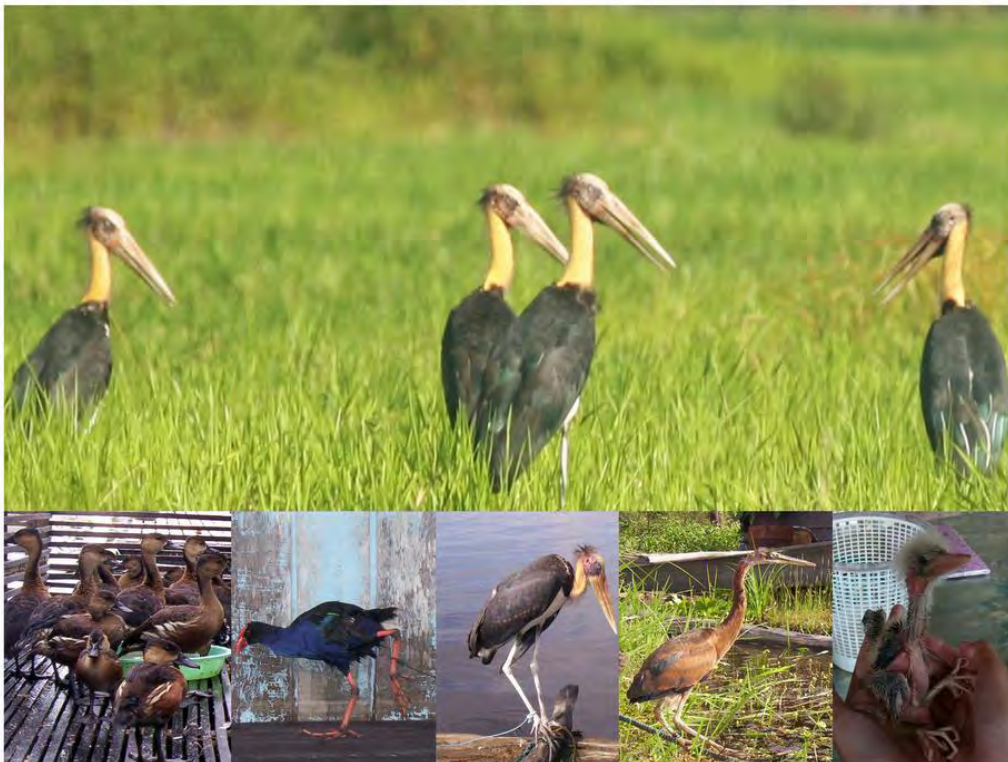


# TECHNICAL REPORT

## SOCIALIZING THE PROTECTED STATUS OF LESSER ADJUTANTS AND OTHER BIRD SPECIES IN THE MIDDLE MAHAKAM AREA, EAST KALIMANTAN, INDONESIA WITH LOCAL COMMUNITIES

**PROJECT YEARS 2008-2009**



BY THE CONSERVATION FOUNDATION  
FOR RARE AQUATIC SPECIES



Supported by WILCON FOUNDATION

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## **Preface and Acknowledgements**

We are very grateful for the support provided by the WILCON Foundation, which enabled us to raise the necessary awareness on the protected status of several protected bird species and lesser adjutants in particular among the local communities in the middle Mahakam area. We hope that our efforts in combination with increased patrols by the BKSDA in the future will prevent local communities from catching protected bird (and other wildlife) species and holding them in captivity.

Special thanks to René Poorter who initiated the project by expressing his concern for the captivated birds in the Mahakam and providing support.

**Samarinda, 7 December 2009,**



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# **Socializing the protected status of several bird species in the Middle Mahakam Area, East Kalimantan, Indonesia, with local communities**

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## **EXECUTING ORGANIZATION**

Yayasan Konservasi RASI (Conservation Foundation for Rare Aquatic Species of Indonesia) was legally established in 2000 as an Indonesian NGO (registration number: 02.054.531.5-722.000).

