July 2018 with the exploration methods. The results of the study found 34 species of birds, and 11 species of mammals. Based on the Government Protection Regulation of the Republic of Indonesia No.P.20/MENLHK/Setjeb/Kum.1/6/2018 was found 12 species protected, 6 threatened species based on IUCN redlist, and 5 species into Appendices I based on CITES. From the results and compared with the study database of endangered species at Rantau Dedap by the Indonesian Greencap Team in 2014-2015, 12 species mammals were found 9 of which were threatened species. By comparison of baseline data and with species found that are in the category of threatened status. There was decreased in the threatened and protected species found this indicates that the habitat has begun to be disturbed. So that, a long-term study is needed to providing comprehensive biodiversity information to support the management of the protected forest Bukit Jambul Gunung Patah to remain sustainable.

1. Introduction

In Bukit Jambul Gunung Patah protected forests is located at the Sumatran submontane and montane rainforest ecosystem region, South Sumatra, with altitudes ranging from 1500 masl to 2600 masl. Various activities Such as the conversion of forests into plantations and settlements as well as the opening of roads for geothermal activities as well as access to hunters who can threatened the existence of wildlife in the area [1]. According to Susilowati et.al. (2016), the Bukit Jambul Gunung Patah Protected Forest area is one of the spots that has higher flora-fauna biodiversity in the South Sumatra region [2]. For this reason, an inventory is needed to find out species that have high conservation value based on the status of the IUCN Red List (International Union For The Conservation of Nature and Natural Resources) and Indonesian Protection Regulation with No.P.20/MENLHK/Setjeb/Kum.1/6/2018, and CITES (Convention on International Trade and Endangered Species of Wild Fauna and Flora). Based on the report of biodiversity action plan of PT. Supreme Energy, Rantau Dedap, at least 9 species of birds were found protected by Government



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Regulation No.7 of 1999 and 2 species of birds that were categorized as threatened species under the IUCN redlist and database of endangered species at Rantau Dedap by the Indonesian Greencap Team in 2014-2015 is 12 mammals were found 9 of which were threatened species [3].

2. Methods

This research has been carried out from April to July 2018 with methods of collecting data exploration methods with direct observation and Indirect observation such as footprint, faeces and with camera trap installation. Direct observation of mammals and birds is carried out by walking slowly (Reece walk) by involving observers moving through habitats in a certain direction and not having to follow the transect line with a particular route and being allowed to take easy and efficient routes to find objects. with a distance of approximately 1-2 km in 5 survey locations, Direct observation through footprints, nests and faeces is carried out during the day while night observations can be done with camera traps [4].

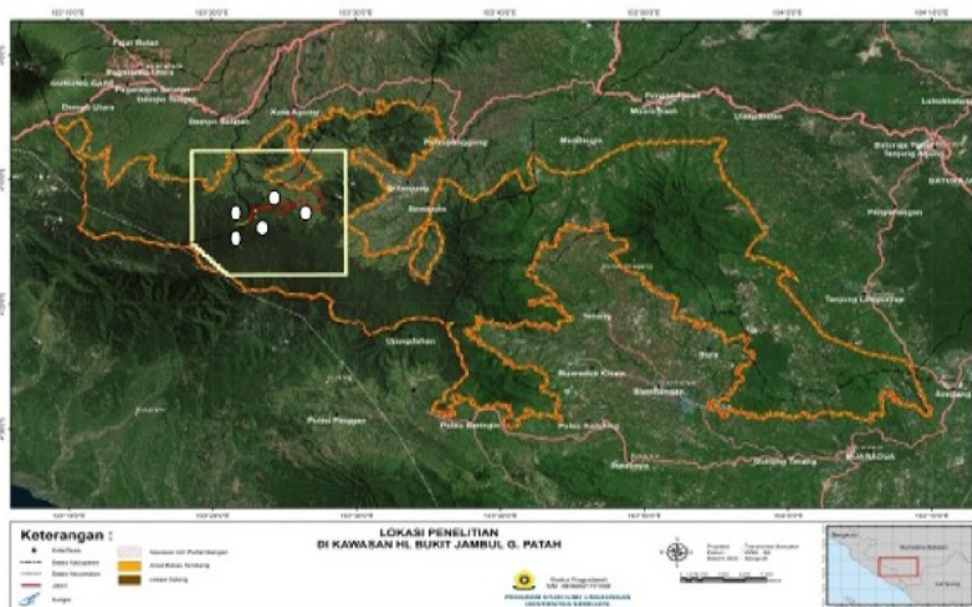


Figure 1. Map of the study location in Bukit Jambul Gunung Patah protected forests

3. Results and Discussions

Various programs for the assessment and management of the area continue to be designed to deal with various issues of reducing biodiversity to threatened species. Therefore, before that it was designed to need accurate data about the existence of wildlife in the Protected Forest Area Bukit Jambul Gunung Patah. From the results of study the wildlife found consisted of 34 species of birds, 11 species of mammals.

