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Simeulue and Surrounding Island Bird Survey: Research into the Districts Rare and Endemic Species

MUHAMMAD IQBAL

Report for Ecosystem Impact Foundation



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ABBREVIATIONS

BKPH	<i>Bagian Kesatuan Pengolaan Hutan / Forest Management Unit</i>
CITES	<i>The Conventionon International Trade in Endangeredspecies of Wild Fauna and Flora</i>
CR	<i>Critical Endangered (Kritis)</i>
DD	<i>Data Deficient (Kurang Data)</i>
DLHK	<i>Dinas Lingkungan Hidup dan Kehutanan / Department of Environment and Forestry</i>
EN	<i>Endangered</i>
END	<i>Endemic</i>
GoI	<i>Government of Indonesia, refers to types of and protection by law</i>
GPS	<i>Global Positioning System</i>
HCV	<i>High Conservation Value</i>
IBA	<i>Important Bird Area</i>
IUCN	<i>The International Union for Conservation of Nature</i>
KBA	<i>Key Biodiversity Areas</i>
HCA	<i>High Conservation Value</i>
NT	<i>Near Threatened</i>
Rp	<i>Rupiah</i>
RR	<i>Restricted Range species</i>
Sp	<i>Species</i>
VU	<i>Vulnerable</i>
WIB	<i>Waktu Indonesia bagian Barat / Western Indonesian Time</i>

SUMMARY

Between 1-19 of July 2021 a bird survey was conducted in Simeulue Regency, Aceh Province, Indonesia. From the survey results, 77 bird species from 35 families were found. There are 17 species that have High Conservation Value or HCA. The details are that 7 species are globally endangered, 13 species are protected by the Law of the Republic of Indonesia, 11 species are included in Appendix II of CITES, 5 species being priority species for IUCN SSC Asian Songbird Trade Specialist Group (ASTSG) and 2 species are endemic to Simeulue Regency (Simeulue Island, including Babi Island and Lasia). Several target species such as Silvery Pigeon, Hill Myna and Nicobar Pigeon were found during the survey, showing that Simeulue Regency remains a habitat for rare and endangered species. Hunting activities and the tradition of keeping birds is still carried out by some communities, therefore priority efforts are needed to carry out conservation activities to reduce or prevent these activities. In general, both the local government (Kepada Desa and Camat) and the local community support the recent Hill Myna and Shama conservation activities being carried out in Simeulue Regency.

1 INTRODUCTION

1.1 Background

Simeulue Island or Simeulue Regency is one of the outermost islands off the coast of Sumatra. Administratively, Simeulue Island or Simeulue Regency is part of Aceh Province, which consists of Simeulue Island and 146 smaller outer islands. The island is located 350 kilometers north of the equator, consists of tropical rainforests and coral reefs with high biodiversity. Simeulue Regency is located in a remote location. Simeulue and surrounding islands are home to high levels of endemic, endangered and critically endangered bird species that are affected by illegal and unsustainable trade (Jepson and Ladle 2005, Eaton et al. 2015). Species that are included in the fairly high hunting category include Nias Hill Myna (*Gracula robusta*) and Simeulue Hill Myna (*Gracula religiosa miotera*) (Švejcarová 2017, Ng et al. 2020), Lasia (Barusan) Shama (*Copsychus [malabaricus] opisthochra*), Simeulue (Barusan) Shama (*Copsychus [malabaricus] hypolizai*) and Silver Pigeon (*Columba argentina*) (Rheindt et al. 2019).

Indonesia has the highest number of threatened bird species in Asia and the second highest in the world (Chng et al. 2017, Rentschlar et al. 2018). Birds are the most common pets in Indonesia (Jepson and Ladle, 2005), and therefore illegal hunting and trading of birds is a very common practice in Indonesia, with many species and subspecies being driven to the edge of complete or regional extinction.

Geographically Simeulue Regency is now viewed as an important area for high levels of biodiversity, an Important Bird Areas (IBA), or what is now called Key Biodiversity Areas (KBA) (Holmes et al. 2001, Birdlife International 2021). Given the high level of threat to biodiversity in Simeulue Regency, there is an urgent need to conduct surveys in the context of conservation focusing on the areas endangered and endemic species. It is hoped that these activities will help the survival of these focus species.

1.2 Aim

The main objectives of this survey are:

1. Establishing bird species baselines and look at population numbers in general and specifically for Simeulue Hill Myna, Nias Hill Myna, Simeulue and Lasia (Barusan) Shama in Simeulue Regency;
2. Building strategic partnerships with various parties in conducting bird conservation in Simeulue Regency;
3. Reducing bird hunting activities in Simeulue Regency;
4. Provide scientific information on the populations of the above-mentioned focus bird species.
5. To find potential release sites for the EcosystemImpact songbird breeding project.

1.3 Activities

Activities to be carried out to support the bird conservation program in Simeulue Regency (including Pulau Babi and Lasia) are as follows:

1. Carry out field surveys on the diversity of bird species and habitats;
2. Coordinate with local communities and recruit potential local community members to be involved in future bird conservation programs;
3. Search for potential future project and release sites;
4. Develop early stages of community education and awareness-raising programs for bird conservation;
5. Writing field findings in the form of scientific reports.

1.4 Output (Expected Result)

1. The existence of baseline data on bird species in the Simeulue Islands (especially Simeulue Island, Babi and Lasia Islands);
2. Documentation of scientific reports on data collected during the survey;
3. Find suitable community locations where EcosystemImpact will aim to develop a community environmental education program.
4. To gain insight into possible future bird release sites.

2 METHOD

2.1 Survey Locations

A survey to assess bird diversity was carried out on 1-19 July 2021 in Simeulue Regency, Aceh Province. The survey site covers the main island of Simeulue and surrounding islands (mainly Babi and Lasia Islands). This area still has forest and is a protected area, which represents the remaining natural forest in Simeulue Regency. The survey was conducted in several locations, where the locations visited had been planned in advance through analysis of satellite imagery and the results of preliminary studies (through desktop studies, conducting literature studies, interviewing people from the relevant agencies, and local communities). Generally, the locations visited are areas that are considered to have forest or represent natural vegetation, and have potential as a habitat for Hill Myna or Barusan Shama. Birds were surveyed on foot and by car at the observation sites. The survey was carried out at several observation locations that had been previously planned, or were planned according to conditions in the field. The observation sites are as follows (see Figure 1 for the survey sites).

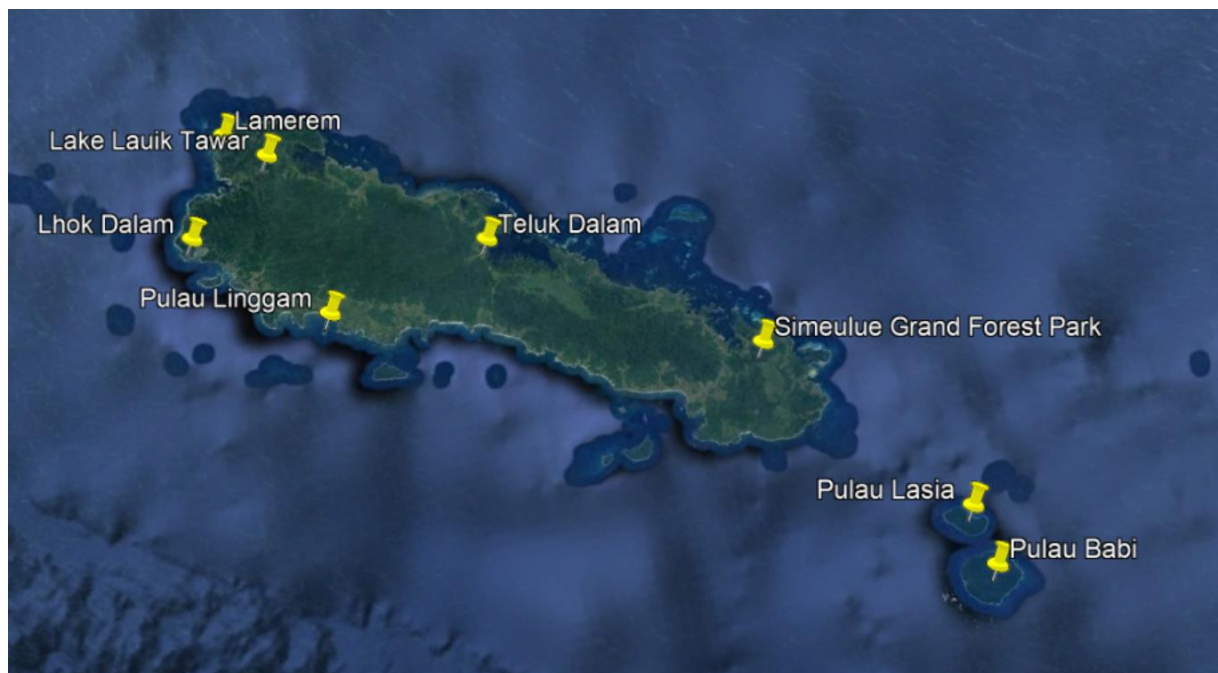


Figure 1. Map of survey locations and locations for bird watching on Simeulue Island (Simeulue Regency), Aceh Province.