YK-RASI is a non-profit, non-governmental organization for whom the loss of aquatic (related) species' diversity and deteriorating habitat is of its deepest concern. The organization's goal is to conduct conservation activities based on biological/ social-economical research in Indonesia to protect endangered, aquatic related species and their freshwater and marine habitat/ ecosystem, thereby protecting natural resources with importance to humankind as well. YK-RASI also promotes a sustainable use of natural resources of the aquatic (related) environment by aiding self-supporting sustainable resource user-groups.

Our programs and projects follow a scientific, policy and awareness approach and until now mostly focused on the protection and sustainable management of natural resources in the Middle Mahakam River, Lakes and Wetlands Area in East Kalimantan including protection of rare, endangered or threatened species with a special focus on the critically endangered freshwater Irrawaddy dolphin population and (migratory) bird diversity.

YK-RASI is the local partner organization together with Wetlands International Indonesia Program (WI-IP) for the Mahakam Lakes within the international Living Lakes Network ([www.globalnature.org](http://www.globalnature.org)) and a member of Wetlands Link International WLI Asia.

## **INTRODUCTION**

### ***Project Area***

The Middle Mahakam Area (MMA), which is located in the area between 180 km and 375 km upstream of the mouth of the Mahakam River (between 116° and 117° East and 0° to 0°30' South), is one of Kalimantan's largest wetland areas. It includes three major lakes (Jempang, Melintang and Semayang) and several minor lakes, peat and freshwater swamps, and major tributaries. The area is located in East Kalimantan in the Sundaland ecoregion and is part of the Mahakam River watershed, which is one of the major river systems of Kalimantan and runs from 118° east to 113° west and between 1° north and south.

## Middle Mahakam Area (MMA)



The area of the Middle Mahakam Lakes (Danau Jempang: 116°12' E, 0°25' S) covers about 400,000 ha. The three largest lakes are Danau Jempang (15,000 ha in average), Danau Melintang (11,000 ha) and Danau Semayang (13,000). Due to alternating water levels the size of the lakes's water surface ranges from zero in extremely dry years (1982/83, 1991, 1994, 1997/98) to more than 60,000 ha. Their maximum depth is about 6-7m. Annual fluctuations can reach more than 6m. The Middle Mahakam Area (MMA) receives an average annual rainfall of 2,100-2,400 mm. Maximum temperatures range between 30-34°C, minimum temperatures between 22-24°C. The yearly average relative humidity is about 85%. The vegetation of the lakes (more than 86 aquatic plant species and genera) is dominated by floating weeds (mainly *Salvinia spec.* and *Eichhornia crassipes*, *Mimosa pigra* and *Polygonum barbatum*) (Gönner, 2000).

The lakes and swamps in the MMA are very important fish-spawning grounds and replenish the main river seasonally. Therefore, the MMA is an area of intensive fishing activity with an annual average catch of 25,000 to 35,000 metric tons since 1970 (MacKinnon *et al.*, 1997). To date the area has been the largest single supplier of dried freshwater fish for the island of Java, with between 6,000 and 9,000 tons being exported annually (MacKinnon *et al.*, 1997). On a landscape level, the area plays an important buffer role for the natural regulation of the Mahakam River and also downstream human settlements. The swamp area of the lakes is surrounded by freshwater (periodic) swamp forests, peat swamp forests (mainly in the northern part) and lowland dipterocarp rain forests. There are several smaller freshwater swamp lakes and black-water tributaries that directly drain from the swamps.

To the north of Melintang and Semayang Lakes, peat swamp forests were severely affected by forest fires in 1998. Despite the enormous damage caused by recent forest fires, the MMA is still one of Kalimantan's most important wetland areas. A comparison of water birds between the MMA and Negara River in South-Kalimantan (van Balen & Prentice, 1997) or Tanjung Puting National Park (Nash & Nash, 1988) highlights the MMA's importance as a crucial breeding and migration site for 90 waterbird species, including important breeding populations of various herons and the Lesser Adjutant (*Leptoptilos javanicus*). Breeding was also noted for the Little Tern (*Sterna albifrons*), and the White-headed Stilt (*Himantopus leucocephalus*), which appear to be the first breeding record for Borneo (Gönner, 2000; Gönner, 2005 pers. comm.). Several thousand wandering whistling-ducks, waders and terns, both from the Oriental as well as from the Austral region, visit the MMA on their annual migration.

