



THE SEBERANG PERAI PROJECT - PEMERKASAAN KOMUNITI TEMPATAN
UNTUK PEMBANGUNAN EKO-PELANCONGAN YANG MAMPAN DI
SEBERANG PERAI UTARA, PULAU PINANG UNDER THE SEBERANG PERAI
SMALL TOWNS GRANTS PROGRAMME

Grant Award No: SPG/179

FINAL MILESTONE REPORT 31st March 2026

By: Malaysian Nature Society (MNS), Penang Branch

BIRD SURVEY



MARCH 30, 2026

KANDA KUMAR, TAN CHOO ENG, MUIN, NG KHYE WAI, NELSON KHOR, PUSPAH, BERYL NOLAN,
ANDY DINESH, HANS, NEOH HOR KEE, MNS SELANGOR BRANCH, MNS PERAK BRANCH.
673-B, Jalan Kebun Bunga, 10350 Pulau Pinang

INTRODUCTION

Seberang Prai is blessed with many wetlands, including man-made paddy fields and detention and retention ponds, and rivers and river basin. And more importantly an important coastal and wetlands Important Bird and Biodiversity Area (known as IBA) – known as Teluk Air Tawar – Kuala Muda Coastal IBA, or sometimes abbreviated as TAT-KM Coast IBA (MY-03- Birdlife list of IBA in Malaysia)

The Penang State Government already have plans to submit this IBA as an East Asian-Australasian Flyway Partnership (EAAFP) Flyway Site. The Dept of Forestry will be the lead agency. MNS including MNS Penang will be assisting in the submission. MNS via Birdlife International is an international NGO member of the EAAFP.

OBEJECTIVE

A comprehensive survey of all birds found in the IBA and surrounding areas including the coastal mudflats and coast – about 1.5 km from the mangroves, that is up to all those offshore mussel post.

To count total number of shorebirds and waders using the IBA. To identify the bird species on the mangroves and nearby scrubland, the surrounding paddy fields.

At the Herony, determine waterbirds nesting there, total numbers, and breeding season, heronry activities. Nesting birds in that area, and their nesting ground, if any.

Finally to update the Birdlist of the Teluk Air Tawar – Kuala Muda Coast IBA.

METHOD

It can be difficult to count and survey a 9 km stretch of mudflats,(see Map) with only the southern edge at Sg Abdul (HSK Kuala Bekah) and the northern edge at Pantai Teluk Malas / Bakau Tua / Permatang Rawa (HSK Pasir Gebu) easily accessible by land. Most of the early “historical count” in the late 80-90’s were carried out from the Sg Abdul mudflats, and at that time slightly south to the Bagan Tambang- Bagan Belat until the junction of Jalan Tunku Putra where significant number of shorebirds up to thousands were counted. Coastal mangrove was even found further south till Pantai Robina where Little Egrets were nesting on these mangroves.

From the 1980's till today, approximately 200 hectares of mangroves have been added from natural accretion from Sg Abdul to Pantai Teluk Malas /Bakau. Although there was some erosion, from Pantai Bersih (mainly sandy coastal shoreline) up till Sg Abdul rivermouth.

In addition to the above changes to the coastal mudflats, the coastal geography have changed over the past 40-50 years. For example the Sg Lahar Endin jetty used to face the sea, but at present, it needs a near 1 km part of the "new" river to reach the sea front. And also, on the early 2000's the casuarina trees at Permatang Rawa mudflats used to face the sea, now it is fronted by about 300 metres of mangroves.

The approach to this comprehensive survey, planned to cover at least a 3 years period, to prepare a dossier and will involve 1) the traditional land/coastal survey at or along the coast and mudflats, 2) Boat survey along the coast, and 3) exploring aerial/drone survey. In addition to migratory shorebirds and waders, and also waterbirds, a survey and documentation of the big heronry at HSK Lahar Endin was also made. A comprehensive survey of the surrounding paddyfields were also made and also the Sg Muda riverside habitat, from the river mouth until. And also the birds at the mangrove area and the surrounding scrubland, and also migratory (non-Waders/Shorebirds) birds.

RESULTS

Broadly separated into 1) Aerial/Drone Survey 2) Land Survey 3) Boat Survey.

The following were obtained for a one-and-a-half-year period, from Oct 2024 to March 2026, total number of Waders, Shorebirds and Waterbirds for the IBA from Drone Survey and Land/Coastal Survey. And the total number of local Waterbirds at the Heronry at HSK Lahar Endin by Drone Survey.

The bird list obtained by using Camera Traps, and combined with above survey, a latest Checklist for this IBA is published.

CONCLUSION, DISCUSSION & RECOMMENDATION

The studies indicate the total number of shorebirds at the IBA is stable and even increasing within the previous 40 years of our studies since 1986. The shorebird and wader species recorded have only shown a slight increase likely due to the increase the number of observers and location of observation, and

also more importantly more boat survey was carried out within the past ten years, with the MNS Penang Branch aiming for a monthly boat survey.

The number of migratory and resident species have also shown a slight increase. By using camera trap at the mangrove and scrubland habitat a total of 51 species was recorded.

From these studies, it can be shown that three method of Survey and Count are still required with all having advantages and disadvantages, and also to support and complement each other.

Land count from Sg Abdul and to a lesser extent Pantai Teluk Malas – Bakau Tua – Permatang Rawa, remains the two locations that allow easy access, for low tides at Sg Abdul and high tides, especially high spring tides at Pantai Teluk Malas – Bakau Tua mudflats and sandbar. Most other areas of the coastal mudflats are not easily accessible from the landward side mangroves. An attempt to reach the high tide roost at the Padang Benggali high tide roost from land was not successful.

Boat counts will give a better reach but experience is required for count and survey from a moving or bobbing boat which is not easy, especially during rising spring tide and windy conditions. Surveying during neap tide by boat is possible, but usually need to survey two sectors, HSK Kuala Bekah and HSK Lahar Endin mudflats.

Finally, aerial and drone count can give a very quick and fast access to inaccessible part of the whole coastal landscape except for the south sector of the HSK Kuala Bekah mudflats (approximately from Kuala Bekah southwards to Padang Benggali till Sg Abdul) where there are flight restrictions. These is where the high tide roost of this sector is located.

The three sectors of the IBA, broadly distributed along the three forest reserves or otherwise known in Malay as Hutan Simpanan Kekal (Permanent Forest Reserve) HSK. Each sector can support about 6,000 to 10,000 shorebirds. When the tide is low (irrespective of neap or spring tide) the waders will congregate along the Sg Abdul mudflats, and the mudflats of Padang Benggali and Kuala Bekah. There is a high tide roost fronting Padang Benggali, which will only be inundated with tide water in high spring tide.

Bird Survey areas including locations of Camera Traps

HSK Pasir Gebu and mudflats

HSK Lahar Endin and mudflats

HSK Kuala Bekah and mudflats

Mangrove and Scrubland:-

near Telekom Station, Pmtg Rawa, Bakau Tua, Pasir Gebu

near Taman Penaga

near Taman Kuala Bekah and Ponds at behind Boat-yard

Sungai Muda area, river mouth to before Merdeka Bridge

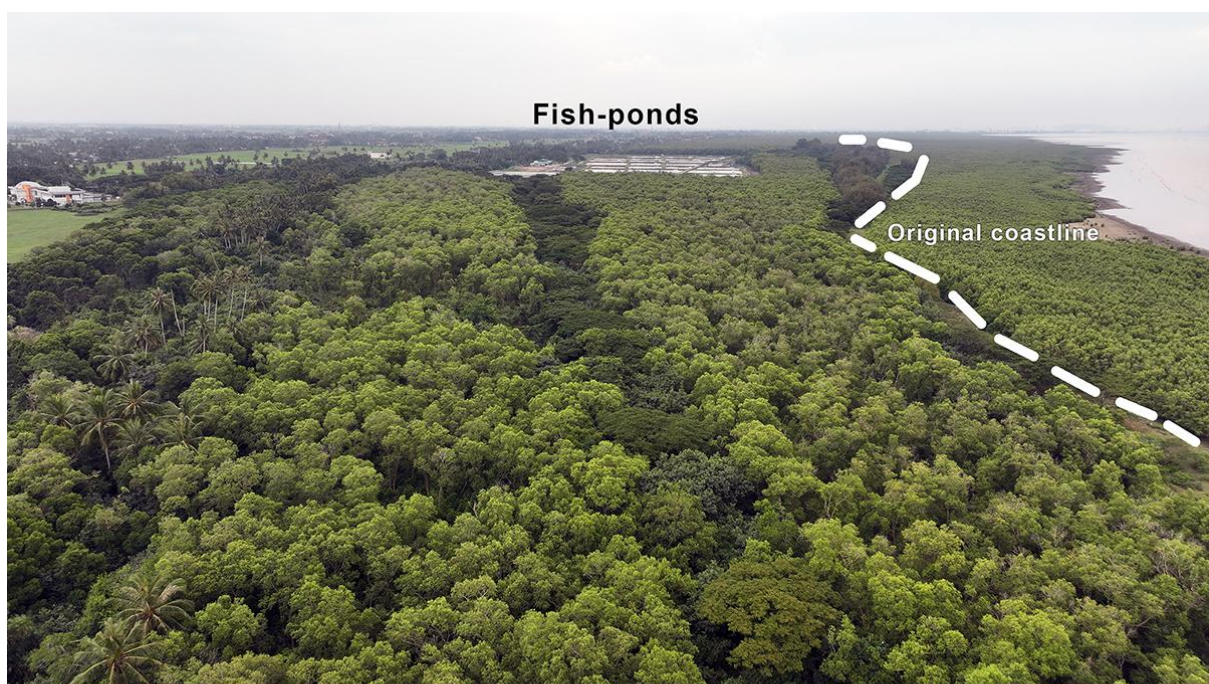
Surrounding paddyfields:-

Permatang Bendahari, Rantau Panjang, Kota Aur, Pasir Gebu, Padang Tembusu, Bakar Kapor, Kuala Bekah, Titi Mukim

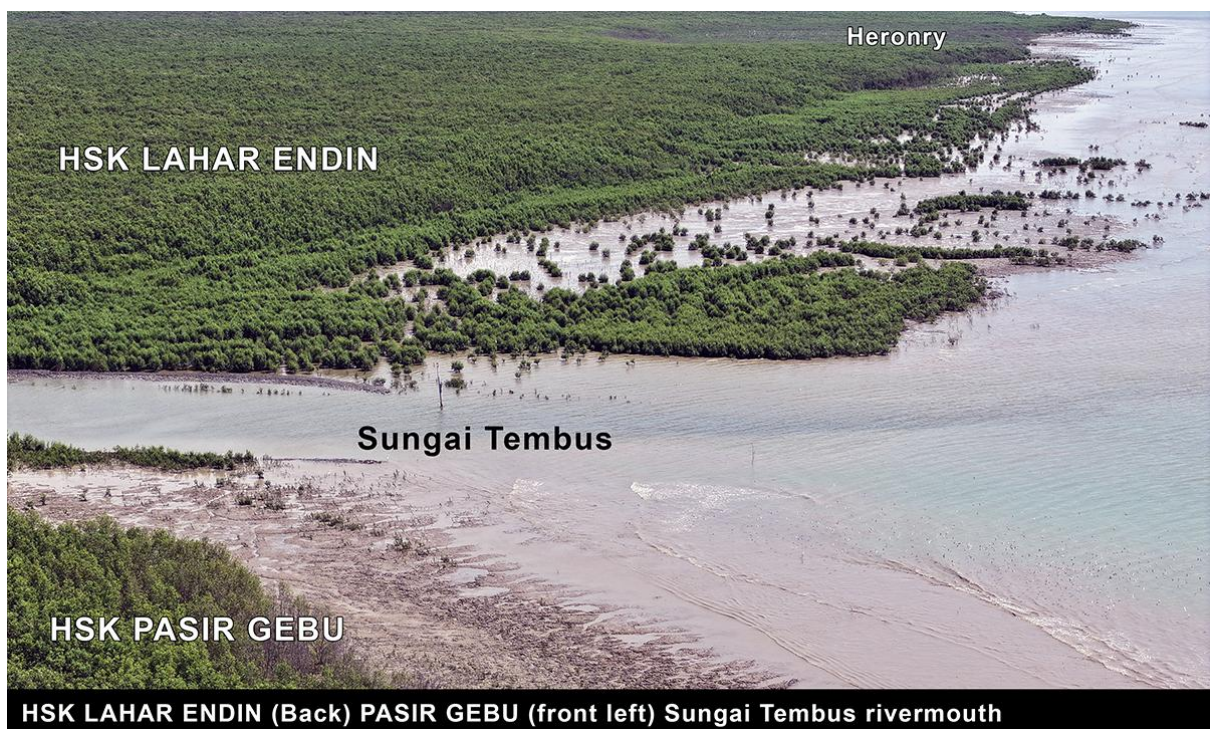




HSK PASIR GEBU View North towards Kuala Muda



**HSK Pasir Gebu, view south, from Kuala Muda (Kmpg Pmtg Rawa)
Aquaculture ponds, and the original coastline**







Kuala Bekah Paddyfield proposed Flyway - IBA area



Sungai Tembus Jetty, Paddyfield - background, Pasir Gebu-L, Penaga-R

AERIAL SURVEY / COUNT

Date	Survey Area	Records / Results	Photos
5th Oct 2024	Heronry HSK Lahar Endin and Sg Lahar Endin (or Penaga)	Active Heronry, Egrets, Black-crowned Night-heron (BCNH) 2000 BCNH 1500 Cattle Egret 500 Purple Heron 800 Openbill. AtMudflat Sg Penaga to Sg Abdul to Sg Tembus not many waders, mainly Egrets and Grey Heron	Heronry 3000 waterbirds
31 st Oct 2024		Drone Heronry Vertical and Top Side Bakau Tua to Sg Tembus 8000 waders 3500 at Tembus mouth	Heronry 3500 waterbirds
4 th Nov 2024	HSK Pasir Gebu, Kuala Muda to Sg Tembus rivermouth	7000 waders (mainly smaller; Sandpipers, Stints, Curlew sandpipers	HSK Pasir Gebu 7000
2 nd Nov 2024	Heronry	Very Active Grey Heron 50 nest, 1500 Openbill Nest	Heronry 4000 waterbirds
8 th Nov 2024	Heornry	Very Active 1 hour count	Heronry 4000
15 th Nov 2024	HSK Pasir Gebu	Kuala Muda to Sg Tembus 7000 waders	HSK Pasir Gebu 7000
1 st Dec 2024	Sg Tembus (rivermouth) Bakau Tua mudflats	Kanda on boat with Think City video team	
13 th Dec 2024	Drone 13 Dec 2024 Bakau Tua 6000 (Kota Kuala Muda Stilt, Kedah)	400 White-winged Tern bakau Tua	HSK Pasir Gebu 6000
15 th Dec 2024	Heronry lahar Endin and Kuala Bekah mudflats	Drone from Roadside to Kuala Bekah mudflats, 4000, Eurasian Curlew 30, Whimbrel 60, Gull 100, others, 1800 at Sg Tembus, Heronry not so active, 3500 off Heronry, Total 9300	Heronry 3000 waterbirds HSK Kuala Bekah 4000
17 th Dec 2024	Heronry Count	Openbill 2000, Grey Heron 50, Purple Heron 100, Egret 500, BCNH 250	Heronry 2500 waterbirds
27 th Dec 2024	Sg Abdul Kuala Bekah Sg Lahar Endin Bakau Tua Perhilitan Kanda Andy Choo Eng		13000, mainly Sg Abdul Kuala Bekah but also Sg Tembus, and Pasir Gebu mudflats
28 th Dec 2024	Drone 28th Dec Bakau Tua Kota Kuala Muda Perhilitan		
29 th Dec 2024	Drone Perhilitan 29th Dec 2024 Banding Trapping Bakau Tua Otter	2500 at Sg Tembus rivermouth 1500 at Pasir Gebu nudflats	HSK Pasir Gebu 4000
30 th Dec 2024	Heronry Drone from Boat	View of Herony from sea	Heronry 3500 waterbirds