Survey Locations in more detail

Lamerem

Lamerem is a village located in the northern part of Simeulue Island. Administratively, this area is included in the Alafan District. There is still good forest in this area, making it a potential habitat for Hill Myna and Shama (Figure 2). The people's livelihood is mainly from gardening and fishing.

Tepi Island

This area is administratively still part of Lamerem Village, but because this island is separated from the mainland of Simeulue Island, it has been classed as a separate area. This island can be visited in about 30 minutes by robin (motorised boat) from the Lamerem Village harbour. There is still forest here, but in general the area is dominated by *Cocos nucifera* coconut plantations, especially on the edges of the island (Figure 3).

Dusun Laut Tawar

Laut Tawar hamlet or Lake Lawik Tawar is one of the hamlets in Amabaan Village, West Simeulue District. A large lake, Lake Laut Tawar is situated at this location, with the surrounding area still being surrounded by forest (Figure 4). The forest in this area is a supplier of lake water which is still maintained and monitored by residents.

Lhok Dalam

This area is a village located in the District of Alafan, Simeulue Regency. This village is located in the southwest part of Simeulue Island. There is still good forest in this area (Figure 5), so it is still a potential habitat for the presence of Hill Myna and Shama. The people's dominant livelihood is gardening and fishing.

Linggam Island

Linggam Island is located on the upper west side of Simeulue Island. This area is administratively part of the Nasreuhe Village area, Salang District, Simeulue Regency. The island is uninhabited, but there is a hut which houses coconut collectors. The island is leased and managed by aluan, a partner of the EcosystemImpact. The dominant vegetation on the island is Coconut, with some mix of natural vegetation (Figure 6).

Teluk Dalam

Teluk Dalam is a central sub-district located on the east side of Simeulue Island. Bird surveys at this location were mainly carried out in Bulu Hadik Village (Bulu Hadek). In addition to lowland forest, Bulu Hadik Village has a very good mangrove forest area and is a location for tourism for the surrounding community (Figures 7 and 8). In this village there is also a freshwater lake. The area of pristine mangrove forest in this area provides high levels of marine animals that are harvested by the community for their needs (especially fish, crabs and sea shells).

Taman Hutan Raya Simeulue / Simeulue Grand Forest Park

Referring to Anonymous (2018), the Simeulue Grand Forest Park is located in Anao Village, South Teupah District and Suak Buluh Village, East Simeulue District with an area of 919.59 ha. Based on the draft “Preparing the Master Plan and Detailed Plan of the Simeulue Forest Park”, this area has various types of high-level plants typical of Simeulue such as forest kapok (*Casampinus malabarica*), Mahogany (*Swietenia mahagoni*), Keruing (*Dipterocarpus sp.*), Meranti (*Shorea sp.* .), Charcoal Wood (*Dyospiros sp.*), Manao Rattan (*Calamus quanteae*) and inhabited by various types of bird fauna, such as; Barusan Shama, Javan Myna (*Acridotheres javanicus*) and other species. Although it has been designated as a Grand Forest Park area, this area is still very prone to disturbances, mainly because of the asphalt road access that divides the area, and the location being adjacent to oil palm plantation (Figure 9).

Babi Island

Babi Island is located in Latiung Village, South Teupah District. The island is about 30 km from Mainland Simeulue. The island is uninhabited, but there is a Telkomsel phone reception tower, with guards which act in shifts to guard the tower. The forest in this area is still relatively good, with large amounts of primary forest remaining (Figure 10).

Lasia Island

Like Babi Island, this island is located in Latiung Village, South Teupah District. This island is about 27 km from Simeulue Island. There is good forest in this area (Figure 11). However, on one side of the island there is a large garden that has been inhabited by the community. There are well maintained garden areas with durian trees that are already bearing fruit, showing that the gardens have been actively cultivated by the residents for more than 10 years.



Figure 2. Forest Condition in Lamerem Village, Alafan District, Simeulue Regency, Aceh Province.



Figure 3. Vegetation Condition on Tepi Island, Lamerem, Alafan District.



Figure 4. Condition at Lake Luat TawarKondisi, Amabaan Village, Simeulue Barat District.



Figure 5. Landscape conditions in Lhok Dalam Village, Alafan District.



Figure 6. One side of the Linggam Island area, Nasreuhe Village, Salang District.



Figure 7. Lowland forest in Teluk Dalam Village.



Figure 8. Mangrove forest in Teluk Dalam Village.



Figure 9. An Area Within the Simeulue Forest Park.



Figure 10. An Area of Babi Island Forest and Beach.



Figure 11. Approach to Lasia Island.

2.2 Field Survey Method

The survey was carried out on forest roads, tracks and paths through walking observation. Bird sounds, photographs and their habitats were documented using a camera (Fujifim Finepix S1). The coordinate locations were stored in the GPS. The survey was conducted by a lead researcher accompanied by the EcosystemImpact team, the Aceh Provincial Environment and Forestry Service, the Simeulue Forest Management Unit (BKPH) and local community members from each location. An example of the composition of the field survey team can be seen in table 1.



Figure 12. A team that conducted a field survey in the forest of Lamerem Village, Alafan District, Simeulue Regency, Aceh Province.



Figure 13. The survey team during a field survey in the forest of Lamerem Village.

Tabel 1. Bird field survey team in Simeulue Islands between 1-19 July 2021.

No.	Full Name	Role / Organisation	Location									
			1	2	3	4	5	6	7	8	9	
1	Muhammad Iqbal	Researcher / Consultant	+	+	+	+	+	+	+	+	+	+
2	Irda Kusuma	Ecosystem Impact Foundation	+	+	+	+	+	+	+	+	+	+
3	Tom Amey	Ecosystem Impact Foundation									+	+
4	Satri	Dinas Lingkungan & Hutan Prov. Aceh	+	+	+	+	+	+	+	+	+	+
5	Akmal Husni	BKPH	+	+	+	+	+					
6	Afri Amin	BKPH							+	+	+	+
7	Wandesman	Lamerem Local	+	+								
8	Jasri	Lamerem Local	+	+								
9	Edi	Lamerem Local	+	+								
10	Anto Efendi	Lhok Dalam Local				+						
11	Muhar	Dusun Laut Tawar Local			+							
12	Irnan	Nasreuhe Local					+					
13	Pardan	Teluk Dalam Local						+				
14	George	-									+	+

Location Name:

- 1 = Lamerem
- 2 = Pulau Tepi
- 3 = Dusun Laut Tawar
- 4 = Lhok Dalam
- 5 = Pulau Linggam
- 6 = Teluk Dalam
- 7 = Taman Hutan Simeulue
- 8 = Pulau Babi
- 9 = Pulau Lasia

Ideally, bird surveys should start in the morning around 05.30 WIB, which is the peak time for their activity and vocalisation. Bird surveys were planned in the morning, but due to the distance and difficult logistical preparations, surveys usually started at 08.00 WIB while in the field. The length of time the surveys took depended on the conditions of the area being surveyed. All birds were identified directly using the Eaton et al field guide, 2016 "Birds of the Indonesian Archipelago: Greater Sundas and Wallacea" and Mackinnon et al. 1998 "Birds in Sumatra, Kalimantan, Java and Bali". Taxonomy, scientific names and Indonesian names use both books.

Additional information was collected through interviews with the local communities at the survey locations. Initial questions were addressed to everyone, and follow-up questions were asked only to those with a good knowledge of the birds in the area.

3 RESULTS DAN PEMBAHASAN

3.1 Bird Diversity

77 bird species from 35 families were recorded from the survey conducted. The highest number of birds was observed in Teluk Dalam with 52 species. 55 species were recorded on Simeulue Island, but not within the chosen survey target locations. The diversity of bird species can be seen in table 2.

Table 2. List of bird species found in the Simeulue Islands between 1-19 July 2021.

No.	Latin / Scientific	English	Lokasi										
			1	2	3	4	5	6	7	8	9	10	
	Columbidae (1)												
1	<i>Caloenas nicobarica</i>	Nicobar Pigeon									+	+	
2	<i>Chalcophaps indica</i>	Common Emerald Dove	+		+	+		+	+				+
3	<i>Columba argentina</i>	Silvery Pigeon		+				+					
4	<i>Ducula aenea mista</i>	Green Imperial Pigeon			e	e	e	e	e	e			e
	<i>Ducula aenea babiensis</i>										e*	e*	
5	<i>Ducula bicolor</i>	Pied Imperial Pigeon	+	+				+			+	+	
6	<i>Geopelia striata</i>	Javan Turtledove							+	+			
7	<i>Macropygia ruficeps simalurensis</i>	Little Cuckoo-dove	e		e	e		e	e				e
8	<i>Macropygia modiglianii hypopercna</i>	Barusan Cuckoo-dove	e		e	e		e	e				e
9	<i>Spilopelia chinensis</i>	Spotted Dove				+		+	+				
10	<i>Treron curvirostra</i>	Thick-billed Green Pigeon	+	+	+	+	+	+	+	+	+	+	+
11	<i>Treron vernans</i>	Pink-necked Green Pigeon	+	+	+	+	+	+	+	+	+	+	+
12	<i>Treron hypothapsianus</i>	Barusan Green Pigeon (possibly included as Thick-billed above)	+	+	+	+	+	+	+	+	+	+	+
	Cuculidae (2)												
13	<i>Cacomantis sepulcralis</i>	Sunda Brush Cuckoo	+										+
14	<i>Eudynamis scolopaceus</i>	Asian Koel									+		+
	Hemiprocnidae (3)												
15	<i>Hemiproctne longipennis perlonga</i>	Grey-rumped Treeswift	e-				e-		e-	e-	e-		e-
	Apodidae (4)												
16	<i>Aerodramus fuciphagus</i>	Edible-nest Swiftlet	+		+	+			+	+			+
17	<i>Aerodramus maximus</i>	Black-nest Swiftlet	+		+	+			+	+			+
18	<i>Aerodramus vanikorensis</i>	Uniform Swiftlet	+		+	+			+	+			+
19	<i>Collocalia affinis</i>	Plume-toed Swiftlet	+		+	+			+	+			+
	Caprimulgidae (5)												
20	<i>Lyncornis macrotis jacobsoni</i>	Great Eared Nightjar											e
	Rallidae (6)												
21	<i>Amaurornis phoenicurus</i>	White-breasted Waterhen	+	+	+	+	+	+	+	+	+	+	+