The preservation of these wetlands and lakes is of not only national but also international biodiversity importance in terms of migrating and breeding bird species in these areas and has been listed at the Living Lakes list of lakes of outstanding importance (<http://www.livinglakes.org>). Threats to the bird populations of many species and lesser adjutant in particular include habitat loss through conversion of swamp forest for large and small-scale plantations, forest fires and logging to

obtain wood for cooking and construction material, where in the logging process many juvenile bird species are being caught, and in particular several heron species, lesser adjutant, and eagle species. Oriental darter birds are also directly hunted for food and an unsustainable catch of wandering whistling ducks takes place by Banjarese traders for market sale in South Kalimantan (Soeyitno *et al.*, 2005).

### ***Project background***

Yayasan Konservasi RASI conducted a combination of observation and interview surveys in the Middle Mahakam River area (MMA) in East Kalimantan, Indonesia between 2005 and 2007 to assess total bio-diversity with a focus on avifauna, compare species and relative abundance composition during different water level conditions and assess the extent of bird captures from the wild with a focus on lesser adjutants (Budiono *et al.*, 2007). The survey area involved the river between Muara Kaman (180km from the mouth) and Melak (380km from the mouth) including the larger lakes of Semayang, Melintang and Jempang, several minor swamp (lake) areas and tributaries. Four diversity surveys were conducted between 2005 and 2007 at high, medium and low water levels during a total of 39 days covering a total distance of 3097 km and one interview survey on captivated birds.

A total number of 91 bird species were positively identified during these four surveys of which 98% have been digitally portrayed. Most species and in the largest numbers were found in the lakes area (firstly in Jempang Lake), but when split to „micro“ habitat type, riparian forest (especially of tributaries) appeared to account for the largest total diversity of species followed by lake forest and open swamps. On the other hand, densities and total numbers of birds observed were significantly higher in (open swamp) lake habitat at all water levels (high, medium, low) compared to other habitats. Large numbers of cattle-, intermediate-, great-, and little egrets, Javan pond-herons, wandering whistling ducks, white-winged, black-naped and whiskered terns were found in the open swamps during all or particular seasons. Total bird abundance was highest during the dry season. Several bird species such as common sandpiper, black-winged and white-headed stilts, black-tailed godwit, brahminty kites, black-naped and whiskered terns like to feed on the mudflats that become exposed during the dry season (August-October).

At least 17 species are known to breed in the MMA of which 13 species were observed with clear breeding plumage. Important nest sites for lesser adjutants and purple herons were identified in Metau Forest (west of Jempang Lake) and Tubuhan Lake (north of Semayang Lake), where juvenile birds are regularly caught from their nests whereas lesser adjutants are also often deliberately caught with fish hooks and fish bait. Based on interviews, we found that between 2000 and 2007 at least 527 lesser adjutants were caught from the wild and 281 purple herons. At least 207 captivated birds of 16 species were observed in the MMA during June 2006 of which eight species involve protected species.

When combining our own surveys with field data of bird observations from other sources (C. Gonner; T. Boorsma, BEBSIC), between 1990 and 2007 a total of 298 bird species have been identified in the Middle Mahakam Area of which 70 species represent protected species. According to the IUCN Red List, 55 species are categorized as EN, CR, Vu or NT but only 22 of these threatened species are nationally protected, excluding protection for two endangered species, seven vulnerable species and 24 near-threatened species. Five endemic bird species for Kalimantan were recorded, i.e. dusky munia, and Bornean whistler, Bornean peacock-pheasant, Bornean blue-flycatcher and Bornean Bristlehead.