23 rd Jan 2025	Heronry	Grey Heron nesting	Heronry 3000 waterbird
28 th Feb 2025	Heronry	Mainly white egret	Heronry 800 waterbirds
8 th Mar 2025	Sg Lahar Endin rivermouth mudflats (boat) CE KK		7000 (boat drone)
27 th Mar 2025	Heronry, not so active	Mudflats view also, 3000 waders at Sg Tembus rivermouth. A few white egrets only, no openbill or others	Heronry 400 waterbirds
30 th Mar 2025	Pasir Gebu Bakau Tua HiTide		3500
1 st April	500 waders from Bakau Tua to Kuala Muda	5,500	Total 6000
6 th April 2025 Drone from boat	Drone North HSK Pasir Gebu (Telekom) Drone Sg Lahar Endin to Sg Tembus, off Heronary, mudflats,	800 waders, Whiskered Terns, Redshanks, Sandplovers 5000 Waders	5800
12 th April 2025	Drone Heronry Rain Count Abandon		Very active but cant reach heronry because of incoming rain
13 th Apr 2025	Drone Bakau Tua Spring tide	4,000 Breeding plumage many	
16 th Apr 2025	Drone Heronry Video Count, Photo Count	Very active, mainly white egrets	Heronry 3500 waterbirds
17 th Apr 2025	Drone Heronry	Evening count, Openbill and seaside coastal corner	Heronry 3500 waterbirds
20 th Apr 2025	Drone Bakau Tua to Sg Tembus to	Whimbrel 4 Tern 6 Egret 4	
24 th Apr 2025	Drone Heronary Only, photo count only.	Very Active, white egret (Lam Research visit)	Heronry 4500 waterbirds
26 th Apr 2025	Drone Heronary and Sg Lahar Endin rivermouth	Very active Heronary photo count only. Egret, Purple Heron, Grey Heron	Heronry 4500 waterbirds 4000 waders including 3000 Redshanks
4 th May 2025	Drone Count at Heronry	Composite Photo, very active mainly Egret relatively many purple heron some BCNH, Little Cormorant	Heronry 4500 waterbirds
12 th May 2025	Bakau Tua Sandspit	250 plus 2ndary 2500 2750	

18 th May 2025	Bakau Tua Sandspit	500 waders, Redshanks, Sandplover, 10 Great, 5 Little Egret	
24 th May 2025	Heronry, Overhead photo count at 60m and 80m asl	Still very active nesting, Little Cormorant at coastal edge	Heronry 4000 waterbird Lesser Adjutants at Heronry
25 th May 2025	Heronry overhead 80m asl	Continuation of 24 th May. Many Purple Heron nesting	Heronry 4000 waterbirds
25 th May 2025	Bakau Tua Sandspit	500 secondary 35 min high tide	
1 st Jun 2025	Bakau Tua Sandspit	25 Redshanks	no photo
1 st Jun 2025	Heronary Photo Count 80m asl	2000 Cattle Egret nest, 300 Purple Heron , 300 BCNH	Heronry 3500
7th June 2025	Heronary Video Count 70mm Photo count Drone Zoom to Sg Abdul	Egrets Redshanks attack by WBSEagle	Heronry 3500
11 th June 2025	Bakau Tua, to Sg Tembus rivermouth, 2 flights Land count at Telekom also	7 waders 8 great 1 grey	
13 th June 2025	Bakau Tua to Sg Tembus	2 Redshank only	Redshanks at Sg Abdul Mussel post
17 th June 2025	Heronry Photo Count 166mm 80m asl	Many large Purple Heron nestlings about to fledge	Heronry 3500 waterbirds
19 th June 2025	Boat Survey Kuala Bekah mudflats Drone & Boat Lahar Endin, Choo Eng Kanda, Sg Lahar Endin	3000 waders plus 3000	Lesser Adjutant 1
26 th Jun 2025	Drone Bakau Tua near high tide	1000 Redshanks	
27 th Jun 2025	Drone Kuala Bekah Fish Pond to Sg Abdul, Bakau Tua high tide, Kuala Muda Kedah, back Bakau Tua, spring tide	500 waders Sg Abdul 150 Redshanks Bakau Tua, 6 Whimbrels, go to Kuala Muda, Kedah 8 Whimbrels, back Bakau Tua 300 Redshanks	(Kuala Muda, Kedah 6 Whimbrels)
28 th Jun 2025	Drone	Sg Lahar Endin to Middle of Kuala Bekah and rivermouth 30 Egret Heronary Active Bakau Tua 34 Redshank	
29 th Jun 2025	Drone Balau Tua only	27 Redshank Egret Grey Heron	

1 st Jul 2025	Drone heronry Photo count Sg Tembus egret only	2500 Egret 300 Purple heron	Heronry 3000 waterbirds
3 rd Jul 2025	Drone Bakau Tua to Sg Tembus rivermouth 1 monkey		
5 th Jul 2025	Drone Bakau Tua to Sg Tembus over rivermouth Sg Lahar Endin to Sg Abdul to Heronary	Lahar Endin to Sg Abdul 100 Redshank to Sg Tembus 2000 HSK Lahar Endin mudflats mix Bakau Tua to Sg Tembus 50 mix 5th July	2 long-tailed parakeet attack by Brahminy Kite
6 th Jul 2025	Drone Kuala Bekah SHipyard to Padang Bengali Bakau Tua to Sg Tembus rivermouth	800 Sg Abul Bakau Tua mid mudflats 5 Eurasian Curlew	
7 th Jul 2025	Drone IBA 7 video cache only 7th July Bakau Tua Sg Tembus plus 500m 4 km 5 Waders 20 Egret 8 Grey Heron	Drone flown about 500 m from Bakau Tua overflow to Sg Tembus	
12 th Jul 2025	Drone IBA Kuala 12th July Bekah Shipyrd Cant Fly Sg Lahar Endin to Sg Kuala Bekah Bakau Tua to Sg Tembus 2 Egret Only		
13 th Jul 2025	Drone IBA 13th July Kuala Bekah Shipyrd Coast 1000 waders Bakau Tua SuperhighHigh Spring Tide 600 waders	7 Eurasian Curlew, 25 Whimbrels 2000 Redshanks at high summer	
15 th Jul 2025	Drone Bakau Tua 2 days after Spring Tide 2ndary roost Flooded to Sg Tembus Redshank 800 Godwit 10 Greater Sandplover 1 Telekom Land survey Kanda Choo Eng		Redshanks and 2 Black-tailed Godwit in flight Photo 49
19 th Jul 2025	Drone 19th July IBA BAkau Tua to Sg		

	Tembus 15 Waders only Andy Only		
21 st Jul 2025	Drone IBA 21st July 2025 Bakau Tua to Sg Tembus mudflat and south view Zero waders Egrets in flight 30 Egret Grey Heron		
25th Jul 2025	Drone IBA 25th July 2025 Bakau Tua Only super high tide 1 day b4 but very high 3000 waders 5 flights	1500 Redshanks 50 Sandplover Revised to 2500 waders from 3000	
27 th Jul 2025	Drone IBA 27th July New Moon 1 day after Spring tide high All flooded 800 Redshank 25 Sandplover		
28 th Jul 2025	Drone IBA Bakau Tua 28th July 2 flights only 30 waders check d500 photos also	Plus 1 Black-tailed godwit	
30 th Jul 2025	Bakau Tua 30th July Infion Watch Tower Height View Test Lapwing Whimbrel Sg Tembus Unknown 40 smaller SHorebird	Lesser Sandplover 50 by drone video 4 Whimbrel Drone photo	
2 nd Aug 2025	2nd August Heronry Video Count 60m asl 24mm 700m away 1 hour 3 plus 1 flight Sg Tembus Mudflat Kuala Bekah Shipyard 1700 Sg Abdul Scope	3000 waders Sg Abdul to Kuala Bekah. Including about 1500 smaller waders, Heroanry Video and Photo count, 2000 Egrets 500 Purple Heron White-Bellied Sea Eagle attack waders at Kuala Bekah mudflats	Heronry 2000 waterbirds
7 th Aug 2025	Drone IBA 7th August 500 Waders Receding mid spring tide	Drone flight photo of 2 terek sp 2 curlew sp and sandplover	
10 th Aug 2025	Drone IBA Bakau Tua 10th Aug Spring Tide High 1 day b4 Only 5	Redshank Curlew Sandpiper ID from Drone	Photo 33, Drone view of waders.

	Flights 1500 smaller waders only 50 flew inland Kuala Muda		
16 th Aug 2025	Drone Boat Trip IBA 16th Aug Sg Lahar Endin Mudflat 12000 Bakau Tua 1200 (also went to Kota Kuala Muda)		
22 nd Aug 2025	Sg Abdul Waders 9.30-10.30am 3000 got scope and Handphone Drone IBA 22in Aug 1 day b4 Spring High Tide Bakau Tua Only 2500 waders small medium some large	Revised to 3500 Terek SP Curlew SP Breeding lots of sandplover, stint	
25 th Aug 2025	Drone IBA Heronary 80m asl 166mm Photo Count, Bakau Tua Rising Neap Tide 1pm 1000 plus 250 Redshank hidden 5 Curlew	Data not relocated	Data not located
30 th Aug 2025	Drone IBA Heronry Only 30th Aug 7.15am start b4 some 250 waterbirds cloudy overcast 5 Stilt 1 Egret Nesting Material 8 Cormorant IBA Heronry 500mm Lens 30th Aug Got drone	Video Count and Photo Count BCNH nesting material at Heronary	Heronry 1500 waterbirds
31 st Aug 2025	Drone IBA Kuala Beka only 31st August Neap Tide 800 waders 2ndary High Tide roost Mudflat	Spread out at mudflats	
1 st Sep 2025	Drone IBA Heronry Only 1st Sept Photo Count 70m asl	Drone Photo Count only, Lesser Adjutant at Heronry	Heronry 1750 waterbirds

	166mm Video of Heronry also		
7 th Sep 2025	Drone IBA Heronry Only 7th Sept 84m asl 820m Bird (Private David Susan Hertford) 70mm Only Photo count	Bakau Tua land trip, Photo count of Heronary. Heronary still very active, from drone.	Heronry 1500 waterbirds
8 th Sep 2025	Drone IBA Bakau Tua Only 8th Sept Super Spring Tide 4000 waders at sandspit plus 1000 at 2ndary roost		.
9 th Sep 2025	Drone IBA 9th Sept Bakau Tua Only Super High Tide DWNP (Khusaini) Bird Trapping 2000 Sandspit 3000 2ndary Roost	Drone view of Eurasian Curlew, this species usually more skittish when approach	
10 th Sep 2025	Drone IBA Bakau Tua Only 2 days after spring tide 6000 waders High Beach 2nd High Pond at High		
11 th Sep 2025	Drone IBA Kuala Bekah 11th Sept till Sg Tembus and little south 500 waders 50 Redshanks Sandspit Mudflats		
11 th Sep 2025	Drone IBA Heronry 11th Sept 7am - 8.15am b4 7am 100 waterbirds 10 mins Mudflats view to Sg Tembus and view till Sg Abdul	Drone Video Count Drone Photo Count 70mm Off HSK Lahar Endin mudflats 700 terns by drone. Heroney view and photo count from Sg Tembus	Heronry 1800 waterbirds
16 th Sep 2025	Drone IBA Kuala Bekah shipyard Sg Abdul to Sg Lahar Endin only 2500-3000 waders low tide	Revised up to 3000 waders. Possible to estimate Kuala Bekah Sg Abdul mudflats waders by drone flown from Kuala Bekah shipyard	Kuala Bekah shipyard
19 th Sep 2025	Drone IBA Bakau Tua Mudflats only low tide 200	200 sandplovers and stints, 20 Redshanks	

	Sandplover 20 Redshank 19th Sept Sg Abdul 1500 waders no drone		
20 th Sep 2025	Drone IBA Sg Abdul only Kuala Bekah Tide Full Heronry 60m and 80m asl 20th Sept	2000 at Sg Abdul Heronary Drone Photo Count	Heronry 2000 waterbirds
23 rd Sep 2025	Drone IBA Bakau Tua	Only 23rd Sept new moon Spring tide max 1500 redshanks 200 sandplovers 50 terns	
7 th Oct 2025	Drone IBA Bakau Tua, Spring Tide 16th Full Moon not so high bcoz night tide	500 sandspit 3000 2ndary Roost	
8 th Oct 2025	Drone IBA Heronary 80m Only over the edge 800m from Jetty at 0degree 166mm & 70mm	Still active, Asian Openbill, but mainly on the north coastal trees, Egret	Heronry 2000 waterbirds
24 th Oct 2025	Drone Heronry	Very Active with most Asian Openbill near fledgling size, also Cattle Egret, many BCNH juvenile below heronry	Heronry 1500 waterbirds
25 th Oct 2025	Kuala Bekah Shipyards to Sg Abdul land view	6000 and Sg Tembus drone 2000 waders	
27 th Oct 2025	Drone IBA 27th Oct Heronry 70 m asl and Sg Lahar Endin rivermouth	Drone Heronry Count, Active Openbill Purple Heron Great Egret, Egrets foraging on bottom of heronry at the stream / alur	Heronry 1700 waterbirds
16 th Nov 2025	IBA Drone 16th Nov Sg Abdul Kuala Bekah to Sg Tembus rivermouth 10000 waders		
17 th Nov 2025	Drone from Boat Trip from Sg Tembus to Sg Lahar Endin		
23 rd Nov 2025	Drone IBA Heronary 5000 waders mudflat Bakau Tua Windy Slight Drizzle 3500 waders spring tide 2ndary Roost	Openbills, Purple Herons	Heronry 1500 waterbirds
29 th Nov 2025	Drone IBA Heronary 29th Nov	Openbills	Heronry 1500 waterbirds

	Video Count Stop early drizzle 250 waterbirds b4 drone 40 Cormorant		
5 th Dec 2025	Drone IBA Bakau Tua Only low spring max tide 5th Dec interrupted 2ndary Roost 800 terns 10 larger waders 300 smaller waders Grey Heron None at High Tide Roost		
9 th Dec 2025	IBA Drone 9th Dec Heronry Openbill Nesting Active SG Lahar Endin rivermouth 3000 waders 1500 are Redshank	Mainly Opensbills	Heronry 1500 waterbirds
10 th Dec 2025	Drone from boat IBA 10th Dec Andy Only 15,000 waders Sg Tembus Sg Lahar Endin HSK Kuala Bekah mudflats		Estimate 8000 only by drone from boat
12 th Dec 2025	Drone IBA 12th Dec Sg Tembus to Sg Lahar Endin only Kanda Andy 13000 waders		Estimate 12,000 drone from boat
13 th Dec 2025	Drone IBA 13th Dec Heronry n Mudflats rivermouth Sg Lahar Endin south to Kuala Bekah later Sg Lahar Endin north and flight towards Sg Tembus Heronry 80m 60m 40m asl	Many flapping fledglings, and waterbirds actively flying over heronry	Heronry 1800 waterbirds
28 th Dec 2025	Drone from Boat Drone IBA Boat Private Nelson Andy Adolph 28th Dec Sg Lahar Endin to Sg Abdul and Back 20000 plus		

	1000 Sg tembus side		
7th Jan 2026	Drone IBA Heronry Only 6.45 arrive 1st bird out 7am 7.15am daylight start 1 hour plus only 3 flights	Very active nesting, Openbill and some Purple Heron	Heronry 1700 waterbirds
18 th Jan 2026	AWC Drone Heronry 18th Jan 63m asl 70mm lens	Mainly Openbill, big nestlings, trees "dying" or bare.	Heronry 1500 waterbirds
3 rd Feb 2026	Drone Heronry 3rd Feb 70m 80m 800m Helio	Milky Stork Many Matured Openbill on Stream/Alur	Heronry 800 waterbirds
5 th Feb 2026	Drone AWC Bakau Tua 3rd day after Spring tide 10000 waders and terns 4 areas		10000
6 th Feb 2026	Drone AWC Sg Tembus only 6th Feb 15000 waders rivermouth to Lahar Endin		15000
15 th Feb 2026	Drone from boat AWC Drone 15th Feb Sg Tembus to Sg Penaga back Sg Tembus 15000 waders	15000 plus 1500 at bakau Tua	16500
19 th Feb 2026	Drone Heronry not so active 19th Feb Sg Penaga Coast rivermouth to Sg Abdul 500 waders 4 flights	Mature Waterbirds at bottom of heronry	Heronry 300 waterbirds
22 nd Feb 2026	Drone IBA 22nd Feb Bakau Tua 4pm just after high mid neap tide 6000 waders Sg Abdul 6-45pm 9000 also no drone		
5 th Mar 2026		HSK Pasir Gebu mudflats	Checklist S306164052 7000
6 th Mar 2026		Drone IBA 6th March Sg Lahar Endin only 1 day after spring tide 2.58m 3pm Rivermouth mudflats Gull 225 Wader 2000 Heronry Openbill	Heronry 200 waterbirds