Table 1. Wildlife High Conservation Value in Region Bukit Jambul Gunung Patah

Common Names	Latin Names	IUCN	P20/2018	CITES	Info
Mammals					
Sumatran Tiger	<i>Panthera tigris sumatrae</i>	CR	PI	I	Footprints
Malayan Tapir	<i>Tapirus indicus</i>	EN	PI	I	CT
Siamang	<i>Symphalangus syndactylus</i>	EN	PI	I	
Sumatran Surili	<i>Presbytis melalophos</i>	EN	PI	I	
Malayan Sun bear	<i>Helarctos malayanus</i>	Vu	PI	I	CT
Sambar Deer	<i>Cervus unicolor</i>	Vu	PI	II	Footprints
Red Deer	<i>Muntiacus muntjac</i>	LC	PI	II	Footprints
Oriental Honey buzzard	<i>Pernis ptilorhynchus</i>	LC	PI	II	
Crested Serpent-eagle	<i>Spilornis cheela</i>	LC	PI	II	
Changeable hawk-eagle	<i>Nisaetus cirrhatus</i>	LC	PI	II	
Fire-Tufted Barbed	<i>Psilopogon pyrolophus</i>	LC	PI	II	
Wreathed Hornbill	<i>Rhyticeros undulatus</i>	LC	PI	II	

Information : IUCN = CR : Critically Endangered, EN : Endangered, VU ; Vulnerable, LC : Least concern
PI : Indonesian Protection. CT : Camera Trap, I : Appendices I, II : Appendices II.

From the table 1 above it is known that the total types of high conservation values are 12 species with three main categories:

1. Based on The Government Protection Regulation of the Republic of Indonesia No.P.20/MENLHK/Setjeb/Kum.1/6/2018 was found 12 species : 7 species of Mammals and 5 species of Birds.
2. Based on IUCN Redlist (*International Union for Conservation of Nature*). there are 6 species of mammals which are in the category of threatened species, especially for species with high threatened were is *Panthera tigris sumatrae* (Critically Endangered), *Tapirus indicus*, *Symphalangus syndactylus*, and *Presbytis melalophos* (Endangered).
3. Based on CITES (*The Convention on International Trade in Endangered Species of Wild Fauna and Flora*) 5 species into Appendices I is *Panthera tigris sumatrae*, *Tapirus indicus*, *Symphalangus syndactylus*, *Presbytis melalophos* and *Helarctos malayanus*.

Protected forest is a forest area that has been determined by the government to protect species, so that the ecological functions of the habitat. There was a decreased species found during in the study if compared to the previous preliminary data from PT. Greencap where is found 7 species birds under Indonesian protection regulations and 9 mammals species categorized as species threatened by the IUCN Red List, but from the research only found 5 protected birds species and 6 mammals species included in the threatened species category.

Forest birds can be used as an indicator that a region has good forest. Birds from the Hornbill group such as *Wreathed Hornbill* (Bucerotidae), and *Fire-Tufted Barbed* (Capitonidae), are two families of birds that are in desperate need of forests which can still be found in the area. The trend of population of 12 species high conservation value categories showed a decline in its natural habitat. The Sumatran tiger existences in the area can be used as indicators of forest ecosystems that are still good conditions.

From the above, the existence of the protected forest needs to be maintained as a habitat for threatened species and protected so as not to become extinct in the wild. So that monitoring of wildlife is needed, especially to see the trend of status of threatened species from various illegal activities in the Bukit Jambul Gunung Patah protected forest like illegal hunting, land clearing, illegal logging this data can be used as scientific information for management policies in the region.



Figure 2. Three birds protected (a) *Psilopogon-pyrolophus* (b) *Pernis ptilorhynchus* (c) *Nisaetus cirrhatus*.

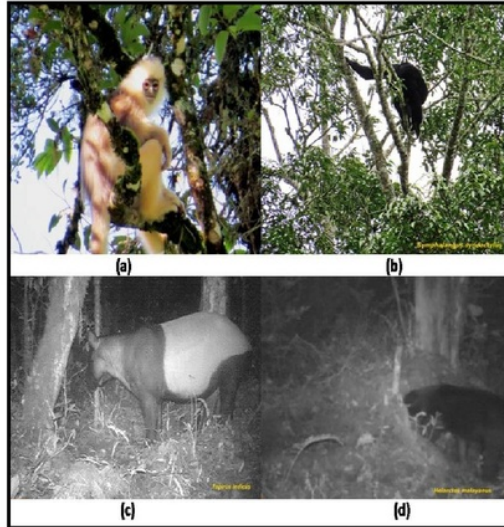


Figure 3. Four mammals Protected (a) *Prebystis-melalophos*, (b) *Symphalangus syndactylus* (c) *Tapirus indicus*, (d) *Helarctos malayanus*.

4. Conclusions

Shows that in this area is important habitat to support wildlife in it. so that, a long-term study is needed to providing comprehensive biodiversity information to support the management of the protected forest Bukit Jambul Gunung Patah to remain sustainable with develop of collaboration with Nature Conservation Agency (BKSDA) of Forestry and Environment Ministry.

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