Major threats to the bird communities in the Middle Mahakam Area at present are captures of wild birds at large scale such as wandering whistling ducks, lesser adjutants, purple herons and to a smaller extent several species of hens, eagles, egrets and others. Other important threats involve

habitat loss due to forest fires, illegal logging and forest conversion of lowland, freshwater and peat swamp forest for agriculture, mining and oilpalm plantations. There is a need to raise local awareness about protected species, increase law-enforcement and effective habitat protection, especially of nesting areas.

## **PROJECT OBJECTIVES AND ACTIVITIES**

This project is part of the larger „Pesut Mahakam Conservation Program“, which has been conducted by YK-RASI since 2000 and is an ongoing program to protect the habitat of the freshwater dolphins and other wildlife in the unique middle Mahakam River, lakes and wetlands area, which is one of Kalimantan’s largest wetland areas. The general goal is to establish a well-supported (scientifically, politically and socially) and legally-enforceable spatial plan for critical wetland, lake and river habitat with regards to extractive, restricted and prohibitive use of natural resources, and protected areas for birds, spawning fish and freshwater dolphins.

The detailed objectives and activities of the currently proposed project are to:

1. Increase the awareness of local community on the protected status of several bird species that occur in the Middle Mahakam Lakes and Wetlands by distribution of posters with photos of protected birds at schools, to owners of captivated birds, gathering places in villages, offices etc.
2. Register and interview the owners of captive birds if they are willing to set the birds free during a next patrolling round with the provincial Nature Conservancy Agency in East Kalimantan (BKSDA Kaltim). Provide these results to the BKSDA and together with them decide which of these registered birds will be released; i.e. whether this includes only those birds capable of flying belonging to owners that are willing to release them, or also birds from owners that do not wish to hand the birds voluntarily. A solution for those birds that are too young or incapable of flying depends on negotiation with the BKSDA.
3. Bird release operation with BKSDA during dry water season for easy fish access. Birds that were agreed upon to be released will be checked for their capability to fly or survive on their own by help of a bird specialist and if esteemed fit, the birds will be brought to the nearest lake and released.
4. During next monitoring rounds by the BKSDA non-ringed protected birds will be confiscated and fined.

## **RESULTS**

In March/ April 2008 posters of protected bird and other wildlife were distributed to all schools, heads of villages/ kampongs/ neighbourhoods (RTs) and all bird owners in over 38 villages in the Middle Mahakam Area, as well as to local district and provincial government departments. At the same time, birds and their owners were registered and informed about the protected status of several bird species and the lesser adjutant in particular. During this period in 17 villages, a total of 43 captivated lesser adjutant birds were encountered and registered (Appendix 1).

Between July and September 2009 in 11 villages, a total of 30 birds were encountered, which were subsequently all registered and ringed in coordination with the Nature Conservancy Agency of East Kalimantan (BKSDA). During earlier discussions with the BKSDA it was decided that the birds would be ringed only and only directly released if the owners approved of this. The 30 birds belonged to 23 owners of which 13 involved the same owners that have hold the same birds since 2007 and 10 new owners. The owners were offered the possibility that the birds would be

taken and released or ringed. No owner chose to have the bird taken away. The owners were informed that these birds could potentially be confiscated in a next round depending on the policy of BKSDA but those that wear the ring would not be fined. However, during our next field visits for other projects, we found out that soon after the ringing, many owners decided to release the bird or kill and eat it as they were afraid for more patrols by the BKSDA and to obtain a fine. We asked the BKSDA to submit request for national funding to continue the patrols and indeed fine and confiscate birds that are not ringed since there has been enough socialization now. We hope that their request will be granted.

During the first interviews conducted in 2007 on captivated birds and lesser adjutants in particular, we found out that between 2000 and 2007 at least 527 lesser adjutants were caught from the wild (2% involved purchases). Only 7% lesser adjutants were alive until present and most birds had been captivated for one year now with exceptions of birds that have been held captive for 15 and 20 years now. 80% were deliberately caught or purchased. The reason of the respondents that currently own a lesser adjutant is to keep them as pet (50%), hold them as pet until someone wants to buy it (41%), and 9% keeps them for own consumption at some stage. All owners claimed they did not know that the species is protected by law.