19 th Mar 2026		Drone IBA Bakau 19th March 2025 3500 Waders less 1500 Terns	
24 th Mar 2026		Drone Herony Empty Sg Penanga Left Right Fairly high neap tide 4000 waders 24th March 2025	Heronry 10 waterbirds
LAND COASTAL, MANGROVE, FOREST, SCRUB, PADDYFIELD SURVEY			
Date	Survey Area	Records / Results	Photos attached
5 th Oct 2024	Bakau Tua, with John Howes		White-faced Plover
6 th Oct 2025	Sg Abdul Morning Midafternoon Bakau Tua		
4th Nov 2024 Bakau Tua mudflats			
8th Nov kuala bekah got drone Heronry	Fish Pond Kuala Bekah		
15th Nov Bakau Tua sandspit CE KK		15th Nov Kuala Bekah Only Receding high tide HKBWS	
1 st Dec 2024	Sg Muda river survey		
3 rd Dec 2024	Scrubland IBA	Drongo Cuckoo, Lesser Cocual, Hilmalayan/Oriental Cuckoo	
5 th Dec 2024	Scrubland Paddyfield IBA	Japanese Sparrowhawk Scrub	
9 th Dec 2024	SG Abdul, JW, Oriental Darter	Far Eastern Curlew, Darter	
15 th Dec 2024	Think City HKBWS Sg Abdul Kuala Bekah Pdg Bengali Drone 15th Dec	FE Curlew	
17 th Dec 2024	Herorny, Sg Abdul	Heronry 2 Japanese Sparrowhawk, FE Curlew Sg Abdul, 4000 waders	
26 th Dec 2024	Think City Sg Abdul IBA 26th Dec Gulls Egrets Incoming not so high tide	150 Gulls 300 Terns 2500 waders	
27 th 28 th 29 th Dec 2024	DWNP Banding		
28 th Dec 2024	Sg Abdul, Ng SH	Slender-billed Gull 1 only	Checklist S206881192
5 th Jan 2025	Kuala Bekah HKBWS Penaga Taman Kuala Bekah Laced WP Crow-	Laced WP, CSEagle, Crow-billed Drongo, Oriole, Common Flameback	

	billed Drongo 5th Jan		
8 th Jan 2025	Sg Abul rivermouth JW Morlan	4500 wader 200 Gulls 400 Terns	
12 th Jan 2025	AWC Sg Abdul IBA 12th Jan D850 6000 Waders Paddyfield	Marsh Harrier Scope mistake named 12 th Dec Land Count with Kanda, all mudflats and paddyfield	Checklist S306485699
18 th Jan 2025	JW Sg Abdul Bakau Tua, Paddyfield		
23 rd Jan 2025	Kuala Bekah Scrub Survey	OMRobin	
5 th Feb 2025	5th Feb 2025 JW Sg Abdul Tanam Kuala Bekah	3500 waders at Sg Abdul	
7 th Feb 2025	To base of heronry	Drongo Cuckoo, walk until coast	
17 th Feb 2025	JW Batu Kawan Sg ABdul	4000 waders	
19 th Feb 2025		Voice record	
22 nd Feb 2025	JW Sg Abdul Got handphone scope	Bar-tailed Godwit, Sunda Ptgmy, Pied Triller. 4000 waders, Grey-headed lapwing	
28 th Feb 2025	Drone Survey Heronry non Drone Kuala Bekah Common Flameback Squirrel		
1 st Mar 2025	Kuala Bekah Pond pm	Greater Coucal, Ashy Minivet	
19 th Mar 2025	Kuala Bekah Pond		
27 th Mar 2025	Heronry (with drone)	Harrier species, Javan Pondheron	
1 st April 2025	Telekom	Ashy Drongo, Crow-billed Drongo	
6 th April 2025 9 th 10 th 11 th April	Telekom Scrub	Pied Triller, Lineated barbet, Dollarbird, YV-Bulbul	
13 th Apr 2025	Telekom area Kanda Choo Eng	Greater Sandplover, Asian Brown FC, Chinese Pondheron	
16 th Apr 2025	Lahar Endin Jetty		
24 th Apr 2025	Lam Research	High Tide WBSeagle, BCNH Nesting Material, at Telekom 12 WBSEagle	
26 th Apr 2025	Sg Abdul am Bakau Tua pm	Sg Abdul 1200 waders, (lahar endin rivermouth 500, 4000 others by drone bakau tua 3000 by drone) see drone count above	
29 th Apr 2025	Telekom Bakau Tua	Common lora	

12th May	Pasir Gebu BeeEater Nesting Ground		
7 th – 11 th Jun 2025		Red Jungle Fowl	
19 th June 2025	Land	White-eye, Common Flameback	
27 th Jun 2025	IBA Sg Abdul 500mm Incoming mid spring tide 27th June 15 Whimbrels Got Drone Total 1000 waders		
27 th Jun 2025	Kota Kuala Muda, Kedah	Wader Shorebirds Kota Kuala Muda High Spring Tide 9 Whimbrels got drone 1 Redshank limping paddyfield bu coast 27th June	
28 th Jun 2025		Sg Abdul IBA failry Low 3 days after spring tide Scope Handphone also 1500 waders far off Kuala Bekah Pdg Bengali Got Drone cant see	
29 th Jun 2025		Mangrove Blue Flycatcher	
1 st July 2025		IBA Sg Abdul 100 Redshank 20, 300 other waders, Sandplover 20 Openbill 100 Copper-throated Sunbird pasir gebu Little Heron Nesting Bagan Ajam Jetty	
3 rd July 2025		IBA Waders Shorebird Sg Abdul Noon 600 and 3pm 200 Neap tide 3rd July Bakau Tua Egret	
4 th July 2025		IBA Sg Abdul Only 600 x2x TC manual focus D850 and Scope 2x Handphone 4th July Just receeding max neap tide 10pm 11pm twice Sg Abdul by land 12pm & 3pm 600 later 300 waders	
5 th July 2025		IBA Sg Abdul 600mm Scope 800 to Lahar Endin Drone 80 to Bakau Tua 10 5th July	
6 th July 2025	Sg ABdul	IBA Sg Abdul Scope only about 1000 Curlew Whimbrel Sandplover Morning and After lunch 6th July IBA 6th July Sg Abdul 10am 2 pm High Neap Tide Scope Only 800 Waders 15 Curlew 6 Marsh SP Shorebirds Drone at Kuala Bekah Shipyard Sg Tembus Bakau Tua	
7 th July 2025			
9 th July 2025		IBA Sg Abdul only 9th July rising near spring tide 1200 waders 15 Egrets 6	

		Grey Heron Scope and 500mm No drone	
10 th July 2025		IBA Sg Abdul Only 10th July Rising Tide 1400 waders far spread out Kuala Bekah 60 Stints 30 Dowitcher 250 openbill No Drone	
12 th July 2025	Sg Abdul	IBA Sg Abdul 12th July Min low spring tide 1300 waders scope handphone and 500mm Drone Kuala Bekah Shipyard cant fly Sg Lahar Endin Bakau Tua Tembus 2 Egret only	
13 th July 2025	Sg Abdul Kanda	IBA Sg Abdul 13 July Low spring tide 1200 with Kanda 600mm 2xTC d850	
13 th July 2025	Telekom Kanda	Pitta, Koel	
21 st July 2025	Sg Abdul	IBA 21st July Sg Abdul 1000 waders Mangrove Whistler K Bekah Chestnut Headed Beeeater Telekom	Mangrove Whsitler
25 th July 2025	Telekom	Spotted Woodowl	
27 th July 2025		IBA Telekom Spotted Wood Owl family 3 Pied Triller 3 27th July	
27 th July 2025	Scope photo at 2 nd Aug	IBA Sg Abdul 27th july 1000 Waders Sg Lahar Endin Bakau Tua No waders	
28 th July 2025	Bakau Tua land	Bakau Tua D500 160 lesser sandplover drone 25 Redshanks 1 Godwit (from drone?)	
28 th July 2025	Telekom	Abbots Babbler	
2 nd Aug 2025	Sg Abdul Anil 27 th July scope photos here	IBA 2nd August Sg Abdul Scope 1700 waders got drone view from Kuala Bekah Ponds, breeding plumage sandplover at 17 th Aug 2025	
7 th Aug 2025	Sg Abdul	IBA 7th August Sg Abdul D500 Only 700 waders change to 1000 waders got Drone at Balau Tua Only 250 small waders	
10 th Aug 2025	Bakau Tua	IBA Bakau Tua 10th August Near Spring Tide 2500 Smaller Waders Got Drone	
17 th Aug 2025	Sg Abdul or Boat??	IBA 17th Aug Handphone scope Sg Abdul	
22 nd Aug 2025	Sg Abdul	IBA Sg Abdul Waders 9.30-10.30am 3000 got scope and Handphone	
22 nd Aug 2025	Telekom	Pied Triller	
23 rd Aug 2025	Sg Abdul	IBA HKBWS Long Lens 23rd Aug Low tide very Early 1000 waders revised to 1800 only 40 Egrets	
29 th Aug 2025	Sg Abdul rain drizzle	IBA Heronry No Drone Rain Stilts 5 Cormorant1 20 mins obs Openbill20 BCNH500 Egret250 PHeron20 Sg Abdul also low tide 29th Aug 500mm 24-120mm D500 D850	

31 st Aug 2025	Telekom	IBA 31st Aug Telekom Forest Wagtail Mangrove Whistler 500mm	
31 st Aug 2025	SG Abdul	IBA Sg Abdul only for 600mm2xTC 31st Aug got scope handphone 4000 waders far mudflat	
7 th Sep 2025	Balau Tua and paddyfield JW	Kanda Trip David Susan 7th Sept AHDalam Bakau Tua Sg Penaga Common KF	
8 th Sep 2025	Bakau Tua	IBA Bakau Tua Only Super High Tide 8th Sept 5000 some hidden at 2nd roost waders Got drone Got 500mm Got Scope Handphone Hor Kee plus 2 others plus Munira Nasir plus 2 others	
9 th Sep 2025	Bakau Tua	IBA Kuala Bekah Only 9th Sept Super high tide Got Drone Got Scope Got 500mm Khusaini	
14 th Sep 2025	Sungai Abdul 2000 smaller waders	Estimate from Sg Abdul rivermouth.	
19 th Sep 2025	Telekom Landbird Survey	Spotted Wood Owl, Laced Woodpecker	
19 th Sept 2025	Sg Abdul and Bakau Tua	IBA Sg Abdul 1500 waders revised to 1800 Bakau Tua Mudflats 220 waders got drone 19th Sept	
20 th Sep 2025	IBA Sg Abdul 1500 waders Bakau Tua Mudflats 220 waders got drone 19th Sept	Revised to 3,000 waders at Sg Abdul (got drone from Kuala Bekah to SG Abdul)	
21 st Sep 2025	IBA 500mm lens Sg Abdul n Kuala Bekah Wagtail 20th Sept d500 broken d7500 replace got scope handphone		
21 st Sep 2025	IBA Coastal Mangrove Padang Bengali Kuala Bekah Mangroves 21st Sept Kanda with local Guide Encik Shukur	Attempt to reach the Kuala Bekah – Padang Bengali mudflats was abandoned. Will attempt after the rainy season	
24 th Oct 2025		IBA Sg Abdul 24th Oct 8000 waders low neap tide very exposed 15 Broadbill SP 100 Stint 1 Gull-billed Tern Scope Handphone 016	
25 th Oct 2025	Sg Abdul	IBA Sg Abdul 5000 Shipyard Drone 2000 Broadbill SP Milky Stork Terek SP Tibetan SandPlover	

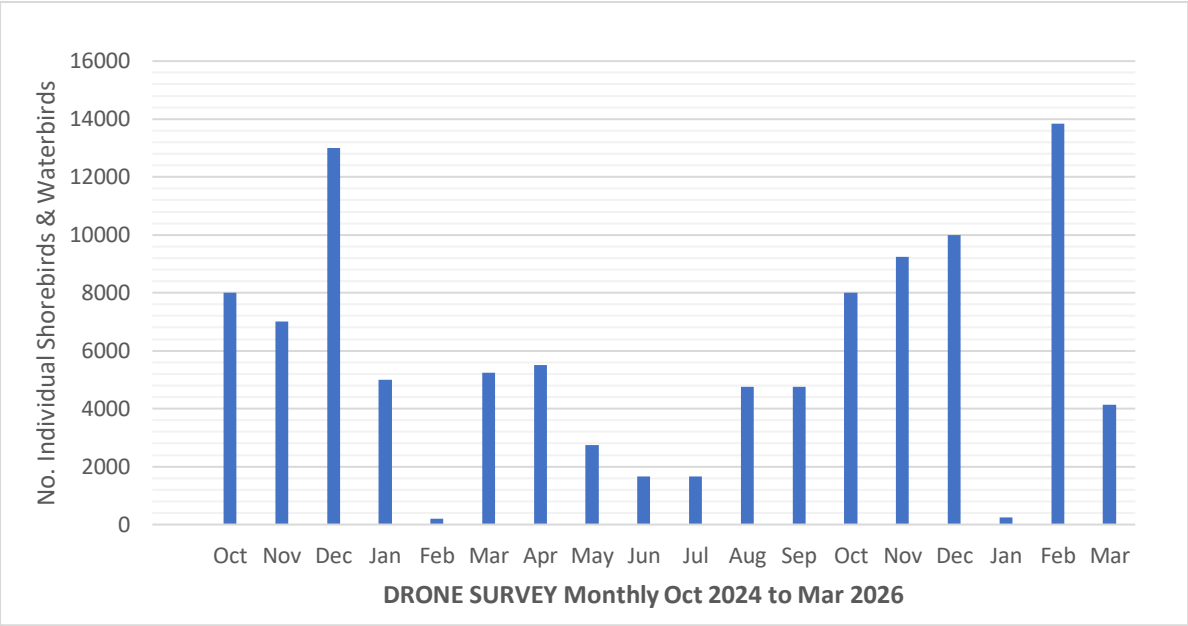
27 th Oct 2025	Sg Lahar Endin Jetty	IBA 27th Oct Heronary 125 Whiteeye Black-capped KF	
29 th Oct 2025	Lee Paddy field and Sg Abdul	Lee Endemic Susan Greg Seattle 29th Oct Bird Guide Spotted Wood Owl Yellow Wagtail	
7 th Nov 2025	Bakau Tua Telekom	White-eye, Asian Brown FC, no waders at Bakau Tua	
16 th Nov 2025	Sg Abdul	IBA Sg Abdul only 16th Nov 2000 Got Drone from Kuala Bekah to Sg Abdul 6000 Total 8000	
17 th Nov 2025	Sg Abdul	IBA 17th Nov Choo Eng Nelson Andy Singapore Sg Abdul Land Sg Tembus Sg Abdul Sg Lahar Endin Sg Tembus Bakau Tua Tembus	
18 th Nov 2025	Kuala Bekah Paddyfield	Black-headed Ibis	
18 th Nov 2025	Sg Abdul Land	Video Scope Far Eastern Curlew Gulls 3500 waders	
23 rd Nov 2025	Sg Abdul	IBA Sg Abdul 23rd Nov twice visit 4000 waders Gull also got Scope handphone	
29 th Nov 2025	Sg Abdul small drone test	IBA 29th Nov Sg Abdul 5000 waders Taman Kuala Bekah Telekom Buffy Fish Owl Spotted Wood-owl	
29 th Nov 2025	Kuala Bekah, Pasir Gebu	BFOWl Spotted Woodowl	
4 th Dec 2025	Kuala Bekah	Bulbul Streaked Eared Olivied Winged BFOWl	
7 th 9 th Dec 2025	Sg Abdul		
11 th Dec 2025	Sg Abdul and Land	IBA Andy Only Land Survey 11th Dec Sg Abdul 1000 waders CH Beeeater Spotted Wood Owl Lapwing Stilts	
12 th Dec 2025	Sg Abdul land short visit before boat	IBA Boat 12th Dec Sg Tembus to Sg Lahar Endin only and view survey to Kuala Bekah by drone Andy Kanda	
12 th Dec 2025	Paddyfield	Kuala Muda Paddyfield Stilt Yellow Bittern 12th Dec	
12 th Dec 2025	Land	IBA Telekom 12th Dec Brahminy Kite Coppersmith Barbet Spotted Wood Owl	
13 th Dec 2025	Sg Abdul land (got boat)	IBA 13th Dec Sg Abdul land part of whole day Andy 4000 waders minus from boat	
13 th Dec 2025	Paddyfield	IBA 13th Dec Paddyfield Penaga town east Yellow Bittern Cisticola Purple Heron	
18 th Dec 2025	Paddyfield	IBA Junglewalla Burgess Oxford 18th Dec AHDalam and IBA Long Toed Stint 3 Pmtg Bendahari	
18 th Dec 2025	Sg Abdul	Milky Stork scope	