	Charadriidae (7)												
22	<i>Anarhynchus peronii</i>	Malaysian Plover											+
	Laridae (8)												
23	<i>Onychoprion anaethetus</i>	Bridled Tern											+
	Oceanitidae (9)												
24	Cf. <i>Oceanites oceanicus</i>	Wilson's Storm Petrol											+
	Sulidae (10)												
25	<i>Sula leucogaster</i>	Brown Booby											+
	Ardeidae (11)												
26	<i>Ardea sumatrana</i>	Great-billed Heron											+
27	<i>Ardea purpurea</i>	Purple Heron											+
28	<i>Ixobrychus cinnamomeus</i>	Cinnamon Bittern				+							
29	<i>Ixobrychus flavicollis</i>	Black Bittern				+							
30	<i>Butorides striatus</i>	Striated Heron							+				
31	<i>Egretta sacra</i>	Pacific Reef Heron						+					+
	Accipitridae (12)												
32	<i>Haliastur indus</i>	Brahminy Kite					+					+	
33	<i>Ichthyophaga leucogaster</i>	White-bellied Fish-eagle										+	+
34	<i>Nisaetus limnaetus vanheurni</i>	Changeable Hawk-eagle	e	e	e	e		e					e
35	<i>Spilornis cheela abbotti</i>	Crested Serpent Eagle	e		e	e		e	e				e
	Strigidae (13)												
36	<i>Otus umbra</i>	Simeulue Scops Owl							e				
	Picidae (14)												
37	<i>Dryocopus javensis parvus</i>	White-bellied Woodpecker	e			e		e					e
	Alcedinidae (15)												
38	<i>Alcedo meninting</i>	Blue-eared Kingfisher								+			
39	<i>Ceyx rufidorsa jungei</i>	Rufous-backed Kingfisher	e		e	e		e					e
40	<i>Halcyon smyrnensis</i>	White-throated Kingfisher				+	+		+				
41	<i>Pelargopsis capensis simalurensis</i>	Stork-billed Kingfisher	e		e	e		e		e			
42	<i>Todiramphus chloris chloropterus</i>	Collared Kingfisher	e-	e-	e-	e-	e-	e-	e-	e-	e-	e-	e-
	Meropidae (16)												
43	<i>Merops viridis</i>	Blue-throated Bee-eater	+		+	+		+					+
	Coraciidae (17)												
44	<i>Eurystomus orientalis oberholseri</i>	Oriental Dollarbird					e		e				
	Falconidae (18)												
45	<i>Falco peregrinus</i>	Peregrine Falcon							+				
	Psittacidae (19)												
46	<i>Loriculus galgulus</i>	Blue-crowned Hanging Parrot	+		+	+		+	+	+			+

	<i>Psittacula alexandri cala</i>	Red-breasted Parakeet	e		e	e		e				e
47	<i>Psittacula alexandri major</i>									e*	e*	
48	<i>Psittinus abbotti</i>	Simeulue Parrot	e	e	e	e	e	e	e	e	e	e
	Oriolidae (20)											
49	<i>Oriolus chinensis mundus</i>	Black-naped Oriole	e-	e-	e-	e-	e-	e-	e-			e-
	Pachycephalidae (21)											
50	<i>Pachycephala cinerea</i>	Mangrove Whistler		+			+					
	Campephagidae (22)											
51	<i>Coracina striata simalurensis</i>	Bar-bellied Cuckooshrike	e			e		e				e
52	<i>Lalage fimbriata comta</i>	Lesser Cuckooshrike	e-			e-		e-				e-
53	<i>Pericrocotus igneus trophis</i>	Fiery Minivet	e		e	e		e				e
54	<i>Pericrocotus flammeus minythomelas</i>	Scarlet Minivet	e		e	e		e				e
	Dicruridae (23)											
55	<i>Dicrurus leucophaeus celaenus</i>	Ashy Drongo	e		e	e		e				e
56	<i>Dicrurus paradiseus</i>	Greater Racket-tailed Drongo	+	+	+	+	+	+	+	+	+	+
	Monarchidae (24)											
	<i>Hypothymis azurea consobrina</i>	Simeulue Black-naped Monarch	e			e		e	e			e
57	<i>Hypothymis azurea abbotti</i>	Babi Black-naped Monarch								e*		
58	<i>Terpsiphone affinis procera</i>	Blyth's Paradise Flycatcher	e			e		e				e
	Corvidae (25)											
59	<i>Corvus enca</i>	Sunda Crow	+		+	+		+				
	Hirundinidae (26)											
60	<i>Hirundo javanica</i>	House Swallow	+	+	+	+	+	+	+			+
	Pycnonotidae (27)											
61	<i>Pycnonotus atriceps hyperemnus</i>	Black-headed Bulbul	e-		e-	e-		e-	e-			e-
62	<i>Pycnonotus analis</i>	Yellow-vented Bulbul							+			+
	Cisticolidae (28)											
63	<i>Cisticola juncidis</i>	Zitting cisticola	+		+	+		+				+
	Sturnidae (29)											
64	<i>Acridotheres javanicus</i>	Javan Myna	+		+	+			+			+
	<i>Aplonis panayensis altirostris</i>	Asian Glossy Starling	e-	e-	e-	e-	e-	e-	e-	e-	e-	e-
65	<i>Aplonis panayensis albiris</i>							+				
	<i>Gracula (religiosa) robusta</i>	Nias Hill Myna								+		
66	<i>Gracula religiosa miotera</i>	Simeulue Hill Myna	?	?	?	?	?	?	?	?		
	Muscicapidae (30)											

	<i>Copsychus melanurus hypolizus</i>	Simeulue White-rumped (Barusan) Shama	?		?	?		?					
67	<i>Copsychus melanurus opisthochrus</i>	Babi White-rumped (Barusan) Shama								?	?		
68	<i>Copsychus saularis zacnecus</i>	Oriental Magpie-robin	e	e	e	e	e	e	e				e
	Dicaeidae (31)												
69	<i>Dicaeum trigonostigma antioproctum</i>	Orange-bellied Flowerpecker	e	e	e	e	e	e	e	e	e	e	e
	Nectariniidae (32)												
70	<i>Aethopyga siparaja</i>	Crimson Sunbird	+	+	+	+	+	+	+	+	+	+	+
71	<i>Antheptes malacensis</i>	Brown-throated Sunbird	+	+	+	+	+	+	+	+	+	+	+
72	<i>Cinnyris ornatus</i>	Olive-backed Sunbird	+	+	+	+	+	+	+	+	+	+	+
73	<i>Leptocoma brasiliana mecynorhyncha</i>	Van Hasselt's sunbird		e			e					e	
74	<i>Leptocoma calcostetha</i>	Copper-throated Sunbird		+			+			+	+		
	Estrildidae (33)												
75	<i>Lonchura maja</i>	White-headed Munia	+		+	+		+	+				+
	Passeridae (34)												
76	<i>Passer montanus</i>	Eurasian tree sparrow	+		+	+		+	+				+
	Motacillidae (35)												
77	<i>Anthus rufulus</i>	Paddyfield Pipit											+
			46	21	42	49	22	52	34	24	18	55	

Information:

- 1 = Lamerem
- 2 = Tepi Island
- 3 = Dusun Laut Tawar
- 4 = Lhok Dalam
- 5 = Linggam Island
- 6 = Teluk Dalam
- 7 = Taman Hutan Simeulue / Simeulue Forest Park
- 8 = Babi Island
- 9 = Lasia Island
- 10 = Simeulue, outside of survey locations

Species and Subspecies Observed

- + = Non-endemic
- e* = Babi and Lasia Endemic
- e = Simeulue Islands Endemic (including Babi and Lasia)
- e- = West Sumatran (Barusan) Islands Endemic

3.2 Birds of High Conservation Value

Referring to the HCVRN (2008) regarding high conservation value species, a species is said to be of high conservation value if a species is categorized as an RTE species (Rare, Threatened, and Endemic or limited in distribution). Of the 77 species recorded in this survey, 17 species have High Conservation Value or HCA (Table 3). The details are that 7 species are globally endangered species, 13 species are protected by the Law of the Republic of Indonesia (UU RI),

11 species are included in Appendix II of CITES, 5 species are recognised by the IUCN SSC Asian Songbird Trade Specialist Group (ASTSG) as Priority Species, and 2 species are endemic to Simeulue Regency (Simeulue Island, including Babi Island and Lasia).