Most lesser adjutants were caught as adults by means of fishing hooks (90% of total adjutants caught) or as juveniles from their nests (10%). The main location of capture is Metau Forest (93% of all adjutants), which at high water is temporarily flooded, where they are caught with underwater fishing hooks and usually killed if the bird is wounded or nearly dead and directly sold for meat or as pet if they are not badly wounded for c. Rp. 50.000 per individual. Here, they are also caught from their nest in the kahoi tree (*Shorea balangeran*) and raised as pet until they become adult. RASI has proposed the Metau forest area (5.300 ha in size) as protected forest at the district regent and he in principal agrees on this but we need more data to be able to describe and map the area more completely (Appendix 2):

## **FOLLOW-UP ACTIVITIES**

- RASI would like to conduct the follow research in Metau Forest to obtain the following data: 1) Flora/ fauna species composition, 2) the condition and total biomass of the trees & economic value, 3) ecological and hydrological function (ringmark-benchmark), 4) carbon assessment, 5) need for restoration. Team required : 5 specialists + 5 assistants for two weeks intensive survey. Estimated costs 1920 euro. If we can perform the survey soon at high water level (is best accessible) then the government can submit a request for national funding to place boundary wood poles and regulation sign boards etc.
- We anticipate that the BKSDA will organize regular patrols and fine owners of newly captivated animals.

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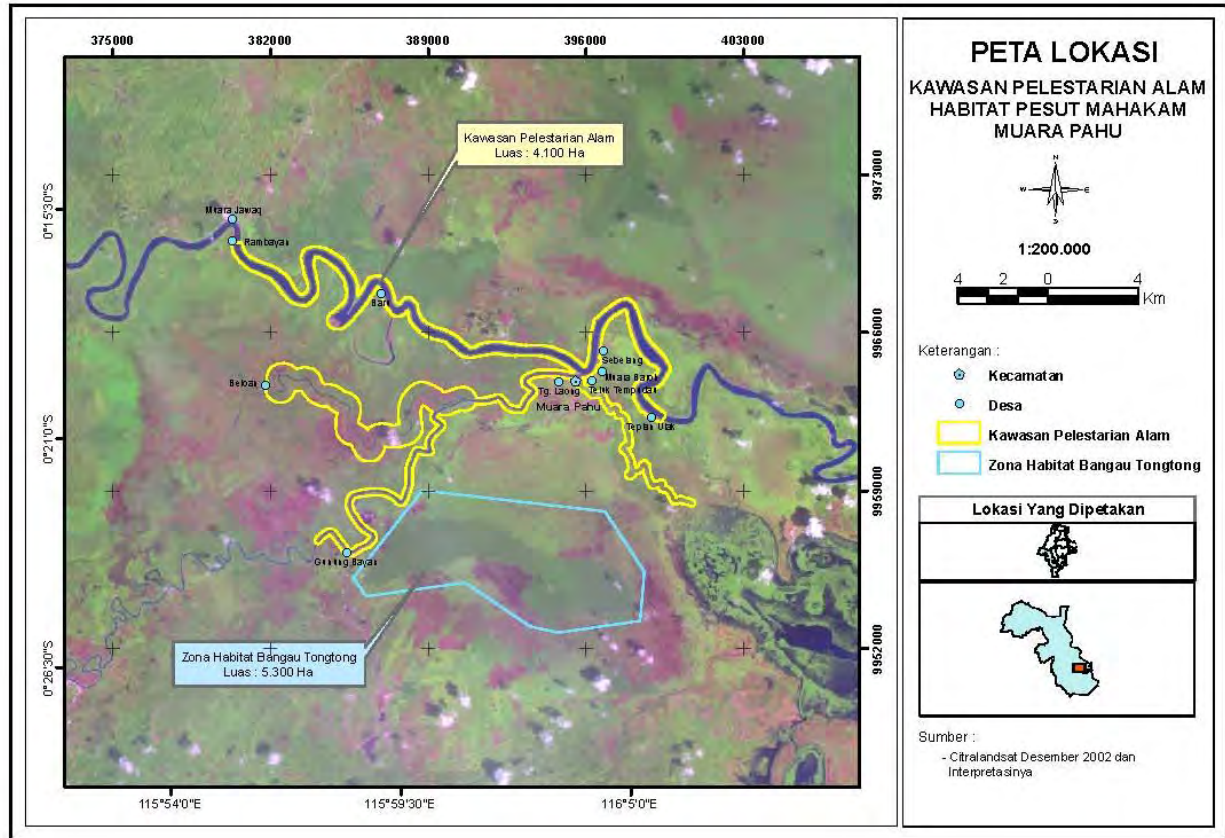
## 6. APPENDICES