27 th Dec 2025	Sg Abdul	Little Grebe paddyfield canal	
28 th Dec 2025	Paddyfield	Little Ringed Plover, Wood Sandpiper Yellow Wagtail	
30 th Dec 2025	Sg Abdul	IBA Sg Abdul Only 30th Dec 2000 waders and terns low tide	
3 rd Jan 2026	Sg Abdul	Su Ping two Ruff	
7 th Jan 2026	Sg Abdul		
13 th Jan	Sg Abdul		5000 waders
19 th Feb 2026	Sg Abdul		3000 waders
22 nd Feb 2026	Bakau Tua morning		
22 nd Feb 2026	Sg Abdul evening		6000 waders
24 th Mar 2026	Sg Abdul morning Bakau Tua noon	Khye Wai (JW), Choo Eng	3500 waders
BOAT SURVEY			
6 th Oct 2024	With John Howes	9000 shorebirds from John Howes list plus another 2000 shorebird species	Checklist S197717059 11000
17 th Nov 2024	Kanda? Choo Eng?	17th Nov Think City Sg Tembus Boat income tide Kuala Bekah car park only. 1500 Pacific Golden Plover, Asian Dowitcher 700, Black-tailed Godwit 700, bar-tailed Godwit 700, Terns WW 1000 W 500, Great Knot 200, Sandplover 1000, Curlew SP 500, Great Egret 30, Crested Tern 200, Redshank 500	8000
1 st Dec 2024	Andy, Choo Eng, Hans	Think City HKBWS 1st Dec 2024 Boat Bakau Tuax2 Sg Muda D850 500mm	Checklist S204152735 15,000+1500 = 16,500 Tibetan Sandplover 4,500 Red-necked Stint 1000, Whiskered Tern 750, White- winged Tern 750 great egret 100 grey heron 200
14 th Dec 2024	Andy, Choo Eng, Hans	IBA 14th Dec HKBWS Think City Sg Tembus Boat slight south rivermouth to Bakau Tua. Pacific Golden Plover 1,000, Bar-tailed Godwit 1,200, Broadbill Sandpiper 150	Checklist S307516579 Checklist S310832811 14,500
30 th Dec 2024	Andy, Choo Eng,	THink City HKBWS IBA Boat 500mm lens only 30th Dec. Whimbrel 102, Garganery 1, Terek Sandpiper 101, Greenshank 158	Checklist S307497199 13,500

Jan – Feb 2025 NO BOAT TRIP	No Boat Trip	NO BOAT TRIP	No Boat Trip
8 th Mar 2025	Choo Eng, Kanda?	IBA Think City HKBWS Monthly Survey 8th MArch Sg Tembus Lahar Endin south 8000	8000
6 th Apr 2025	Kanda, Andy, Hans, Choo Eng	IBA Boat Trip 6th April Ali Sg Penaga to Bakau Tua back Sg Tembus got Boat Drone Hans Andy Kanda	5000
24 th Apr 2025	Choo Eng only, Sg Penaga rivermouth only	Sg Lahar Endin IBA Boat Lam Research 500 waders rivermouth	No survey but boat trip
May 2025	No Boat Trip		No Boat Trip
19 th Jun 2025	Choo Eng, ++??	IBA Waders Boat 19th June 500mm Lens Sg Tembus to Lahar Endin 2000 waders Think City HKBWS	2000
20 th July 2025	Andy, Hans, Choo Eng	IBA Wader 20 July Boat Survey Sg Tembus to Sg Lahar Endin Low Neap Tide 4500 Hans Andy Sg Abdul Land 800	Checklist S310677957 7000 revised down to 6000
16 th Aug 2025	Choo Eng, Khye Wai, Hans, Andy	IBA Boat Sg tembus Lahar Endin Sg Abdul Bakau Tua 16th August Think City HKBWS Got Drone	
17 th Aug 2025	Choo Eng, Kanda, Hans, Andy	Waders SHorebirds IBA Sg Abdul mudflats nearer rivermouth 17th Aug boat 500mm lens D850	
1 st Sept 2025	Think City Trip	IBA Boat Trip Sg Lahar Endin Only Think City Video Interview 1st Sept 4000 waders Lahar Endin Mudflats Fairly low Neap tide	
14 th Sep 2025	MNS AGM	IBA Boat Survey AGM 14th Sept 10000-14000 Kanda Choo Eng Sg Abdul 3000 Sg Tembus north 1000 Heronry mudflats 6000	Checklist S273820204 15,250
October 2025	No Boat Trip		No Boat Trip
18 th Nov 2025	Choo Eng, Kanda	IBA Boat Survey 18th Nov Kanda Choo Eng Andy n 2 others Rain Drizzle Sg Tembus to Lahar Endin to Sg Abdul to Tembus 8-9000 waders total	Checklist S285777769 Revised to 9000
10 th Dec 2025	Andy, Choo Eng	IBA Boat Trip 10th Dec Andy Only 500mm lens only, Asian Dowitcher	Checklist S288028823 16,000
12 th Dec 2025	Kanda on Think City Interview Boat	IBA Boat 12th Dec Sg Tembus to Sg Lahar Endin only and view survey to Kuala Bekah by drone Andy Kanda	
13 th Dec 2025	Choo Eng, Andy, Hans, Only	IBA Boat Trip 13th Dec Private Andy Paid MR300 Jamil Son Sg Lahar Endin to Sg Abdul and back 20000 Waders 9.30-12.45pm	Checklist S288355180 20,000

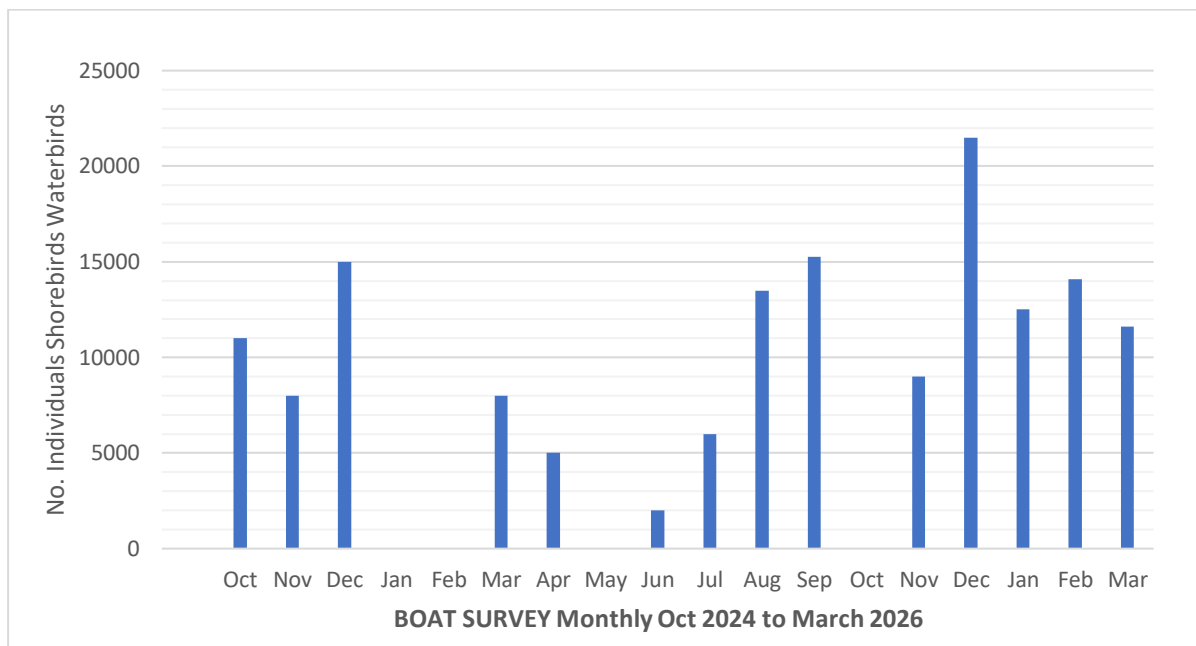
28 th Dec 2025	Private Trip Andy Adolph Andy Choo Eng.	IBA Boat Trip Sg Lahar Endin Sg Abdul n Back 28th Dec Nelson Adolph Andy 20000 and 1000 Heronry	Checklist S305750517 23,000
18 th Jan 2026		AWC IBA Boat Sg Lahar Endin Tembus Back 18th Jan 15000 North Lahar Endin 3000	Checklist S295137979 12,419
10 th Feb 2026	MNS Selangor, Shea Hong, Asraaf, Syafik, Choo Eng	Sg Tembus to Sg Lahar Endin to Sg Abdul and back Sg Tembus Spoon-billed Sandpiper	Checklist S299992678 13,200
15 th Feb 2026	Choo Eng, Su Ping	Boat Survey	15000
11 th Mar 2026	Dept of Forestry Penang, kanda Choo Eng	IBA Hutan Forestry Boat Survey 11th March Sg Tembus Penaga Sg Abdul back Bakau Tua Land Bakau Tua Sg Abdul	Checklist S313020198 9,250
19 th Mar 2026	Kanda, Hans, Andy, Choo Eng	IBA Boat 19th March Hans Andy Kanda 10.30am-12.30pm Sg Tembus Penaga Sg Abdul rivermouth Sg Tembus rivermouth. 13000 by boat and 1000 terns at Bakau Tua	Checklist S310677937 Total; 14,000

DRONE SURVEY RESULTS. TOTAL WADERS, SHOREBIRDS & WATERBIRDS



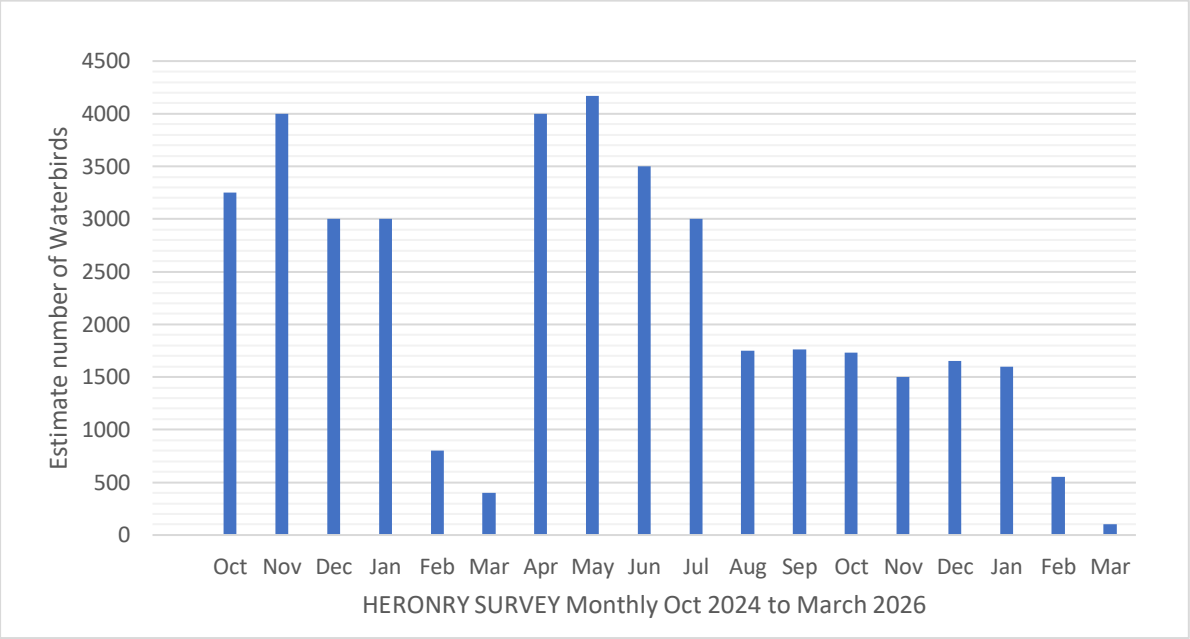
Year	Month	No. Individual Birds	Detail Dates
2024	Oct	8000	31st
	Nov	7000	4th 15th
2024	Dec	13000	27th
2025	Jan	5000	23rd, Incld 1000 Openbill
	Feb	200	28th HSK mainly Gulls
	Mar	5250	8th 27th 30th Mar
	Apr	5500	1st 13th April
	May	2750	12th May2025
	Jun	1666	19th 26th 27th
	Jul	1650	5th 6th 12th
	Aug	4750	2nd 10th 16th 22nd
	Sep	4750	8th 9th 10th 16th
	Oct	8000	25th Oct
	Nov	9250	16th 23rd
2025	Dec	10000	8th 10th
2026	Jan	250	7th, mainly Openbill at Heronry
	Feb	13833	5th 6th 15th
2026	Mar	4125	5th 6th 19th 24th

BOAT SURVEY RESULTS. TOTAL WADERS, SHOREBIRDS & WATERBIRDS



	Month	No. Individual	
2024	Oct	11000	6th with John Howes
	Nov	8000	17th, Choo Eng, Kanda
2024	Dec	15000	1st, 14th 30th, Choo Eng, Hans, Andy
2025	Jan		No Boat Survey
	Feb		No Boat Survey
	Mar	8000	8th Choo Eng, Kanda
	Apr	5000	6th Kanda, Hans, Choo Eng, Andy
	May		No Boat Survey
	Jun	2000	19th, Choo Eng
	Jul	6000	20th, Andy, Hans, Choo Eng
	Aug	13500	16th, 17th, Andy, Hans, CE, Kanda, KW.
	Sep	15250	1st, 14th MNS AGM, Bird Members
	Oct		No Boat Survey
	Nov	9000	18th Choo Eng, Kanda, Andy & 2 others
2025	Dec	21500	10th, 13th 28th Andy, CE, Hans, Adolph, Nelson
2026	Jan	12500	18th Choo Eng, Kanda, Hans (Andy sick)
	Feb	14100	10th, 15th Shea Hong, Choo Eng, Syafik, Asraaf, Su Ping
2026	Mar	11625	11th, 19th Forestry, Kanda, Andy, Hans, CE

HERONRY-WATERBIRDS (HSK LAHAR ENDIN) SURVEY – BY DRONE



Year	Month	Number of Waterbirds	
2024	Oct	3250	2 counts
	Nov	4000	2 counts
2024	Dec	3000	3 counts
2025	Jan	3000	1 count
	Feb	800	1 count
	Mar	400	1 count
	Apr	4000	4 counts
	May	4170	3 counts
	Jun	3500	3 counts
	Jul	3000	1 count
	Aug	1750	2 counts
	Sep	1760	4 counts
	Oct	1730	3 counts
	Nov	1500	2 counts
2025	Dec	1650	2 counts
2026	Jan	1600	2 counts
	Feb	550	2 counts
2026	Mar	105	2 counts

**RESULTS of Camera Trap Bird Species – Total = 51 species
(to March 2026)**

1. Black Crowned Night-heron
2. Little Heron
3. Grey Heron
4. Little Egret
5. Crested Serpent Eagle
6. Crested Goshawk
7. Shikra
8. White-breasted Waterhen
9. Crake/Rail Species (Slatty-legged Crake)
10. Red-collared Dove
11. Spotted Dove
12. Zebra Dove
13. Pink-necked Green-pigeon
14. Chestnut-winged Cuckoo
15. Plaintive Cuckoo
16. Greater Coucal
17. Lesser Coucal
18. Stork-billed Kingfisher
19. White-throated Kingfisher
20. Ruddy Kingfisher
21. Collared Kingfisher
22. Laced Woodpecker
23. Common Flameback
24. Greater Flameback
25. Blue-winged Pitta
26. Mangrove Pitta
27. Brown Shrike
28. Black-naped Oriole

29. Ashy Drongo
30. Sunda Pied Fantail
31. House Crow
32. Yellow-vented Bulbul
33. Streak-eared Bulbul
34. Olive-winged Bulbul
35. Lanceolated Warbler
36. Common Tailorbird
37. Abbot's Babbler
38. Hume's (Oriental) White-eye
39. Asian Glossy Starling
40. Common Myna
41. Jungle Myna
42. Oriental Magpie Robin
43. Eye-browed Thrush
44. Orange-headed thrush
45. Asian Brown Flycatcher
46. Yellow-rumped Flycatcher
47. Green-backed Flycatcher
48. Mangrove-blue Flycatcher
49. Eurasian Tree-sparrow
50. Forest Wagtail
51. Cinerous(Great) Tit

BIRD LIST OF TELUK AIR TAWAR – PENAGA – KUALA MUDA IBA (MY-03)

Mudflats, Coasts, Mangroves and Surrounding Scrub and Paddyfield.