Tabel 3. Types of Birds that have High Conservation Value.

No	Latin / Scientific	English	IUCN	ASTSG	UU RI	CITES	RR/END
01	<i>Columba argentina</i>	Silvery Pigeon	CR		PI		
02	<i>Caloenas nicobarica</i>	Nicobar Pigeon	NT		PI		
03	<i>Haliastur indus</i>	Brahminy Kite			PI	II	
04	<i>Ichthyophaga leucogaster</i>	White-bellied Fish-eagle			PI	II	
05	<i>Nisaetus limnaeetus</i>	Changeable Hawk-eagle			PI	II	
06	<i>Spilornis cheela</i>	Crested Serpent-eagle			PI	II	
07	<i>Otus umbra</i>	Simeulue Scops Owl	NT		PI	II	End
08	<i>Falco peregrinus</i>	Peregrine Falcon			PI	II	
09	<i>Psittinus abbotti</i>	Simeulue Parrot	NT			II	End
10	<i>Loriculus galgulus</i>	Blue-crowned Hanging Parrot			PI	II	
11	<i>Psittacula alexandri</i>	Red-breasted Parakeet	NT		PI	II	
12	<i>Acridotheres javanicus</i>	Javan Myna	VU	T2			
13	<i>Gracula religiosa</i>	Common Hill Myna		T1	PI	II	
14	<i>Gracula robusta</i>	Nias Hill Myna	CR	T1	PI	II	
15	<i>Aethopyga siparaja</i>	Crimson sunbird			PI		
16	<i>Copsychus melanurus hypolizus / opisthochrus</i>	White-rumped (Barusan) Shama		T1			
17	<i>Copsychus saularis</i>	Oriental Magpie-robin		T2			
TOTAL			7	5	13	11	2

Information:

- IUCN = International Union for Conservation of Nature Red List
- CR = Critical Endangered
- VU = Vulnerable
- NT = Near Threatened
- UU RI = Law of the Republic of Indonesia (Type protected by the Government of the Republic of Indonesia)
- PI = Protected by the Indonesian Government
- CITES = Convention on International Trade in Endangered Species
- II = Apendix II CITES
- RR/END = Limited Distribution / Endemic
- T1 = ASTSG Tier 1 / Highest priority
- T2 = ASTSG Tier 2 / High Priority

Species that are globally threatened with extinction are Silver Pigeon *Columba argentina*, Nicobar Pigeon *Caloenas nicobarica*, Simeulue Parrot *Psittinus abbotti*, Red-breasted Parakeet *Psittacula alexandri*, Simeulue Scops Owl *Otus umbra*, Nias Hill Myna *Gracula*

robusta and Javan Myna *Acridotheres javanicus*. Conservation status for species globally threatened with extinction refers to the IUCN Red List 2021 of Threatened Species *Species* www.iucn.org or www.birdlife.org (IUCN red list authority for birds). The IUCN priority category of threat is based on the probability that a species will become extinct in the wild within a certain period of time. Species that have a lower threat value are classified in the Near Threatened (NT) category. Species that have very minimal data but do not have enough information to assess whether they have a risk of extinction are classified as Data Deficient (DD). For the above criteria, the list of species globally threatened with extinction in the IUCN Redlist refers to Birdlife International (Birdlife International 2021).

The types of birds that are included in the species protected by the Law of the Republic of Indonesia are: Silvery Pigeon *Columba argentina*, Nicobar Pigeon *Caloenas nicobarica*, Brahminy Kite *Haliastur indus*, White-bellied Fish-eagle *Ichthyophaga leucogaster*, Changeable Hawk-eagle *Nisaetus limnaeetus*, Crested Serpent-eagle *Spilornis cheela*, Simeulue Scops Owl *Otus umbra*, Peregrine Falcon *Falco peregrinus*, Blue-crowned Hanging Parrot *Loriculus galgulus*, Red-breasted Parakeet *Psittacula alexandri*, Common Hill Myna *Gracula religiosa*, Nias Hill Myna *Gracula robusta*, Crimson sunbird *Aethopyga siparaja*. The list of species protected by the Government of the Republic of Indonesia (PI) refers to the latest list from the Regulation of the Minister of Environment and Forestry of the Republic of Indonesia Number P.20/MENLHK/SETJEN/KUM.1/6/2018, P.92/MENLHK/SETJEN/KUM.1/8/2018 and P.106/MENLHK/SETJEN/KUM.1/12/2018.

There are 10 species of birds that fall into the CITES Appendix II category, namely: Brahminy Kite *Haliastur indus*, White-bellied Fish-eagle *Ichthyophaga leucogaster*, Changeable Hawk-eagle *Nisaetus limnaeetus*, Crested Serpent-eagle *Spilornis cheela*, Simeulue Scops Owl *Otus umbra*, Peregrine Falcon *Falco peregrinus*, Simeulue Parrot *Psittinus abbotti*, Blue-crowned Hanging Parrot *Loriculus galgulus*, Red-breasted Parakeet *Psittacula alexandri*, Common Hill Myna *Gracula religiosa*, Nias Hill Myna *Gracula robusta*. Types of appendix II CITES is an organization that regulates trade in flora and fauna species. Appendix I (CITES I) or Appendix 1 lists the types. Trade in species that fall into this category is allowed only with special exceptions from the Government and CITES. Annex II is a species that is not globally threatened with extinction, but needs close monitoring so that trade of the given species does not threaten its population status in the wild. Types included in the CITES attachment category refer to www.cites.org (the official CITES website) and Suhartono & Mardiasuti (2002).

There are 5 species recognised by ASTSG as Priority Species, 3 of which under Tier 1 highest priority and in need of immediate action, and 2 under Tier 2, classed as also being of 'high conservation concern but requiring further research before proceeding with taxon-specific action planning' (Lee et al., 2016: 6). The species listed within Tier 1 being: Common (Simeulue) Hill Myna *Gracula religiosa miotera*, Nias Hill Myna *Gracula robusta* and White-rumped Barusan Shama *Copsychus melanurus hypolizus / opisthochrus*. The species listed within Tier 2 being Javan Myna *Acridotheres javanicus* and Oriental Magpie-robin *Copsychus saularis*.

Simeulue Island has several endemic species and subspecies. It is still debated as to whether a number of these are a separate species or subspecies. The endemic species of Simeulue found in this survey were: Simeulue Scops Owl *Otus umbra* and Simeulue Parrot *Psittinus abbotti*.

3.3 Target Species and Subspecies of Bird

The survey had a number of target species. The survey targets are divided into two, namely the first for Simeulue Island, and the second for Babi Island and Lasi.

3.3.1 Simeulue Island

There were six birds that became the survey targets for Simeulue Island. The species were Simeulue Barusan Shama *Copsychus melanurus hypolizus*, Silvery Pigeon *Columba argentina*, Simeulue Parrot *Psittinus abbotti*, Simeulue Red-breasted Parakeet *Psittacula alexandri cala*, Simeulue Oriental Magpie-Robin *Copsychus saularis zacnecus* and Simeulue Hill Myna *Gracula religiosa miotera*. Two species, namely, Simeulue Barusan Shama and Simeulue Hill Myna were not found during the survey, but are reported to still exist in the wild according to local people.

Silvery Pigeon *Columba argentina*

The Silvery Pigeon is one of the species that is globally threatened with extinction with a status of Critical Endangered. The survey team managed to find this bird on Tepi Island and Linggam Island (Figure 3). The population of this bird in the Pulau Tepi area seems to be still in fairly good numbers. A minimum of 10 individuals were observed during the survey on Tepi Island, and the number of Silver Pigeons here is estimated to be around 50 individuals, or potentially more. In the village of Lamerem, there was a resident who kept and reared this species, which he takes from their nests. In addition, one adult bird was found which was kept by the Lamerem Village community. Siran, who keeps the bird, said that the bird was acquired when it was a chick, about 3 years ago. According to residents, the bird is usually released by Mr. Siran, and then returns to his house. When released, this bird was very docile.

The number of Silver Pigeons on Linggam Island was not as large as that observed on Tepi Island, but at least 10 individual birds are estimated to exist on the island. Mr. Irnan, a keeper of Linggam Island who works for aluan, reported that he had kept this bird about 1.5 years ago. The bird was taken when it was still a chick from the top of a coconut tree with a height of about 25 m. On Linggam Island, Silver Pigeon are usually seen eating muling (melinjo) fruit. In the morning, Silvery Pigeon can be seen drinking on a rocks close to the sea. Mr. Irnan also reported that he had cut down a Langekngo (banyan) tree around his hut on Linggam Island, and that apparently the tree has been a roost for hundreds of white pigeons (perhaps a mixture of Silvery Pigeon and Pied Imperial Pigeon).

Simeulue Parrot *Psittinus abbotti*

Simeulue Parrot were observed at all observation sites on Simeulue Island. According to local people, this species becomes a plant pest as it often eats the fruits of their gardens, such as Bananas and Kedondong. This bird was also observed as a pet by local people. In fruit season, these birds are reported to be more widely observed, as they come to eat the fruits.

Simeulue Red-breasted Parakeet *Psittacula alexandri cala*

The presence of this bird was observed at all sites on Simeulue Island similar to Simeulue Parrot. It is reported that the species become plant pests because they often eat garden fruit, and are frequently domesticated by local people. Large numbers of houses were seen to have Red-breasted Parakeets as pets. In fruit season, these birds are reported to be more widely observed, as they come to eat the fruits.