### Appendix 1.

#### DATA ON CAPTIVATED LESSER ADJUTANTS (*Leptoptylus javanicus*) IN THE MIDDLE MAHAKAM AREA BASED ON RESEARCH RESULTS 2007 - 2009

No	village	sub-district	Number of captivated lesser adjutants			
			Interview result (2000-2007)	year 2007	year 2008	year 2009
1	Kampung Baru	Muara Pahu	0	0	0	0
2	Tanjung Laong	Muara Pahu	451	4	2	1
3	Beloan	Muara Pahu	5	5	2	0
4	Penyinggahan	Penyinggahan	0	1	5	1
5	Tanjung Haur	Penyinggahan	8	1	0	0
6	Tanjung Jone	Jempang	0	0	-	-
7	Ohong	Jempang	9	1	2	-
8	Perigi	Jempang	3	2	-	-
9	Pulau Lanting	Jempang	0	0	-	-
10	Tanjung Jan	Jempang	0	0	-	-
11	Tanjung Isuy	Jempang	0	0	-	-
12	Batuq	Muara Muntai	0	0	0	1
13	Muara Muntai Hulu	Muara Muntai	1	1	0	4
14	Muara Muntai Hilir	Muara Muntai	2	1	0	0
15	Jantur	Muara Muntai	3	3	2	-
16	Muara Wis	Muara Wis	0	0	5	2
17	Sebemban	Muara Wis	0	0	0	2
18	Melintang	Muara Wis	4	4	8	9
19	Muara Enggelam	Muara Wis	2	2	1	-
20	Semayang	Kenohan	15	4	1	3
21	Tubuhan	Kenohan	0	0	2	-
22	Pela Baru	Kota Bangun	0	0	1	1
23	Pela Lama	Kota Bangun	2	2	2	0
24	Liang	Muara Kaman	4	3	2	5
25	Muhuran	Kota Bangun	0	0	1	-
26	Sebelimbingan	Kota Bangun	0	0	1	-
27	Bukit Jering	Muara Kaman	2	1	1	1
28	Kedang Kepala	Muara Kaman	0	0	0	0
29	Muara Siran	Muara Kaman	0	0	0	0
30	Mangkuliding	Muara Kaman	2	1	0	-
31	Tunjungan	Muara Kaman	0	0	0	-
32	Liang Buaya	Muara Kaman	14	3	5	-
<b>TOTAL</b>			<b>527</b>	<b>39</b>	<b>43</b>	<b>30</b>

## Appendix 2.



The blue encircled area is the area that we want to propose as protected areas it represents a breeding area for lesser adjutant birds and other wildlife and is an important tropical lowland forest patch surrounded by oilpalm and coalmining companies.



The boundaries of Metau Forest with encroaching oilpalm plantation activities.

## Pictures



*Captured lesser adjutant birds. The fishermen often put them near fishing cages and logs to guard the cages or logs*



*Ringling process of lesser adjutant birds. In total 30 birds were ringed*



*Interviews/ discussions with the bird owners, BKSDA and RASI staff.*



*Poster distribution for protected species in the Middle Mahakam Area villages to bird owners, schools, offices, restaurants, pensions, gathering places and halls.*