Funded by Think City and HKBWS, period 2024-2025 - March 2026

Species	Status	RECORDED
1. Blue-breasted Quail	Resident	
2. Garganey	Migrant	YES
3. Short-tailed Shearwater	Migrant	YES
4. Little Grebe	Resident	YES
5. Lesser Adjutant	Resident	YES
6. Asian Openbill	Migrant & R	YES
7. Milky Stork	Resident	YES
8. Yellow Bittern	Resident	YES
9. Schrenck's Bittern	Migrant	
10. Cinnamon Bittern	Resident	YES
11. Black Bittern	Migrant	
12. Malaysian Night-heron	Migrant	
13. Black-crowned Night-heron	Resident	YES
14. Striated (Little-) Heron	Resident & M	YES
15. Chinese Pond-heron	Migrant	YES
16. Indian Pond-heron	Migrant	YES
17. Javan Pond-heron	Migrant	YES
18. Cattle Egret	Resident	YES
19. Grey Heron	Resident	YES
20. Purple Heron	Resident	YES
21. Great Egret	Resident & M	YES
22. Intermediate (Medium) Egret	Resident & M	YES
23. Little Egret	Resident & M	YES
24. Chinese Egret	Migrant	
25. Pacific Reef-egret	Resident	YES
26. Great White Pelican	Migrant	
27. Black-faced Spoonbill	Migrant	
28. Scarlet Ibis	Escapee	
29. Lesser Frigatebird	Migrant	
30. Brown Booby	Resident	
31. Little Cormorant	Resident & M	YES
32. Great Cormorant	Migrant	
33. Oriental Darter	Resident & M	YES
34. Black-thighed Falconet	Resident	YES
35. Peregrine Falcon	Resident & M	YES
36. Osprey	Migrant	YES
37. Black Baza	Migrant	YES
38. Oriental Honey-buzzard	Migrant	YES
39. Black-winged Kite	Resident	YES
40. Black Kite	Migrant	YES
41. Brahminy Kite	Resident	YES

42.	White-bellied Sea-eagle	Resident	YES
43.	Crested Serpent-eagle	Resident	YES
44.	Eastern Marsh-harrier	Migrant	YES
45.	Pied Harrier	Migrant	YES
46.	Chinese Goshawk	Migrant	
47.	Japanese Sparrowhawk	Migrant	YES
48.	Greater Spotted Eagle	Migrant	YES
49.	Changeable Hawk-eagle	Resident	YES
50.	Slaty-breasted Rail	Resident	
51.	White-breasted Waterhen	Resident	YES
52.	Ruddy-breasted Crake	Resident	
53.	White-browed Crake	Resident	
54.	Watercock	Resident and M	YES
55.	Common Moorhen	Resident	
56.	Barred Buttonquail	Resident	
57.	Black-winged Stilt	Resident and M	YES
58.	Grey-headed Lapwing	Migrant	YES
59.	Red-wattled Lapwing	Resident	YES
60.	Pacific Golden Plover	Migrant	YES
61.	Grey Plover	Migrant	YES
62.	Little Ringed Plover	Migrant	YES
63.	Kentish Plover	Migrant	YES
64.	Tibetan (Lesser) Sand Plover	Migrant	YES
65.	Greater Sand Plover	Migrant	YES
66.	White-faced Plover	Migrant	YES
67.	Greater Painted-snipe	Resident	
68.	Pintail Snipe	Migrant	YES
69.	Swinhoe's Snipe	Migrant	YES
70.	Common Snipe	Migrant	
71.	Asian Dowitcher	Migrant	YES
72.	Black-tailed Godwit	Migrant	YES
73.	Bar-tailed Godwit	Migrant	YES
74.	Whimbrel	Migrant	YES
75.	Eurasian Curlew	Migrant	YES
76.	Far Eastern Curlew	Migrant	YES
77.	Spotted Redshank	Migrant	
78.	Common Redshank	Migrant	YES
79.	Marsh Sandpiper	Migrant	YES
80.	Common Greenshank	Migrant	YES
81.	Spotted/Nordmann's Greenshank	Migrant	YES
82.	Wood Sandpiper	Migrant	YES
83.	Terek Sandpiper	Migrant	YES
84.	Common Sandpiper	Migrant	YES
85.	Grey-tailed Tattler	Migrant	YES
86.	Ruddy Turnstone	Migrant	YES
87.	Great Knot	Migrant	YES

88.	Red Knot	Migrant	YES
89.	Sanderling	Migrant	
90.	Dunlin	Migrant	
91.	Little Stint	Migrant	
92.	Red-necked Stint	Migrant	YES
93.	Long-toed Stint	Migrant	YES
94.	Curlew Sandpiper	Migrant	YES
95.	Spoon-billed Sandpiper	Migrant	YES
96.	Broad-billed Sandpiper	Migrant	YES
97.	Ruff	Migrant	YES
98.	Red-necked Phalarope	Migrant	
99.	Oriental Pratincole	Migrant	YES
100.	Brown-headed Gull	Migrant	YES
101.	Black-headed Gull	Migrant	YES
102.	Slender-billed Gull	Migrant	YES
103.	Lesser Black-backed Gull	Migrant	
104.	Black-tailed Gull	Migrant	
105.	Gull-billed Tern	Migrant	YES
106.	Lesser Crested Tern	Migrant	YES
107.	Great Crested Tern	Residen & M	YES
108.	Black-naped Tern	Resident	
109.	Common Tern	Migrant	YES
110.	Little Tern	Resident & M	YES
111.	Bridled Tern	Resident	
112.	Whiskered Tern	Migrant	YES
113.	White-winged Tern	Migrant	YES
114.	Brown Noddy	Resident	
115.	Rock Pigeon	Resident	YES
116.	Red Collared-dove	Feral	YES
117.	Spotted Dove	Resident	YES
118.	Zebra Dove	Resident	YES
119.	Pink-necked Green-pigeon	Resident	YES
120.	Yellow-vented Green-pigeon	Resident	
121.	Green Imperial-pigeon	Resident	
122.	Mountain Imperial-pigeon	Resident	YES
123.	Blue-crowned Hanging-parrot	Resident	
124.	Long-tailed Parakeet	Resident	YES
125.	Red-and-green Macaw	Escapee	
126.	Oriental Cuckoo	Migrant	YES
127.	Chestnut-winged Cuckoo	Migrant	YES
128.	Large Hawk-cuckoo	Migrant	
129.	Hodgson's Hawk-Cuckoo	Migrant	
130.	Banded Bay Cuckoo	Resident	YES
131.	Plaintive Cuckoo	Resident	YES
132.	Little Bronze-cuckoo	Resident	YES
133.	Square-tailed Drongo-Cuckoo	Resident	YES

134.	Horsfield's Bronze-cuckoo	Migrant	
135.	Asian Koel	Resident & M	YES
136.	Green-billed Malkoha	Resident	YES
137.	Chestnut-breasted Malkoha	Resident	
138.	Greater Coucal	Resident	YES
139.	Barn Owl	Resident	YES
140.	Oriental Scops-owl	Migrant	
141.	Collared Scops-owl	Resident	YES
142.	Buffy Fish-owl	Resident	YES
143.	Spotted Wood-owl	Resident	YES
144.	Brown Hawk-owl	Resident	YES
145.	Great Eared-nightjar	Resident	YES
146.	Large-tailed Nightjar	Resident	YES
147.	Savanna Nightjar	Resident	
148.	Glossy Swiftlet	Resident	YES
149.	Black-nest Swiftlet	Resident	
150.	German's Swiftlet	Resident	YES
151.	Asian Palm-swift	Resident	
152.	Fork-tailed Swift	Migrant	
153.	House Swift	Resident	YES
154.	Asian Dollarbird	Resident & M	YES
155.	Stork-billed Kingfisher	Resident	YES
156.	White-throated Kingfisher	Resident	YES
157.	Ruddy Kingfisher	Resident & M	YES
158.	Black-capped Kingfisher	Migrant	YES
159.	Collared Kingfisher	Resident	YES
160.	Common Kingfisher	Migrant	YES
161.	Oriental Dwarf Kingfisher	Migrant	
162.	Blue-eared Kingfisher	Resident	
163.	Blue-throated Bee-eater	Resident & M	YES
164.	Blue-tailed Bee-eater	Resident & M	YES
165.	Chestnut-headed Bee-eater	Resident	YES
166.	Lineated Barbet	Resident	YES
167.	Gold-whiskered Barbet	Resident	
168.	Coppersmith Barbet	Resident	YES
169.	Banded Woodpecker	Resident	YES
170.	Laced Woodpecker	Resident	YES
171.	Crimson-winged Woodpecker	Resident	
172.	Common Flameback	Resident	YES
173.	Greater Flameback	Resident	YES
174.	Blue-winged Pitta	Resident & M	YES
175.	Mangrove Pitta	Resident	YES
176.	Golden-bellied Gerygone	Resident	YES
177.	Common Iora	Resident	YES
178.	Pied Triller	Resident	YES
179.	Ashy Minivet	Migrant	YES

180.	Mangrove Whistler	Resident	YES
181.	Tiger Shrike	Migrant	
182.	Brown Shrike	Migrant	YES
183.	Long-tailed Shrike	Resident	YES
184.	Black-naped Oriole	Resident	YES
185.	Greater-racquet-tailed Drongo	Resident	YES
186.	Black Drongo	Migrant	
187.	Ashy Drongo	Resident & M	YES
188.	Sunda (Malaysian-) Pied Fantail	Resident	YES
189.	Chinese (Amur-) Paradise-Flycatcher	Migrant	
190.	Oriental (Blyth's-) Paradise-Flycatcher	Resident	YES
191.	Japanese Paradise-flycatcher	Migrant	
192.	House Crow	Resident	YES
193.	Large-billed Crow	Resident	YES
194.	Sand Martin	Migrant	
195.	Barn Swallow	Migrant	YES
196.	Pacific (House-) Swallow	Resident	YES
197.	Red-rumped Swallow	Migrant	
198.	Asian House-martin	Migrant	
199.	Yellow-bellied Prinia	Resident	YES
200.	Zitting Cisticola	Resident	YES
201.	Red-whiskered Bulbul	Resident/Feral	YES
202.	Stripe-throated Bulbul	Resident	
203.	Yellow-vented Bulbul	Resident	YES
204.	Streak-eared Bulbul	Resident	YES
205.	Olive-winged Bulbul	Resident	YES
206.	Common Tailorbird	Resident	YES
207.	Dark-necked Tailorbird	Resident	YES
208.	Ashy Tailorbird	Resident	YES
209.	Lanceolated Warbler	Migrant	YES
210.	Pallas's Grasshopper-warbler	Migrant	
211.	Black-browed Reed-warbler	Migrant	YES
212.	Oriental Reed-warbler	Migrant	YES
213.	Arctic Warbler	Migrant	YES
214.	Eastern-crowned Warbler	Migrant	YES
215.	Dusky Warbler	Migrant	
216.	White-chested Babbler	Resident	
217.	Abbott's Babbler	Resident	YES
218.	Swinhoe's (Oriental) White-eye	Resident	YES
219.	Asian Glossy Starling	Resident	YES
220.	Common Myna	Resident	YES
221.	Jungle Myna	Resident	YES
222.	White-vented/ Javan Myna	Resident	
223.	Crested Myna	Feral	
224.	Purple-backed Starling	Migrant	
225.	White-shouldered Starling	Migrant	

226.	Black-collared Starling	Feral	
227.	Oriental Magpie-robin	Resident	YES
228.	Common Stonechat	Migrant	
229.	Asian Brown Flycatcher	Migrant	YES
230.	Brown-streaked Flycatcher	Resident	
231.	Yellow-rumped Flycatcher	Migrant	YES
232.	Tickell's Blue-flycatcher	Resident	
233.	Mangrove Blue-flycatcher	Resident	YES
234.	Green-backed Flycatcher	Migrant	YES
235.	Scarlet-backed Flowerpecker	Resident	YES
236.	Brown- (Plain-) throated Sunbird	Resident	YES
237.	Copper-throated Sunbird	Resident	YES
238.	Olive-backed (Ornate-) Sunbird	Resident	YES
239.	Eurasian Tree Sparrow	Resident	YES
240.	Plain-backed Sparrow	Resident	
241.	Baya Weaver	Resident	YES
242.	White-rumped Munia	Resident	YES
243.	Scaly-breasted Munia	Resident	YES
244.	Chestnut Munia	Resident	YES
245.	White-headed Munia	Resident	YES
246.	Forest Wagtail	Migrant	YES
247.	White Wagtail	Migrant	
248.	Yellow Wagtail	Migrant	YES
249.	Grey Wagtail	Migrant	
250.	Paddyfield Pipit	Resident	YES

Additional Species this Survey,

- 251. Black-headed Ibis
- 252. Shikra (CT)
- 253. Crested Goshawk (CT)
- 254. Great-eared Nightjar
- 255. Slatty-legged Crake (CT)
- 256. Pied Stilt
- 257. Temminck's Stint
- 258. Eye-browed Thrush (CT)
- 259. Orange-headed Thrush (CT)
- 260. Great (Cinereous-) Tit (CT)

(CT) = Camera Trap

Overlooked Record/Species

- 261. Northern Pintail
- 262. Purple Swamphen

Total of 262 Species, including 10 new location records, (6 were from Camera Traps), 192 species were recorded during the Survey period. (Sight, Heard, Camera and Camera Trap)

About 15,000-20,000 (after Asian Tsunami, counts went up to 25,000 for 1-2 years) Shorebirds and Waders during Migratory Season

Estimated Local Waterbirds, at Heronry at Kuala Bekah/Penaga, 5,000.

IUCN-Birdlife Red List Status,

Critically Endangered - CR: Spoon-billed Sandpiper (M)

Endangered - EN: Spotted Greenshank (M), Great Knot (M), Milky Stork (R)

Vulnerable - VU: Lesser Adjutant (R), Black-faced Spoonbill (M), Chinese Egret (M), Greater Spotted Eagle (M), Far Eastern Curlew (M),

Near Threatened - NT: Asian Dowitcher (M), Black-tailed Godwit (M), Bar-tailed Godwit (M), Eurasian Curlew (M), Red Knot (M), Mangrove Pitta (R), Japanese Paradise-flycatcher (M), Oriental Darter (R/M)

Total of nine(9) species in the IUCN Bird Red List, from CR to VU. (Criteria for IBA, is from CR to VU) And eight(8) Near Threatened (NT) Species

This area support 1% of the world's population (1%WP) of Chinese Pond Heron, (with a count of at least 1000) Asian Dowitcher (1000), Nordmann's Greenshank (90)

The following are not accepted or unconfirmed; Puff-throated babbler, Pied Imperial Pigeon, Caspian Tern, Chesnut-bellied Malkoha and Orange-bellied Flowerpecker

Many MNS members, supporters and well-wishers contributed their time and resources to the success of this Survey and preparation of this Checklist.

Data: MNS including members, branches, staff, etc, Avibase, Birdlife International, Wetlands International, BIW/eBird, DWNP, Dept of Forestry Peninsular Malaysia, Individual, Private, Internet, Social Media.