Simeulue Oriental Magpie-robin *Copsychus saularis zacnecus*

Simeulue Oriental Magpie-robin are still easy to find in several places on Simeulue Island. This species is now a target for hunters due to the now extreme difficulty of finding Barusan Shama in the wild. Several pairs of birds were observed nesting on power poles, and this helped them to survive the disturbance of hunters or people who wanted to take their young to be kept or sold.

Simeulue Barusan Shama *Copsychus melanurus hypolizus*

During this survey there were no sightings of Simeulue Barusan Shama in the wild. However, there were reports from local people that this species is still present in the forest around villages in the northern Simeulue locations, but that it often involved multiple days if not weeks to find these birds in the wild. Due to high poaching, within the vicinity of villages, it is now impossible to find Barusan Shama. In Lamerem Village, Shama were last caught around 2 or 3 years ago. In the past, people who took this bird were taking their young from the nest. The selling price is usually between IDR 700,000 to IDR 800,000, although can be far higher.

On Linggam Island and in the forest of Nasreuhe Village, there used to be Barusan Shama, but this bird has been missing since the late 1990s or early 2000s. In the past, it was easy to find Barusan Shama, even within close proximity to habitation. In the late 1990s this bird was subject to high hunting pressure, due to the selling price being only Rp. 10,000 per head (USD 0.70). Prior the late 1990s, these birds cost only Rp. 5,000 per head. Mr. Irnan, a guard on Linggam Island who also works for aluan (a partner of EcosystemImpact) reported that about five years ago someone entered Linggam Island to Simeulue Barusan Shama.

Reports of Simeulue Barusan Shama were encountered in Laut Tawar Hamlet (Amabaan Village, West Simeulue District). A resident named Asuar reported that for about a month someone had been hunting for Barusan Shama, and that he had managed to catch 6 birds. The poachers were said to have caught birds by entering the forest from Laut Tawar Hamlet to Along Beach. The person who caught the bird is reportedly Aqul, lives in Amabaan, but has a garden or arable land in Laut Tawar. The six birds consisted of 2 adult and 4 chicks. It is estimated that one bird was sold for around Rp. 500,000 to Rp. 1,000,000. This hunter looks for birds by going into the forest for about a week at a time. According to Mr. Muhar (Head of Laut Tawar), in the past around Laut Tawar it was Barusan Shama habitat with many birds present, but because of poaching it is now very difficult to see this species. In 2013, Mr. Muhar joined in the search for Barusan Shama. In the years between 2001 and 2002, there was a member of Laut Tawar who caught 40 Simeulue Barusan Shama, and the birds were sold to Sinabang by means of a robin (motorized boat). Of the 40 birds, only 5 survived. The birds were sold at a price of Rp. 5,000. A resident named Jamru (aged 53 years), who has lived in Laut Tawar since 1995, reported that there used to be many Simeulue Barusan Shama around the village. However, now Mr. Jamru said that the last time he saw Simeulue Barusan Shama around his village was 2 years ago, and the location was far from the village.

The people of Lhok Dalam reported that Barusan Shama are still in the forest in their area, but that only deep within the forest. Before there were asphalt roads in this village, around 2008 and 2009, Barusan Shama was still abundant and easy to find around residential areas. After the paved road, many poachers came to take this species, as they fetched a good price and were easy to sell in Sinabang, Simeulue's main town. Pak Anto, BPD Lhok Dalam Village said that he had joined the hunt for Barusan Shama on Simeulue in 2015, and the birds were sold for Rp. 500,000 / USD 35 (for females) and Rp. 800,000 / USD 55 (for males).

In addition to the places mentioned above, Mr. Satri (Department of Environment and Forestry, Aceh Province) said that on Teupah Island (Teupah Island Village, West Teupah District), about 3 years ago he saw Simeulue Barusan Shama while harvesting cloves in his garden.

Simeulue Hill Myna *Gracula religiosa miotera*

With no Simeulue Hill Myna being found during this survey, the situation looks just as bad for Myna as for Shama. During the survey similar stories were heard of recent poaching success of Myna on Simeulue, with a bird being caught within close proximity to Mahi-Mahi Resort (Mauldil Village, West Teupah District) and a number of other stories of poaching success from villages in northern Simeulue, namely Lamerem and Teluk Dalam.

As for Simeulue Barusan Shama, Simeulue Hill Myna are said to have once been common, even within close proximity to densely populated areas. However, due to heavy poaching pressure and a rising market price, these birds are now said to be impossible to see within close proximity to villages and can only be poached if travelling into the forest for long periods of time. The price of Simeulue Hill Myna is now between Rp. 1,000,000 / USD 70 and 3,000,000 / USD 208.

Captive Simeulue Hill Myna were encountered less frequently than Simeulue Barusan Shama, with only 2 in northern Simeulue and 3 in Sinabang. These birds are said to be highly prized and often kept as pets by high-ranking professionals.

3.3.2 Babi and Lasia Islands

There were four focus bird species for this survey on Babi and Lasia Islands. The birds were Silvery Pigeon *Columba argentina*, Babi Red-breasted Parakeet *Psittacula alexandri major*, Nias Hill Myna *Gracula robusta* and Barusan Shama Lasia *Copsychus melanurus opisthochrus*.

Silvery Pigeon *Columba argentina*

Not observed during the survey of Babi and Lasia, although some distant white birds from the *Columbidae* family were observed. Large numbers of Pied Imperial Pigeon *Ducula bicolor* were observed on these two islands, but no known individual Silver Pigeon was seen. Although not visible, silver pigeons are thought to be found on these two islands.

Babi Red-breasted Parakeet *Psittacula alexandri major*

This species was observed, both on Babi Island and Lasia. Their populations on these two islands are considered to still be high, as they were easy to find in large numbers.

Nias Hill Myna *Gracula robusta*

A pair of Nias Hill Myna were observed on Babi Island, and estimated 2 other groups were heard at a distance. There is still a seemingly good population of this species on Babi

Island. The team did not find this species on Lasia Island, but this could be due to the reduced survey time on Lasia Island.

Lasia Barusan Shama *Copsychus melanurus opisthochrus*

This subspecies was not observed during the survey on Babi and Lasia Islands. From the information of the hunter in Batu-batu Village, Simeulue, named “Min”, not long before the survey team left for Babi and Lasia, he returned from a poaching trip on Lasia Island specifically focused at catching Barusan Shama. Min stated around 6 people enter and stay in the forest for 10 days using a Robin (motorized boat), which pays IDR 300,000 per person. On this recent trip, the group of poachers he said caught 13 Lasia Barusan Shama, and they sold the birds to a dealer who lives in Sinabang (the capital city of Simeulue), who lives near the Sinabang gas station. The price of the bird ranges from IDR 800,000 / USD 55 to IDR 1,000,000 / USD 70, depending on gender. Male birds are valued higher than female individuals.



Figure 14. Silvery Pigeon observed on Tepi Island, Lamerem Village.



Figure 15. Simeulue Parrot Observed in the forest around Teluk Dalam.



Figure 16. Simeulue Red-breasted Parakeet, Observed in the forest around Teluk Dalam.



Figure 17. Simeulue Oriental Magpie-robin observed on Simeulue.



Figure 18. Babi Red-breasted Parakeet, observed on Babi Island.



Figure 19. Nias Hill Myna observed on Babi Island.

3.4 Possible Additional Species

The condition of Simeulue Regency, which still has large forest areas, and is surrounded by a fairly wide coastline, has resulted in several diverse habitat areas. Several types of migratory birds may pass and rest in the border area (even if only a few individuals). Several species of birds of prey that migrated to Sumatra may be found in this area, such as the Chinese Sparrowhawk *Accipiter soloensis*, the Eastern Marsh Harrier *Circus spilonotus*, Osprey *Pandion haliaetus*, Black Kite *Milvus migrans*, Pied Harrier *Circus melanoleucos*, Japanese sparrowhawk *Accipiter gularis*, Grey-faced Buzzard *Butastur indicus*, Common Kestrel *Falco tinnunculus* and Oriental Hobby *Falco severus*.

Areas that are close to rivers, forests and have many wetland areas have the potential as habitats for water birds. Migratory waterbird species and groups of waders may also be found

here, especially in swampy areas, river mouths / estuaries or in rivers. Waterbirds that migrate locally, especially those that from groups of waders, may also visit this area, as they forage for food (fish) during the dry season. These birds were considered likely to be present, but were not observed in the survey due to them not being target species. In the future, it is necessary to conduct bird surveys in the migratory season, to see the types of migrants that visit this region.

3.5 Breeding Birds

During the survey, several birds were found breeding. Referring to Danielsen & Heegard et al. (1995), breeding birds are birds which are showing nest-building activities, having young in active nests, and adult birds caring for young. There are 15 bird species recorded to be carrying out breeding activities, one of which was Silver Pigeon, a survey focus species which is globally threatened with extinction (Figure 20).



Figure 20. Silver Pigeon chick taken by the Lamerem community from the Tepi Island. A summary of the records of birds observed breeding during this survey can be seen in table 4 below.

Table 4. Bird species that were observed breeding during a survey.

No	Species	Information
01	Silvery Pigeon <i>Columba argentina</i>	One individual chick was collected by the Lamerem Village community from Tepi Island. During a visit to Pulau Tepi, one bird was observed nesting or incubating eggs.
02	Green Pigeon <i>Treron</i> sp	One individual chick was collected by the Lamerem Village community from Tepi Island.
03	White-breasted Waterhed <i>Amaurornis phoenicurus</i>	Adult birds with their young observed in Lamerem Desa Village

04	Oriental dollarbird <i>Eurystomus orientalis</i>	One juvenile individual observed between the Teluk Dalam village on the road to Lamerem
05	House Swallow <i>Hirundo javanica</i>	Several young birds were observed in several locations, and one adult bird was observed with an active nest in Teluk Dalam Village
06	Red-breasted parakeet <i>Psittacula aleandri</i>	One individual was observed to be active in a large tree hole, which appeared to be a nest site
07	Bar-bellied Cuckooshrike <i>Coracina sumatrensis</i>	One fledgling seen being fed by parent bird
08	Black-headed Bulbul <i>Microtarsus atriceps</i>	Several young birds seen at the observation site
09	Asian Glossy Starling <i>Aplonis panayensis</i>	Several young birds seen at the observation site
10	Oriental Magpei-robin <i>Copsychus saularis</i>	An active nest on a power pole that appeared to contain chicks was observed in Lhok Dalam Village
11	Barusan Shama <i>Copsychus melanurus</i>	Not observed, but reports from the community suggest birds had been taken from Simeulue Island and Lasia Island, some of which included chicks
12	Orange-bellied Flowerpecker <i>Dicaeum trigonostigma</i>	Several young birds with yellow edges on their beaks were observed in several locations
13	Brown-throated sunbird <i>Anthreptes malacensis</i>	Several young birds with yellow edges on their beaks were observed in several locations
14	Van Hasselt's Sunbird <i>Leptocoma brasiliana</i>	A pair of birds with two individual young birds observed on Lasia Island
15	Copper-throated Sunbird <i>Leptocoma calcostetha</i>	A pair of birds with two individual young birds observed on Linggam Island

Table 3 shows that most of the breeding birds found were generally out of the nest, although some juvenile birds were to be still in the nest, such as the Silver Pigeon and Green Pigeon.

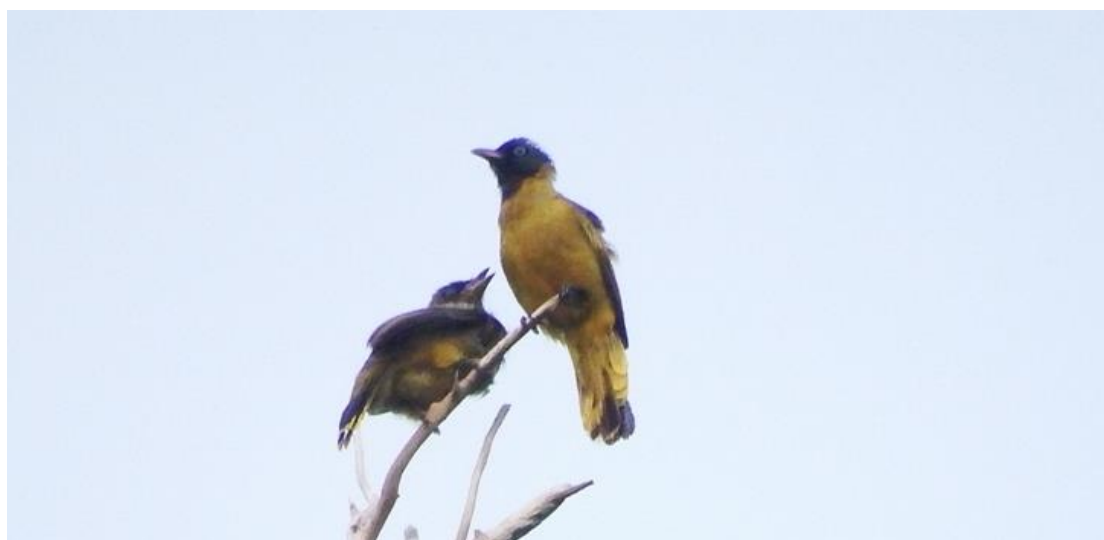


Figure 21. Black-headed Bulbul adult with juvenile.



Figure 22. Juvenile Sunbird.



Figure 23. Parent Bar-bellied Cuckooshrike providing food to young.

3.6 Bird Poaching and Keeping Traditions

During the survey, bird poaching in Simeulue Regency was regularly encountered. Keeping birds as pets was observed in every village location visited.

3.6.1 Bird Poaching

Poaching was recorded as having been done either as predetermined or non-predetermined. The birds that were reported being poached through planned predetermined means, were birds that have high economic value, such as Hill Myna and Barusan Shama. In addition to birds that have economic value, intentional bird hunting was observed for consumption, such as hunting for Dove species, Pigeon species and White-breasted Waterhen. Birds that are hunted for consumption are generally hunted by shooting. For White-breasted Waterhen, apart from being shot, this bird is also sometimes caught by snaring or netting. For Pigeon, there is a special catching technique associated with magic, where before the bird is caught, incantations are given, so that

the bird will come and be caught. This technique in the local language is called "araban". In addition to personal consumption, birds are hunted to be sold, selling for around Rp. 15,000 / USD 1 for White-breasted Waterhen, and Rp. 25,000 / USD 1.70 for Pigeon species.

Non-predetermined bird poaching was reported whereby people encounter active nests of certain birds, such as the Oriental Magpie-robin, Black-naped Oriole, Pigeon and Dove species. Usually the local community will take the chicks from the nest to take home and care for them. Another example of bird poaching or hunting is young children using slingshots to kill or injure birds for fun.

Simeulue and Nias Hill Myna

Currently the poaching of Hill Myna is uncommon, because the birds are very rare and hard to come by. The method most commonly described for the poaching of Hill Myna was people climbing trees and fetching their young from their nests, normally found in holes high up in trees. The numbers of Hill Myna hunted is now likely to be less than Barusan Shama. Usually Hill Myna are taken out because of orders from powerful and wealthy people, such as officials or military members. Often Hill Myna are taken as souvenirs from local people to facilitate work that has been assisted by officials or military members from outside of the region.

Residents from Laut Tawar Village report that when the Simeulue Hill Myna population was still large, before 2000, people usually caught Hill Myna using ropes. Usually they put a snare on fruit trees favored by Hill Myna, such as Dadara or forest vines, and Lakun (vines) plants. The number of snares that could be installed is in the hundreds, meaning large numbers of birds could be poached at once. It was reported that often snares would be left in place but not managed, meaning large numbers of birds died.

In addition to the above method, hunters also used traps by bringing sound recordings or bait birds to lure Hill Myna in close enough to capture. This method was reported to no longer be widely used as Hill Myna are just too rare to have a good success rate.

Barusan Shama

In accordance with the target species for this survey, especially Hill Myna and Shama, information on poaching of these species is a dominant focus. According to the staff of the Environment and Forestry Service and the Forest Management Unit (BKPH), before the Simeulue District Forestry Service was removed and all authority was placed at the Province level – located in Banda Aceh – in 2017, the Simeulue District Government had made efforts to monitor and prevent hunting and trading of Barusan Shama. The Simeulue Regency Government claimed to carry out routine monitoring of bird poaching, hunting and trading of birds carried out by ferry. About 3 years ago, the results of this monitoring resulted in several mass confiscations of Barusan Shama which were to be sent to Banda Aceh and Medan. One intervention led to the confiscation of around 250 Barusan Shama. The confiscated birds were then released into the Simeulue Grand Forest Park. There was no prior DNA testing and little awareness of different subspecies of Barusan Shama, and it was recorded that unfortunately, of the 250 individuals, only about 10 or 20 survived. In that year, a total of 700 individual birds were confiscated,

from a series of monitoring activities carried out by the Simeulue District Forestry Service, with all birds being released into Simeulue. The budget for these activities came from the Simeulue Regency Government, which, after the District Forestry Service was abolished and returned to Aceh Provincial level, no longer exists. There is therefore now no longer routine patrols or trade monitoring.

According to one source, usually Barusan Shama poaching and trading system in Simeulue Regency is dependent on investment from Medan, with wealthy individuals or groups investing in local Simeulue residents to poach and then distribute the birds. The capital, for example, is Rp. 10,000,000 / USD 695 or Rp. 15,000,000 / USD 1,450. After the birds are obtained, they are sent via a ferry, and then transported via specially arranged vehicle that will take the birds to Medan. Almost all the people interviewed, across the various locations surveyed, mentioned that people from Batu-Batu Village, Central Simeulue, are the most active bird poachers. When embarking on a bird poaching venture, these people go into the forest for several days to weeks. They carry minimal supplies and are able to survive in the forest by foraging food from the forest, such as shrimp, fish and fruit.

The most common method used by the Shama poachers was by snaring. To attract their target birds species closer, poachers imitate the sound of the bird, or now use recordings via cellphones to lure the bird out of the forest. Before the bird is caught, bait such as Meal Worms are used so that the bird will settle in the desired location. The birds that are obtained, will usually be fed with bird food pellets with the name Lima Sebelas. These pellets are also suitable to be given to Barusan Shama chicks that have just been taken from the nest, however the survival rate of these poaching ventures is explained to be low.



Figure 24. The people of Lamerem Village showing examples of poaching methods.