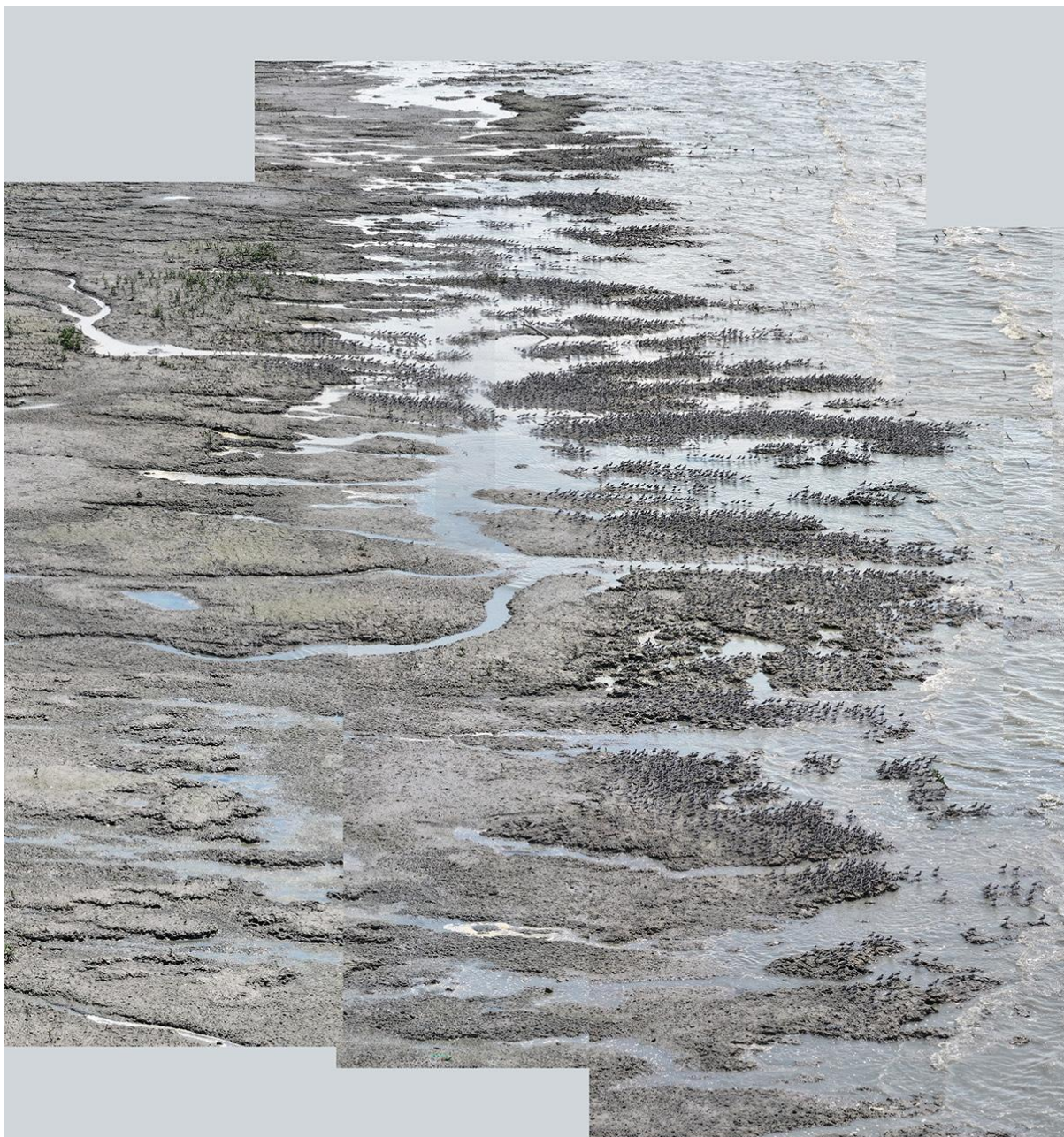
AERIAL / DRONE SURVEY PHOTOS



5th Oct 2024, HERONRY, HSK LAHAR ENDIN, Comparision of Three focal length of Drone



Drone, 31st Oct 2024, 8000 waders HSK Pasir Gebu 3500 at Sg Tembus



Sg Tembus rivermouth north, from Bakau Tua 4th Nov 2024



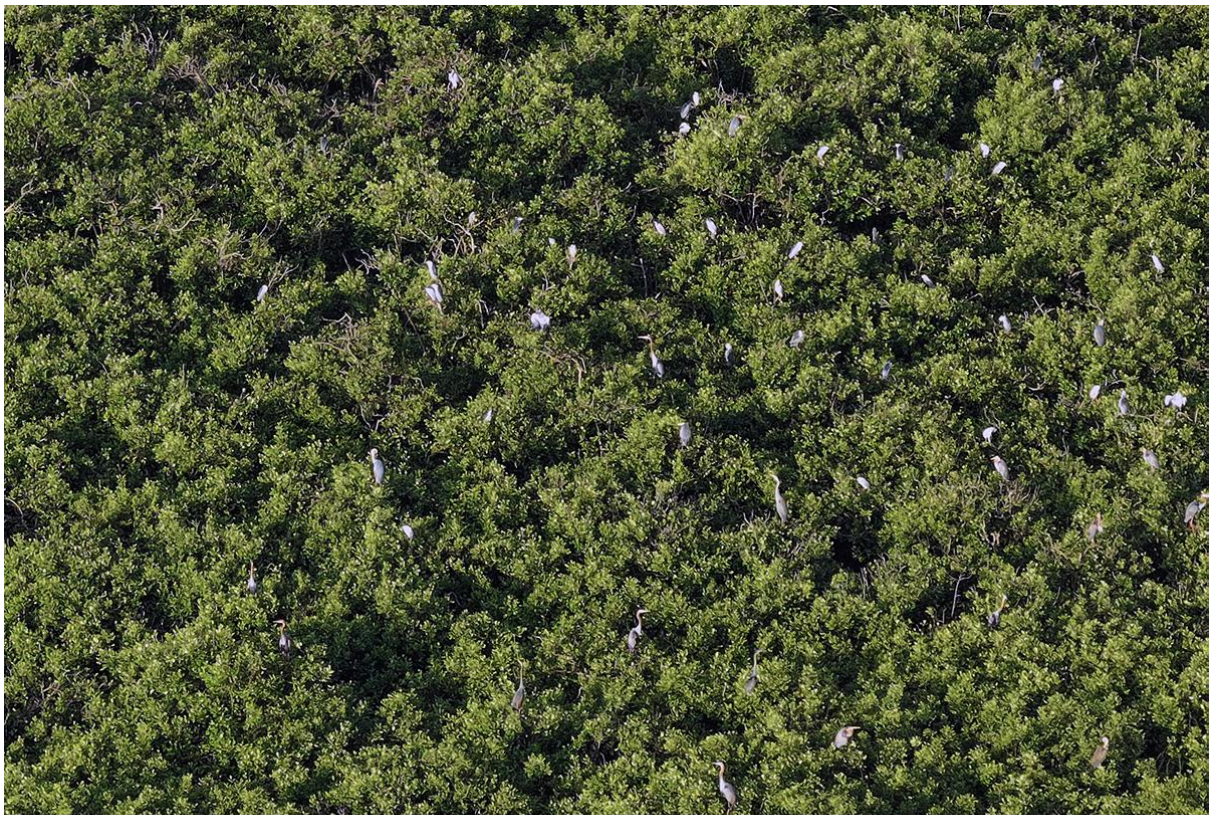
Drone 27th Dec 2024 Sg Abdul Pdg Bengali Whimbrel



Drone 27th Dec 2024 Sungai Tembus rivermouth Godwits



Drone 23rd Jan 2025 Heronry Mudflats HSK Lahar Endin 1000 Openbills (part shown only)



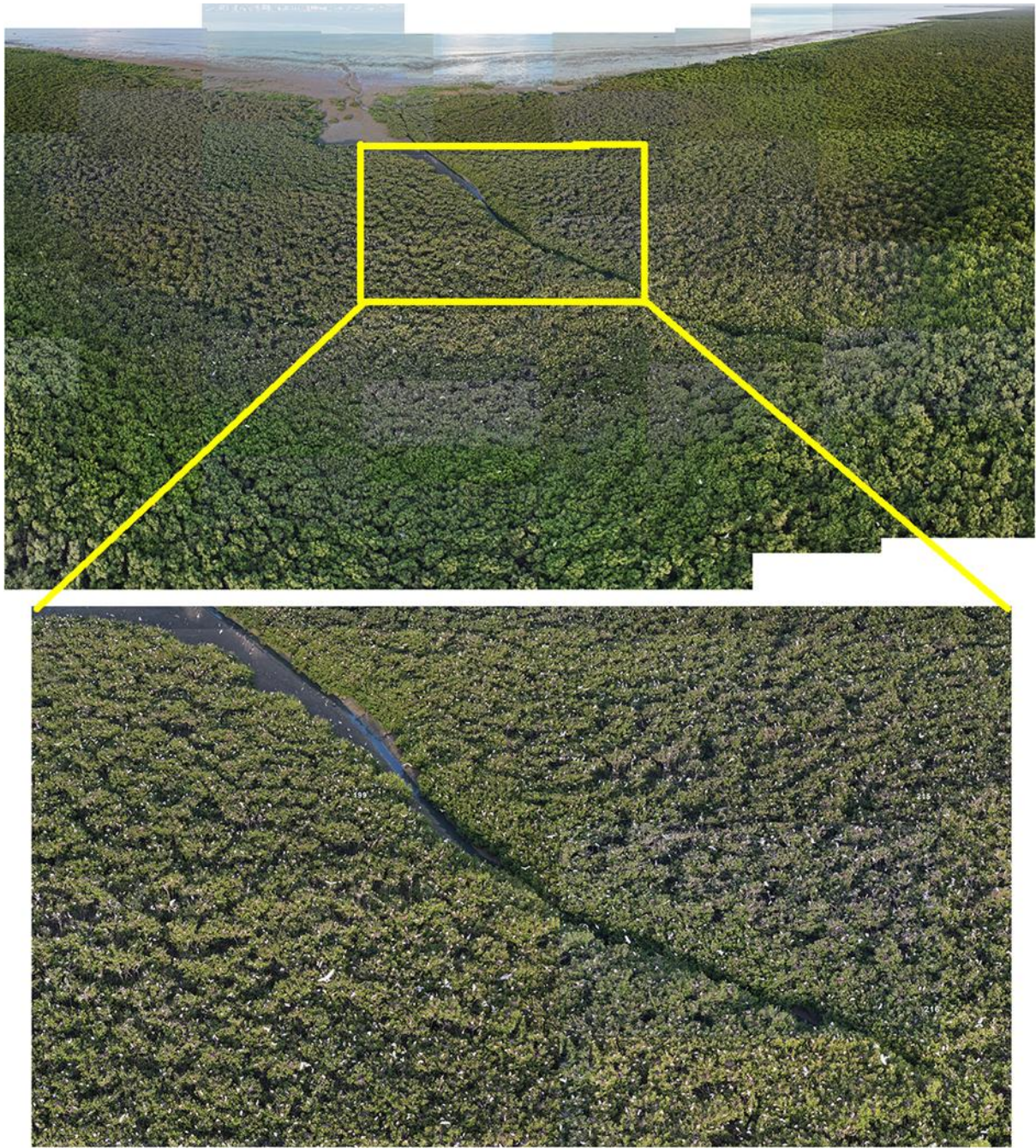
Heronry Drone 28th Feb 2005 Heronry Purple Heron Nesting



Drone 27th March 2025 Cattle Egret Heronry Mudflats (with waders back mid to right, and 2 front right)



Drone 29th April 2025 Pantai Teluk Malas / Bakau Tua, Black-tailed Godwits, Redshanks



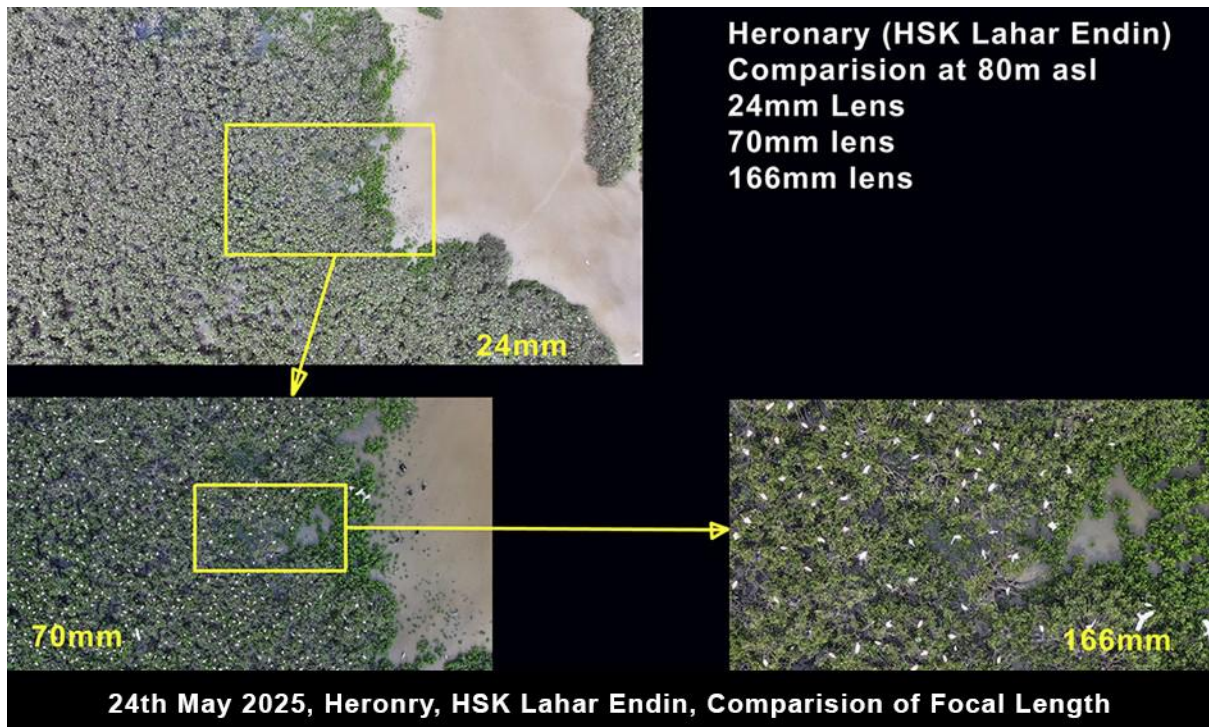
4th May 2025, Heronry Composite, 60m asl



18th May 2025. Bakau Tua mudflats, smaller waders, incld Tibetan Sandplover

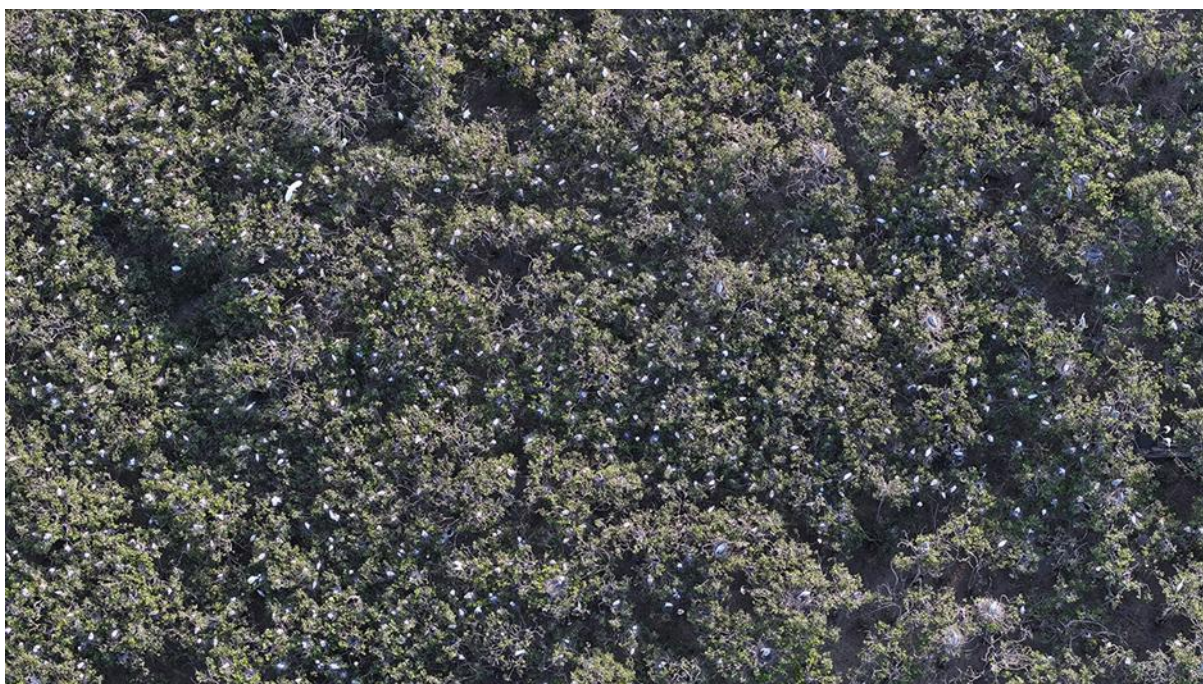


24th May 2025, Heronary Edge with Mudflat/Sea Lesser Adjutant (& Monitor Lizard)



**25th May 2025, Bakau Tua high tide roost
800 waders**





1st June 2025, Heronary afternoon count 80m asl 70mm lens



**13th June 2025, HSK Pasir Gebu (from Bakau Tua to Sg Tembus rivermouth)
Two Common Redshank. Fairly high spring tide**



19th June 2025, Boat Survey (Choo Eng, Andy) at Sg Lahar Endin rivermouth



26th June 2025, Bakau Tua, High Spring Tide 2.6m asl 177mm lens



27th June 2025, Bakau Tua, Black-tailed Godwit (with Common Redshank)



29th June 2025, Bakau Tua (HSK Pasir Gebu) mudflats, 27 Common Redshanks and Little Egret



1st July 2025, Heronary, HSK Lahar Endin, Lesser Adjutant



Sg Lahar Endin (HSK Kuala Bekah) south/left 100 Redshanks 5th July 2025 (near max Neap tide)



Kuala Bekah FR, Padang Bengali Sg Abdul, 6th July, 800 waders

6th July 2025, Kuala Bekah to Sg Abdul mudflats, Drone view: 800 waders



13th July 2025, Drone: Whimbrel in flight, Kuala Bekah towards Sg Abdul



24mm 10m asl Max Spring Tide



70mm 10m asl, 13th July, High Spring Tide



166mm 10m asl, High Spring Tide 13th July

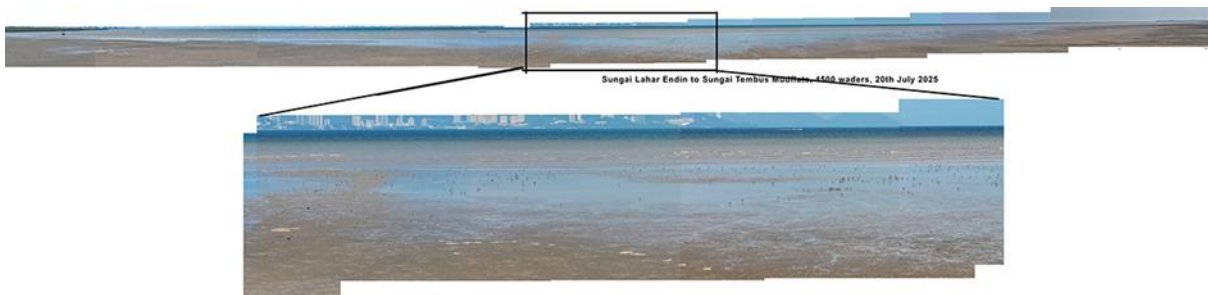


Bakau Tua Secondary High Tide Roost, 15th July 2025

650 Redshanks 7 Bar-tailed Godwit 1 Tobetan Sandplover



20th July 2025, Drone Lahar Endin Mudflats, from Mangrove towards sea



20th July 2025, Mudflats Lahar Endin (drone from boat, landwards to sea)



Bakau Tua Only High Spring Tide 25th July 2025 200 Sandplovers in flight (Drone)



**27th July 2025, Spring Tide, Bakau Tua Sand spit
Common Redshank, Curlew Sandpiper, Tibetan Sandplover**



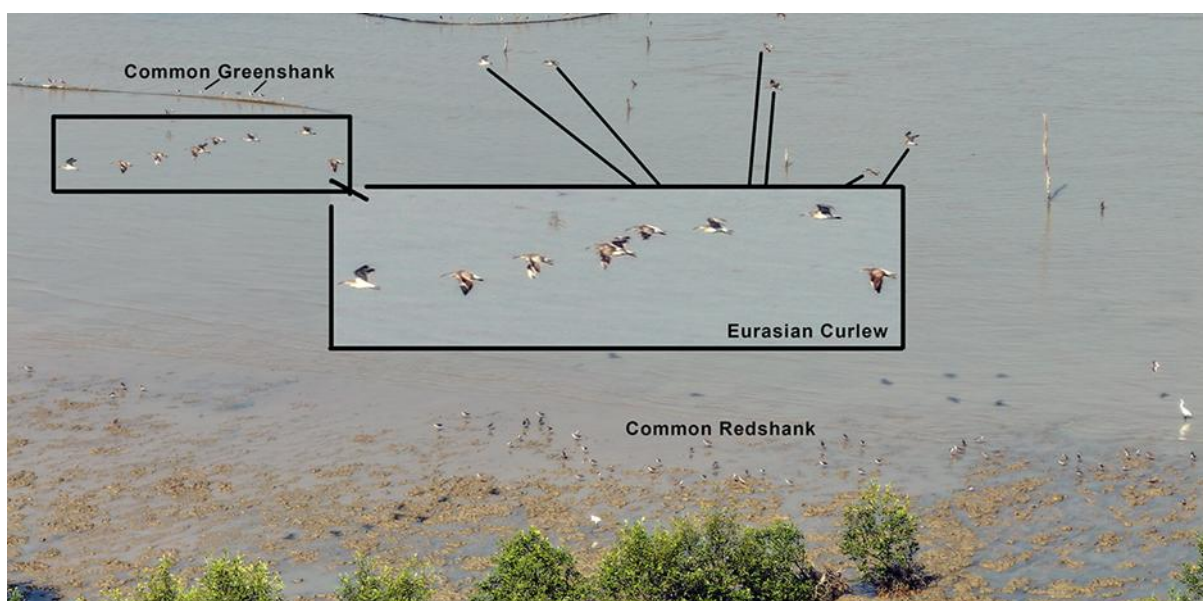
28th July 2025 166mm- 6m asl nearest possible about 12 Redshanks sideways



30th July 2025 10 m asl 166mm Bakau Tua / Kuala Muda Sand spit



2nd Aug 2025 60m asl 70mm Kuala Bekah / Ponds, WBSEagle attack waders



**2nd August 2025, Kuala Bekah mudflats, incoming near max tide (drone from Kuala Bekah)
Eurasian Curlew overflying, Common Redshanks and Greenshanks on mudflat.**



2nd August 2025, Heronary, Lahar Endin, 60m asl, 70mm lens.



**10th August 2025, Bakau Tua Sandspit 2ndary High Tide Roost, (Drone view)
Common Redshank, Whimbrel, Curlew Sandpiper, Tibetan Sandplover, Terns**



**16th August 2025, Kuala Bekah - Sg Tembus mudflats, drone view from landward/mangrove (boat)
Eurasian Curlew, Black-winged Stilt**



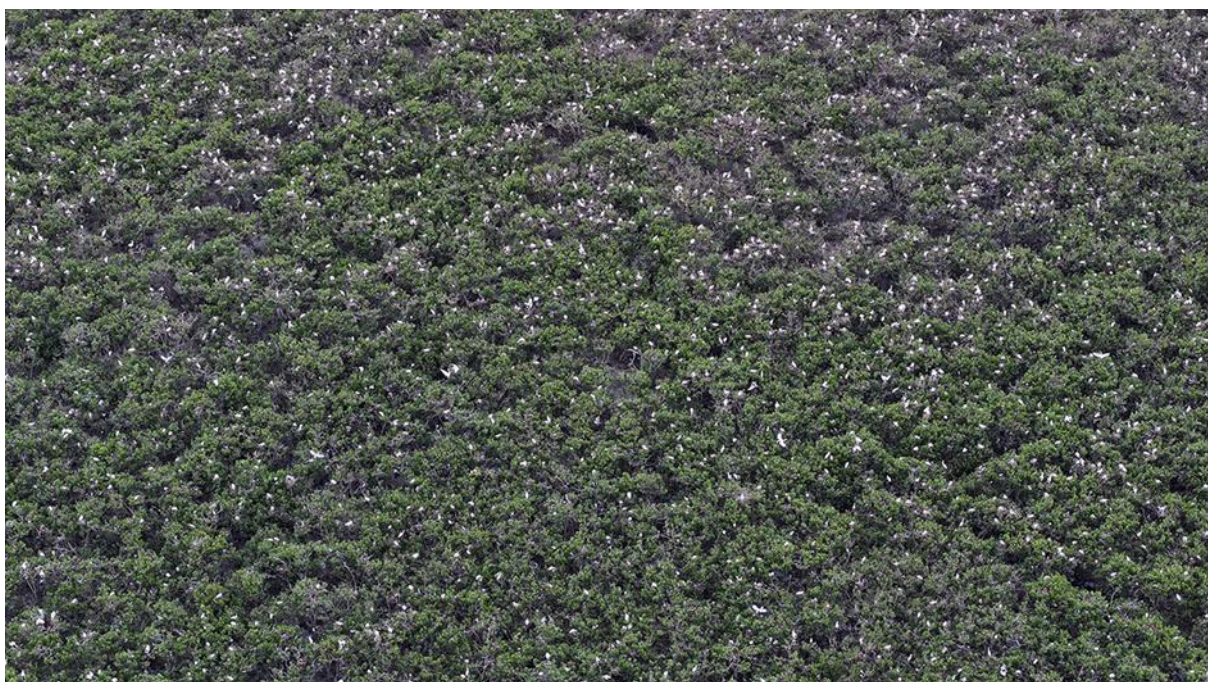
16th August 2025, Drone Photo from Boat Survey



17th August 2025, Boat Survey, Kanda, Choo Eng (Volunteer: Andy, Hans, MNS Johore)



1st Sept 2025, Lesser Adjutant at the Heronary, HSK Lahar Endin



7th Sept 2025

Heronary, very active

70.0 mm f/2.8 83.5m asl

1/500 sec; f/2.8; ISO 100

<drone-dji:GpsLatitude>+5.525781215</drone-dji:GpsLatitude>
<drone-dji:GpsLongitude>+100.366652984</drone-dji:GpsLongitude>
<drone-dji:AbsoluteAltitude>+137.876</drone-dji:AbsoluteAltitude>
<drone-dji:RelativeAltitude>+83.500</drone-dji:RelativeAltitude>



8th Sept 2025, Bakau Tua Sand bar Spring High Tide

166.0 mm f/3.4

1/640 sec; f/3.4; ISO 100

<drone-dji:GpsLatitude>+5.566369371</drone-dji:GpsLatitude>

<drone-dji:GpsLongitude>+100.349560760</drone-dji:GpsLongitude>

<drone-dji:AbsoluteAltitude>+43.544</drone-dji:AbsoluteAltitude>

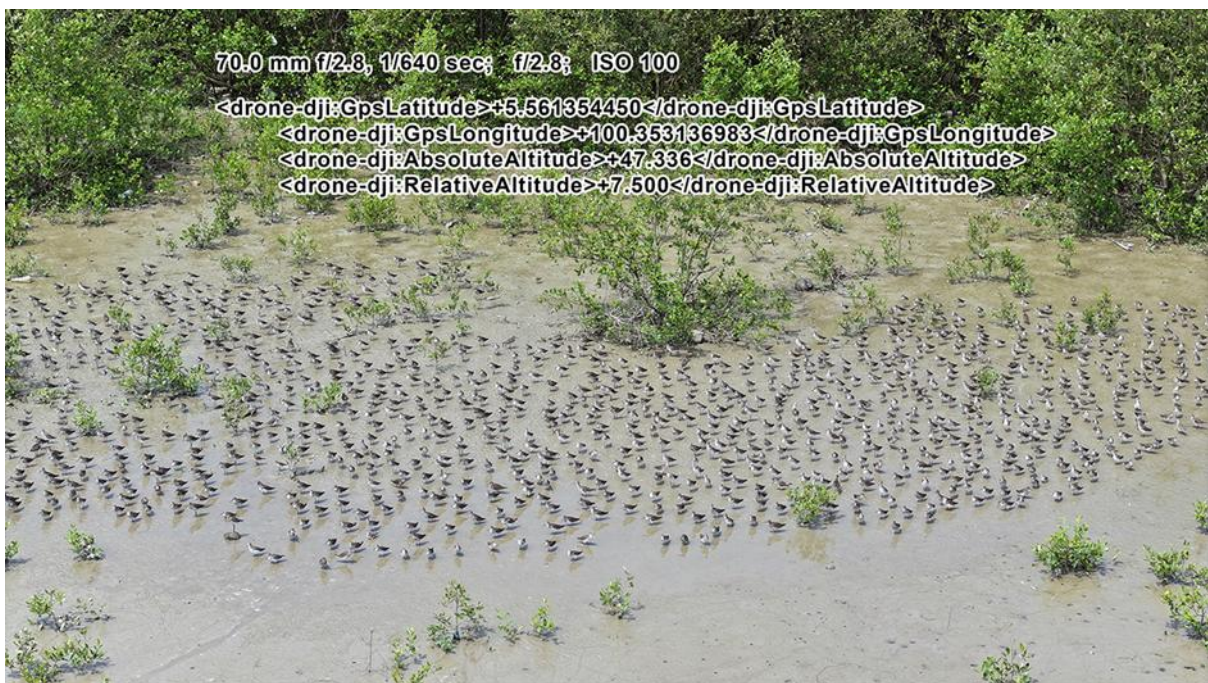
<drone-dji:RelativeAltitude>+2.900</drone-dji:RelativeAltitude>



Bakau Tua Super Spring Tide (1 day later) 9th Sept 2025 Secondary Roost 2500
(1500 at High Tide Roost Beach, 1000 at High Tide Roost Pond)



**9th Sept 2025, Eurasian Curlew, 166mm lens 4.3m asl (photo crop)
with Redshanks, Curlew Sandpiper & Tibetan Sandplover**



10th Sept 2025, 70mm lens



11th Sept 2025, Lahar Endin Mudflats (200 smaller waders) & Mussel Post (near empty)



Kuala Bekah Mudflats, 16th Sept 2025, 3000 waders



<drone-dji:GpsLatitude>+5.561002487</drone-dji:GpsLatitude>
 <drone-dji:GpsLongitude>+100.352926288</drone-dji:GpsLongitude>
 <drone-dji:AbsoluteAltitude>+33.956</drone-dji:AbsoluteAltitude>
 <drone-dji:RelativeAltitude>+9.300</drone-dji:RelativeAltitude>

23rd Sept, Bakau Tua, 2ndary High tide roost Spring tide but New Moon



Drone 23rd Sept 70mm Lens 9m asl



Drone 23rd Sept 24mm lens 9.8 m asl



Drone 7th Oct 2025 Mix Waders bakau Tua, composite of 166mm lens



24th Oct 2025, Heronry, Asian Openbill Active Nesting,



Drone 24th Oct 2025, Bakau Tua, Terek Sandpiper, Stints, Sandplovers



Sg Abdul - Kuala Bekah mudflats 6000 waders low incoming neap tide 16th Nov 2025, 2000 at Sg Abdul river mouth, total 8000. Sg Tembus flood tide

16th Nov 2025, Sg Abdul and Kuala Bekah, Comprision View of Waders from land and by drone