One resident on Simeulue Island reported that when he was still actively involved in poaching Barusan Shama, he once brought about 1,000 Shama individuals from Sibigu to Sinabang via car. The birds were brought to Sinabang to be transported by ferry to Medan. The birds were brought in to Sinabang at midnight, to avoid surveillance by the authorities or related agencies. At that time, around 2012, the price of 1 individual Shama was just Rp 50,000 / USD 3.50.

3.6.2 Simeulue Tradition of Bird Keeping

The tradition of keeping birds is still very visible on Simeulue Island, and is likely to be a problem for bird conservation on this island in the future. Some of the birds seen being kept by local people include Hill Myna, Barusan Shama, Oriental Magpie-robin, Red-breasted Parakeet along with a number of bird species imported from outside Simeulue Island (such as Lovebird and Spotted Dove). Parrots and Parakeets (family Psittacidae: Blue-crowned Hanging Parrot, Red-breasted Parakeet and Simeulue Parrot), these birds are often caught because it is considered a pest as it eats garden fruit. Simeulue locals said that rather than releasing these birds back into the wild and them becoming a pest again, or killing them, they would rather keep them as pets.

In Simeulue Regency, there is a large shop or kiosk that sells birds located in Sinabang and owned by Mr. Malik. During a visit to this shop, several types of birds were found, including Hill Myna, Barusan Shama (both black tail (Barusan) and white tailed (White-rumped Shama) and White-bellied Simeulue Woodpecker. Hill Myna are protected by the law of the Republic of Indonesia, but there is no information whether these Hill Myna are sold legally (with a permit), or illegally (without having the applicable regulatory documents).



Figure 25. Simeulue Hill Myna



Figure 26. Blue-crowned Hanging Parrot



Figure 27. Barusan Shama (black tail)



Figure 28. Silvery Pigeon



Figure 29. Black-naped Oriol



Figure 30. Oriental Magpie-robin



Figure 31. Javan Myna



Figure 32. Simeulue Parrot



Figure 33. White-bellied Woodpecker



Figure 34. Black-headed Bulbul



Figure 35. Resident Asian Glossy Starling



Figure 36. Migrant Asian Glossy Starling



Figure 37. Simeulue Emerald Dove



Figure 38. Pied Imperial Pigeon



Figure 39. Green Imperial Pigeon

3.7 Coordination with the local government and the community regarding the conservation of Hill Myna and Barusan Shama

During the field survey, the team coordinated with the local government and community regarding the conservation of Hill Myna and Barusan Shama in Simeulue Regency. In general, the community agrees that the conservation of Hill Myna and Shama is important, considering that these two birds are now difficult to find and considered to be close to extinction. A summary of the results of the coordination and discussion with the local government and the community can be seen in table 5.



Figure 40. The survey team coordinating and in discussion with the Head of BKPH and DLHK.



Figure 41. The team coordinating and in discussion with the head of the village and BPD Lhok Dalam village.

Table 5. Summary of the results of coordination and discussion with the local government and the people of Simeulue Regency.

Date	Local Government and Communities Encountered	Information
1 Juli 2021	The head of BKPH Simeulue and several of his staff, and staff from the Simeulue Environment Service	Introducing the team members that will be included in the survey. From the results of the discussion, everyone understood how important this survey was, and everyone agreed that the in-

		situ conservation of Barusan Shama and Hill Myna could be carried out.
3 Juli 2021	Discussion with Lamerem Village Head and several Lamerem Village residents	The team introduced the intent and purpose of this survey. The Village Head and Lamerem Village residents welcomed this survey.
5 Juli 2021	Discussion with the Head of Laut Tawar Village	Strongly supports the in-situ conservation activities of Shama and Hill Myna. If these activities are carried out in this village, the village Head stated that their village is ready to maintain and support the success of this activity.
6 Juli 2021	Discussion with Lhok Dalam Village Head, BPD Chair and the community	The Village Head, Head of BPD and community members strongly support the in-situ conservation activities. Synergy between officials in this village is likely to greatly support the success of this program.
7 Juli 2021	Discussion with the Nasreueh Village Head	Basically the Village Head supports this activity, but does not provide much additional supporting information.
8 Juli 2021	Discussion with the Head of Salang	The sub-district head is very supportive of the in-situ conservation activities. He is ready to support if there is a need.
10 Juli 2021	Discussion with Teluk Dalam Village Head	The village head and several village officials supported the in-situ conservation activities.
11 Juli 2021	Discussion with Teluk Dalam Subdistrict Head	The subdistrict head is very supportive of the in-situ conservation activities.
12 Juli 2021	Discussion with Latiung Village Head and South Teupah Sub-district (closest to Babi and Lasia Islands)	Both the Village Head and the subdistrict head were very supportive of this activity. The sub-district head is very supportive of the in-situ conservation activities and is ready to support if there is a need. One of his suggestions was to use Panglima Laot (community level sea group and fishing people representative) to help prevent bird hunting on Babi Island and Lasia.
14 Juli 2021	Discussion with the Secretary of DLHK Simeulue and some of his staff	Permission to enter the Simeulue Tahura / Grand Forest Park, and discuss issues related to flora and fauna conservation in Simeulue. Surveys and conservation activities are urgently needed to support the preservation of flora and fauna in Simeulue.



Figure 41. Team in discussion with subdistrict head of Teluk Dalam.



Figure 42. Team meeting with the Secretary of DLHK Simeulue and his staff.



Gambar 43. Team in discussion with subdistrict head of Teupah Selatan.

3.8 Habitat Suitability and In-Situ Conservation Plan for Hill Myna and Barusan Shama

Regarding the plan to release Simeulue Barusan Shama and Simeulue Hill Myna in several locations that were targeted by the survey, the following table 6 contains the results of observations of habitat suitability.

Table 6. Summary of the results of coordination and discussion with the local government and the people of Simeulue Regency.

Location	Information
Lamerem	The forest around the Lamerem area was previously reported to be the habitat of Barusan Shama and Hill Myna. From the survey team's observations, the forest near Lamerem Village is suitable for the release of Barusan Shama. However, even though the Village Head supports this program, the enthusiasm and support for the survey team in the field seems minimal, so it is necessary to review the priority scale and possibility of recruiting <i>rangers</i> .
Tepi Island	This area is very close and is still included in the Lamerem Village area. It was reported that Barusan Shama used to be present but due to poaching are no longer. This island is not a suitable habitat for Hill Myna. The island is uninhabited, but its territory is reportedly owned by the people of Lamerem Village. The island would be very suitable for the conservation activity of releasing Barusan Shama, as well as protecting the 50+ encountered Silvery Pigeon that were found on this island.
Laut Tawar Village	The Lake Laut Tawar area and the village was formerly the habitat of Simeulue Hill Myna and Simeulue Barusan Shama. There are still many fruit trees which are good food for Hill Myna. This area is suitable for future releasing of both Hill Myna and Barusan Shama, especially given that the head of the village is enthusiastic about supporting the project.
Lhok Dalam Village	The forest area around Lhok Dalam Village was formerly the habitat of Simeulue Hill Myna and Barusan Shama. There are still fruit trees that are good food for Hill Myna. This area is suitable for releasing Hill Myna and Barusan Shama, and the Village Head, BPD members and the community are enthusiastic about supporting this project.
Linggam Island	It was reported that Simeulue Barusan Shama were present on Linggam, but due to poaching no longer exist on the island. This island is uninhabited, but there is a mess (cottage) for coconut processing activities associated with aluan. Mr. Irnan who maintains the huts on this island would be a good ranger / candidate for the management of conservation activities on this island. The island would be very suitable for the release of Barusan Shama due to its location and relative ease of protection. The island is also home to Silvery Pigeon, which would be protected by a community ranger project.
Teluk Dalam Village	The forest area in Teluk Dalam Village was formerly the habitat of both Simeulue Hill Myna and Simeulue Barusan Shama. There are still fruit trees that are good food for Hill Myna. This

	area is suitable for releasing of Hill Myna and Barusan Shama, with a supportive village head.
Taman Hutan Simeulue / Grand Forest Park Simeulue	This area has been designated as a conservation area, and is very suitable for releasing Hill Myna and Barusan Shama. The support from the area manager, namely the Simeulue Environment and Forestry Service, is very good. The area is however, highly populated and within close proximity to the Sinabang, the capital of Simeulue. There is therefore a substantial poaching risk.
Babi and Lasia Islands	At the time of the survey, Babi Island was the habitat of Nias Hill Myna, but not Lasia Barusan Shama. On Lasia Island, neither Nias Hill Myna or Lasia Barusan Shama were found, but this was in part due to the lack of survey time on Lasia Island. From reports from the community and hunters, there is still Barusan Shama on Lasia Island, and there is still an active group of poachers from Simeulue that continue to heavily target Lasia for its Shama population. One of the priority steps for Babi and Lasia is to ensure that the activities of the poachers can be stopped as soon as possible, so that Lasia Barusan Shama does not disappear from the wild. Prevention of poaching is, at current, more important than releasing of bred birds.

3.9 Survey Limitations

There are several limiting factors in this survey, which include:

- (i) The survey could not be carried out earlier due to logistical and transportation preparation limitations;
- (ii) Given the large survey area, the time taken to reach all locations meant that there was a reduced time for surveying activities, especially in areas where there is no access to the forest;
- (iii) Some locations were inaccessible due to local community restrictions which were heightened by Corona;
- (iv) Access points for survey locations are strongly influenced by the main roads that can be traversed, so the condition of survey points must be adjusted to these conditions;
- (v) Long travel times between points.

These factors impacted the amount of time spent in the field surveying, and therefore may have limited the number of bird discoveries.

4 RECOMMENDATIONS

Based on the results of the survey and interviews with the community during the survey, the following can be recommended:

1. Bird research in Simeulue Regency should be continued, especially during the migration season, when it is estimated that there will be many types of migratory birds visiting the island which were not the focus of this survey.
2. For target species in Simeulue Regency, it is important to continue to conduct research and monitoring, especially in locations that were not included in this survey.
3. It is important to continue to coordinate and discuss with local communities about the importance of conserving the Hill Myna and Barusan Shama, which are now very rare on Simeulue Island.
4. The plan to release Barusan Shama which has been successfully bred by EcosystemImpact, needs to be realised, and in order to secure these release sites, a community ranger team or monitoring team should be developed. This needs to be developed in partnership with provincial, Simeulue and local governments.
5. It is important to take preventive measures as soon as possible against the poaching of the Shama and Hill Myna, such as serious discussions about the group of poachers from Batu-Batu Village who carried out poaching activities on Simeulue Island and Lasia Island.

5 CONCLUSION

During the survey of bird diversity in Simeulue Regency, it can be concluded that:

1. Simeulue Regency has a high number of bird species, where 77 bird species from 35 families were recorded during the survey period between 1-19 July 2021.
2. There are 15 species that have High Conservation Value or HCA. The details being there are 7 species classed as globally endangered, 13 species are protected by the Law of the Republic of Indonesia, 11 species are included in Appendix II of CITES, and 2 species are endemic to Simeulue Regency (Simeulue Island, including Babi Island and Lasia).
3. Several target species such as Silvery Pigeon, Nias Hill Myna, Nicobar Pigeon, Oriental Magpie-robin, Simeulue Parrot, Simeulue Scops Owl and Red-breasted Parakeet were found during the survey. This shows that Simeulue Regency is still a habitat for rare, endangered and endemic species.
4. Poaching activities and the tradition of keeping birds are still carried out by the community.
5. In general, both the local government (Kepada Desa and Camat) and the local community support the conservation of Hill Myna and Barusan Shama.

REFERENCE LIST

- Andrew, P. 1992. *The Birds of Indonesia. A Checklist (Peter's Sequences)*. Jakarta, The Indonesian Ornithological Society.
- Asian Species Action Partnership (ASAP). 2020a. Nias Hill Myna | Asian Species Action Partnership. [online]
- Asian Species Action Partnership (ASAP). 2020b. Silvery Pigeon | Asian Species Action Partnership. [online]
- Birdlife International. 2001. *Threatened Birdsof Asia: The Birdlife International Red Data Book*. Cambridge, UK: Birdlife International.
- BirdLife International. 2004. *Important Birds Areas in Asia: Key Sites for Conservation*. Cambridge, UK: BirdLife International. (BirdLife Conservation Series No. 13).
- BirdLife International. 2021. *Country profile: Indonesia*. Available from <http://www.birdlife.org/datazone/country/indonesia>.
- BirdLife International. 2021a. Nias Hill Myna *Gracula Robusta*. [online]
- BirdLife International. 2021b. Species Factsheet: *Columba Argentina*. [online]
- BirdLife International. 2021. *Species Fact Sheet*. Downloaded from <http://www.birdlife.org> visited 16 Agustus 2021.
- Burung Indonesia. 2010. *Informasi Tambahan Burung-burung di Sumatera, Jawa, Bali dan Kalimantan (Termasuk Sabah, Sarawak dan Brunei Darussalam)*. Burung Indonesia, Bogor.
- Burung Indonesia. 2021. Daerah Penting bagi Burung dan Keanekaragaman Hayati. Diakses dari <http://www.burung.org/daerah-penting-bagi-burung-dan-keragaman-hayati/> tanggal 16 Agustus 2021.
- Chng, S., Eaton, J. and Miller, A. (2017). Second South-East Asian Songbird Crisis Summit. 2nd ed. Traffic.
- CITES 2021a. *Gracula Religiosa* | CITES. [online]
- Eaton, J., Shepherd, C., Rheindt, F., Harris, J., van Balen, S., Wilcove, D. and Collar, N., 2015. Trade-driven extinctions and near-extinctions of avian taxa in Sundaic Indonesia. *Forktail*, 31, pp.1-12.
- Eaton, J.A., van Balen, B., Brickle, N.W. & Rheindt, F.E. 2016. *Birds of the Indonesian Archipelago: Greater Sundas and Wallacea*. Lynx Edicions, Spain.
- Eaton, J.A., van Balen, B., Brickle, N.W. & Rheindt, F.E. 2021. *Birds of the Indonesian Archipelago: Greater Sundas and Wallacea*. Second Editon, Lynx Edicions, Spain.
- HCVRN. 2008. *Toolkit for Identification of High Conservation Values in Indonesia*. <<http://www.hcvnetwork.org/resources/national-hcv-interpretations/HCV%20Toolkit%20for%20Indonesia-Engversion-final.pdf>>
- Holmes, D. & Nash, S. 1999. *Burung-burung di Sumatera dan Kalimantan*. Puslitbang Biologi LIPI-Birdlife International Indonesia Programme.
- IUCN Red List of Threatened Species. 2018. IUCN Red List of Threatened Species: *Gracula Robusta*. [online]

- IUCN Red List of Threatened Species. 2019. IUCN Red List of Threatened Species: *Columba Argentina*. [online]
- Jepson, P. and Ladle, R., 2005. Bird-keeping in Indonesia: conservation impacts and the potential for substitution-based conservation responses. *Oryx*, 39(04), p.442.
- Lee, J.G.H., Chng, S.C.L. and Eaton, J.A. (eds). 2016. Conservation strategy for Southeast Asian songbirds in trade. Recommendations from the first Asian Songbird Trade Crisis Summit 2015 held in Jurong Bird Park, Singapore, 27–29 September 2015.
- Lee, M., Ding Li, Y. and Tun Pin, O., 2009. A photographic record of Silvery Pigeon *Columba argentina* from the Mentawai Islands, Indonesia, with notes on identification, distribution and conservation. *Bulletin of the British Ornithologists' Club*, 129(3), pp.122-128.
- Mackinnon, J., K. Phillips & Balen, B. V. 1998. *Burung-burung di Sumatera, Kalimantan, Jawa dan Bali*. Birdlife International Indonesia. Programme Puslitbang Biologi LIPI, Bogor.
- Noerdjito M. & Maryanto I. 2001. *Jenis-jenis Hayati yang Dilindungi Perundang-undangan Indonesia*. Museum Zoologicum Bogoriense, LIPI, The Nature Conservancy and USAID, Cibinong, Indonesia.
- Peraturan Menteri Lingkungan Hidup dan Kehutanan Republik Indonesia Nomor P.20/MENLHK/SETJEN/KUM.1/6/2018.
- Peraturan Menteri Lingkungan Hidup dan Kehutanan Republik Indonesia Nomor P.92/MENLHK/SETJEN/KUM.1/8/2018.
- Peraturan Menteri Lingkungan Hidup dan Kehutanan Republik Indonesia Nomor P.106/MENLHK/SETJEN/KUM.1/12/2018.
- Phillipps, Q. & Phillipps, K. 2014. *Phillipps' field guide to the birds of Borneo, Sabah, Sarawak, Brunei and Kalimantan*. John Baeufoy Publishing, UK.
- Robson, C. 2011. *Birds of South-east Asia*. New Holland Publishers, UK.
- Shannaz, J., Jepson, P. & Rudyanto. 1995. *Burung-burung terancam punah di Indonesia*. PHPA/MoF-Birdlife International Indonesia Programme.
- Strange, M. 1998. *Birds of South-East Asia, A photographic guide to the birds of Thailand, Malaysia, Singapore, the Phillipines and Indonesia*. New Holland Publishers, UK.
- Strange, M. 2001. *A Photographic Guide to The Birds of Indonesia*. Princeton University Press.
- Sujatnika, J., Jepson, P. Soehartono, T.R. Crosby, M.J. & Mardiasuti, A. 1995. *Melestarikan Keanekaragaman Hayati Indonesia: Pendekatan Daerah Burung Endemik (Conserving Indonesia Biodiversity: The Endemic Bird Area Approach)*. PHPA/Birdlife International Indonesia Programme, Jakarta.
- Sukmantoro, W., M. Irham, W. Novarino, F. Hasudungan, N. Kemp. & Muchtar, M. (2007) *Daftar Burung Indonesia No. 2*. The Indonesian Ornithologist's Union/LIPI/OBC SmythiesFund/Gibbon Foundation, Bogor.
- Tilford, T. 2000. *A Photographic Guide to the Birds of Java, Sumatra and Bali*. New Holland Publishers, UK.
- Wibowo, P. & Suyatno, N. 1998. *An Overview of Indonesian Wetland Sites-II – An Update Information – Included In Wetland Database*. Wetlands. International–Indonesia Programme/PHPA, Bogor.

www.cites.org. Dikunjungi 16 Agustus 2021.

www.iucn.org. Dikunjungi 16 Agustus 2021.