Drone 5th Dec 2025, Bakau Tua mudflats, White-winged Terns



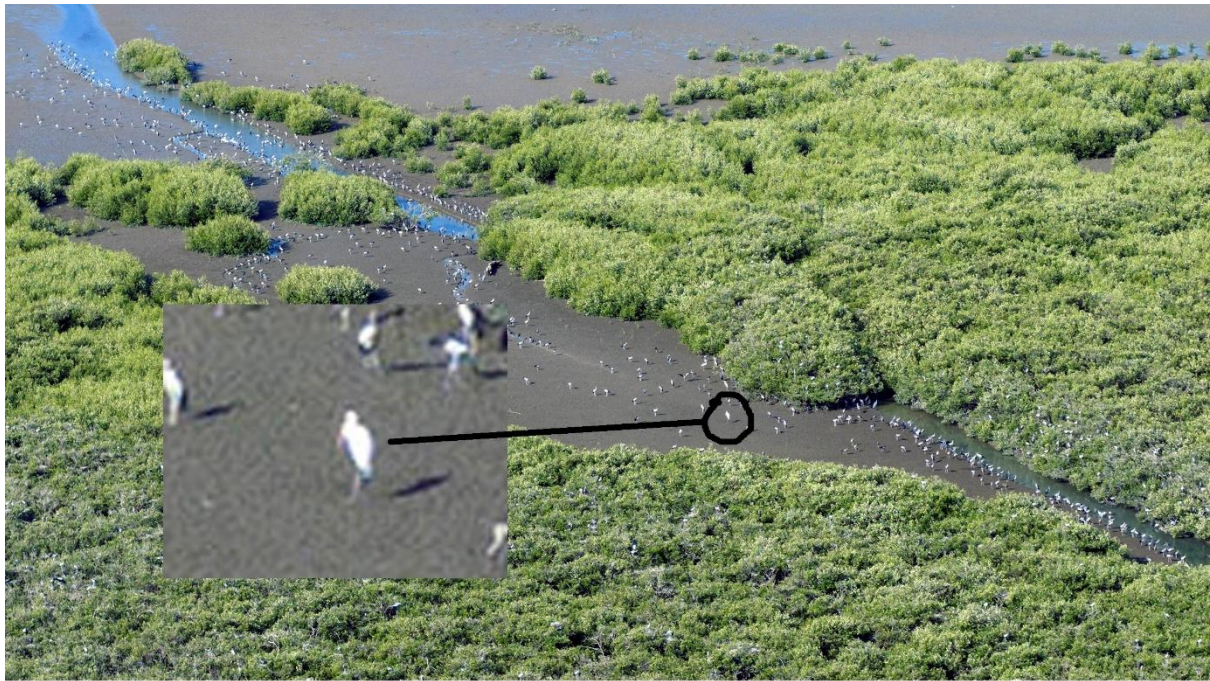
**9th Dec 2025, Heronry with almost fledged Asian Openbill,
nearly half already fledged throughout the Heronry
Crop photo at 166mm 60-80 m asl**



Drone 9th Dec 2025, Sg Lahar Endin, Redshanks



Boat Survey, 28th Dec 2025



Drone, 3rd Feb 2026, Milky Stork (also overall Herony less active nesting)



Drone Heronry 24th March 2026, no nesting (only 2 waterbird seen)



**Drone Sg Penaga to Kuala Bekah mudflats, 24th March 2026,
part of 4000 waders, Lesser Adjutant on top right**

LAND (COASTAL) SURVEY PHOTOS



Coastal Survey, 5th Oct 2024, Pantai Teluk Malas - Bakau Tua - HSK Pasir Gebu



White-faced Plover, 6th Oct 2024, Pantai Teluk Malas / Bakau Tua



Pantai Teluk Malas (HSK Pasir Gebu) 15th Oct 2024



Whimbrels at Pantai Teluk Malas (Bakau Tua) 4th Nov 2024



Oriental Darter, Sg Abdul rivermouth 9th Dec 2024



White-winged Terns, Bakau Tua, 13th Dec 2024



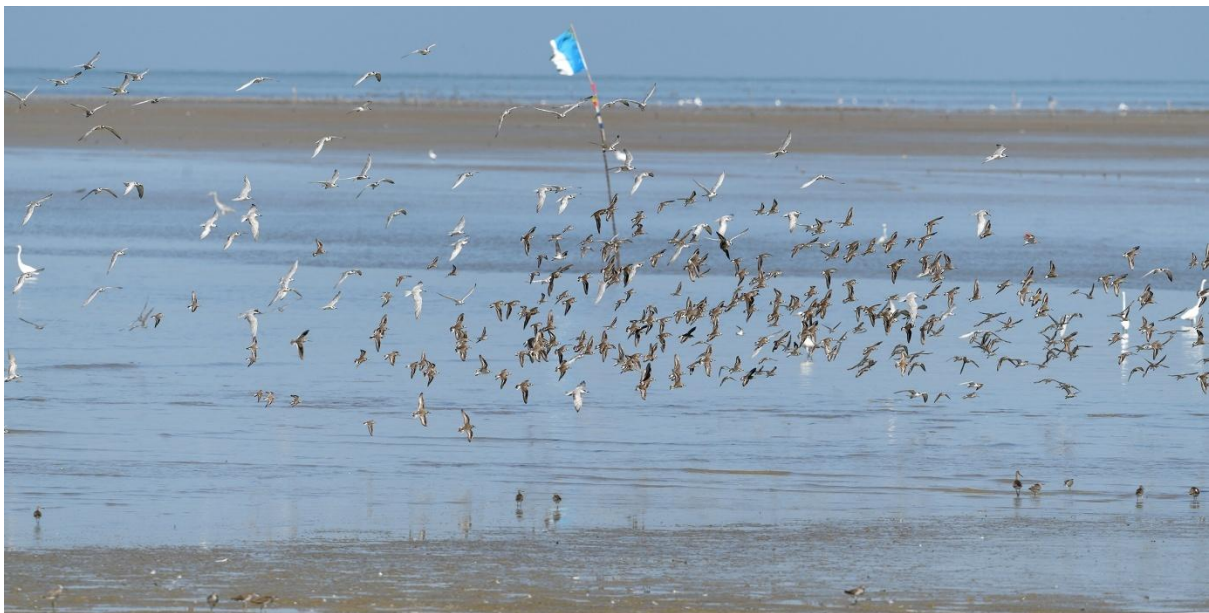
Sg Abdul mudflats (HSK Kuala Bekah) Survey, 12th Jan 2025



Sg Abdul - Padang Benggali Mudflats, 12th Jan 2025, Scope view, about 1km away



**Sg Abdul mudflats, 17th Feb 2025, Brown-headed Gulls,
behind Pacific Golden Plover and Tibetan Sandplover**



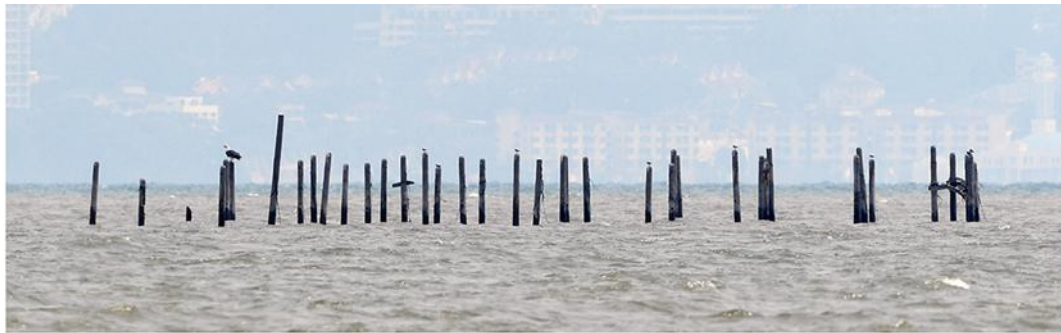
Sg Abdul 22nd Feb 2025, Waders and Terns, mix flock



Pantai Teluk Malas, 1st April 2025, Smaller waders flying to Kota Kuala Muda, Kedah



Black-crowned Night-heron with Nesting Material, 24th April 2025, Sg Lahar Endin Jetty



WBSEagle - 1, Redshank - 7, Sg Abdul 13th June



**3 common tern 16 Redshanks, Sg Abdul 13th June 2025
2 Redshanks at Bakau Tua / Pasir Gebu mudflats by Drone**



27th June 2025, Sg Abdul - Kuala Bekah mudflats, Eurasian Curlews (with Redshanks and others)



3rd July 2025, Sg Abdul to Kuala Bekah mudflats, 600 waders (with Openbills) morning 300 afternoon



5th July 2025, Sg Abdul to Kuala Bekah mudflats, composite/stitched photos of Scope



**10th July 2025, Sg Abdul - Kuala Bekah mudflats, scope
Asian Dowitcher & Godwits Eurasian Curlews**



21st July 2025, Mussel Post, White-bellied Sea Eagle. (500mm Lens)



27th July 2025, Sg Abdul rivermouth mudflats, Asian Openbill, Eurasian Curlew, Great Knot, Sandplovers, Common Redshank



10th August 2025, Bakau Tua Sand spit, Godwits & Asian Dowitcher



10th August 2025, Bakau Tua sandspit, Tibetan Sandplover, Curlew Sandpiper



Sg Abdul - Kuala Bekah Mudflats, 17th August 2025
Black-tailed Godwit, Great Knot, Whiskered Tern, Asian Dowitcher
View using a Spotting Scope (handphone photos composite)



22nd August 2025, Sg Abdul to Kuala Bekah Mudflats, 3500 waders



23rd August 2025, Sg Abdul rivermouth
Little Tern **Tibetan Sandplover**



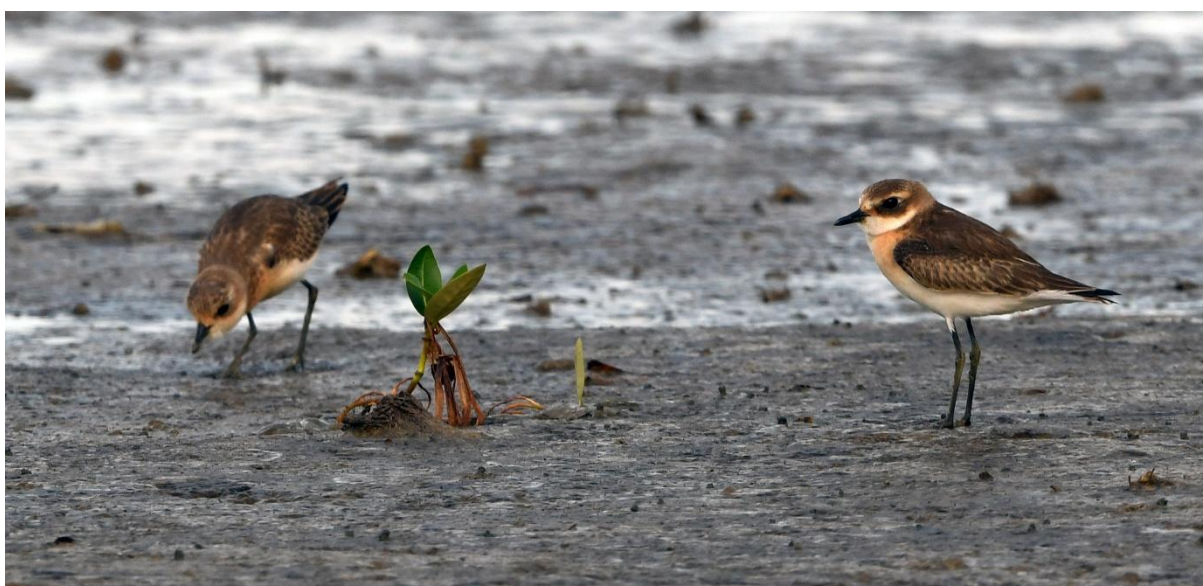
29th August 2025, Sg Abdul mudflats, breeding colours
Left, Red-necked Stint Right, Curlew Sandpiper
(back non breeding)



31st August 2025, Sg Abdul, Curlew Sandpiper



**9th Sept 2025, Bakau Tua Sandbar, Primary High Tide Roost
KOWA Scope, Handphone photo**



21st Sept 2025, Sg Abdul mudflats, Tibetan Sandplover



Sg Abdul mudflats, 24th Oct 2025, Red-necked Stints (Scope)



**Eurasian Curlew, Tibetan Sandplover, Terek Sandpiper,
Sg Abdul, 16th Nov 2025**



Sg Abdul, 29th Nov 2025, Tibetan Sandplover, Red-necked Stint, Curlew Sandpiper



Sg Abdul, 12th Dec 2025, Composite of Three Photos (Top, Middle and Bottom area) to increase sharpness taken using a 500mm lens



©Ong Su Ping

Ruff, Sg Abdul, 3rd January 2026



Sg Abdul, 13th Jan 2026, Brown-headed Gulls



Far-eastern Curlew, Sg Abdul 19th Feb 2026



Sg Abdul mudflats 22nd Feb 2026, Evening survey



Sg Abdul, 24th March 2026, Curlew Sandpiper many in Breeding plumage



Bakau Tua / Pantai Teluk Malas 2ndary High Tide Roost, 24th March 2026

BOAT SURVEY PHOTOS



6th October 2024, Boat Trip Juvenile White-bellied Sea Eagle



**6th October 2024, Heronry, Little Cormorant, Cattle Egret, Lesser Adjutant (non-nesting)
View from Sea (Boat Trip) mudflats of HSK Lahar Endin**



Asian Dowitcher & Great Knot 6th Oct 2024 (Boat Survey)



Boat Survey, 17th Nov 2024



17th Nov 2024, Asian Dowitcher & Black-tailed Godwit, Boat Trip



Waders 14th Dec 2024, Boat Survey



Broadbill Sandpipers (and Tibetan Sandplovers, Curlew Sandpipers, Red-necked Stints) Boat Survey , 14th Dec 2024



8th March 2025, Tibetan Sandplover and other smaller waders



**Tibetan Sandplover - Flagged, 8th March 2025 (Boat)
Sungai Lahar Endin rivermouth**



Whiskered Tern, 6th April 2025, Boat Survey



19th June 2025, HSK Lahar Endin mudflats (by boat) Great knot and Asian Dowitcher (front row)



Black-tailed Godwit, 20th July 2025, Boat Survey



Boat Survey, 16th August 2025 at Sg Lahar Endin rivermouth/mudflats



Sg Lahar Endin mudflats, 16th August 2025, from Boat
Javan Pond-heron



Milky Stork (EN)



16th August 2025 Kuala Bekah mudflats view towards Sg Abdul - from Boat
Front: Common Redshank, Whimbrel, Great Knot Middle-back: Great Egret



Drone Photo from Boat Survey, 16th Aug 2025, HSK Lahar Endin mudflats



17th Aug 2025, Boat Survey



**17th Aug 2025, Lahar Endin mudflats (boat trip)
Left: Far-eastern Curlew, Right: Eurasian Curlew (composite)**



**1st Sept 2025, Broadbilled Sandpiper, Sg Lahar Endin
rivermouth mudflats (Think City Video interview boat trip)**



Boat Survey, 14th Sept 2025, MNS Branches



**Great-crested Tern
(Juvenile)**

© Chiang Lai Peng



Marsh Sandpiper

Cip

14th Sept 2025, Boat Survey, Great-Crested Tern & Marsh Sandpiper



Boat Survey, 17th Nov 2025, Bar-tailed- Black-tailed Godwits & Asian Dowitcher



Boat Survey, 17th Nov 2025, Terek Sandpiper



13th Dec 2025, Boat Survey, Pacific Golden Plovers



13th Dec 2025, Sg Abdul - Padang Benggali cockle beds, Great Knots & Black-tailed Godwit



28th Dec 2025, Sg Abdul Padang Benggali Mudflats - Flag Bar-tailed Godwit



18th Jan 2026, Boat Survey, Tibetan Sandplover, Great Knot, Curlew Sandpiper



18th January 2026, Asian Dowitcher



10th Feb 2026, Boat Survey, at Sg Tembus



**Great Crested Tern 10th Feb 2026, AWC
Teluk Air Tawar - Kuala Muda Coastal IBA, mainland Penang
MNS Penang & Selangor
5.496479, 100.372532 (Straits of Malacca)**



10th February 2026, Boat Survey, Spoon-billed Sandpiper (middle)



15th February 2026, Boat Survey, Black-tailed Godwit & Asian Dowitcher



15th February 2026, Boat Survey, Curlew Sandpiper



15th Feb 2026, Boat Survey, Terek Sandpiper

**LAND (MANGROVE, SCRUBLAND, PADDYFIELD,
RIVERS) SURVEY PHOTOS**





Red-collared Turtledove, Sg Muda scrubland, 1st Dec 2024



Barn Owl, Nestling, Paddyfield 13th Dec 2024



Pied Triller, Taman Kuala Bekah, 5th January 2025



Laced Woodpecker

Common Flameback

Taman Kuala Bekah, 5th January 2025



Oriental Magpie-robin, Taman Kuala Bekah, 23rd January 2025



Sunda Pygmy Woodpecker, Telekom area, 22nd February 2025



Ashy Minivet, Kuala Bekah Ponds, 1st March 2025



Greater Coucal, Kuala Bekah Ponds, 1st March 2025



Golden-bellied Gerygone, Kuala Bekah Pond, 19th March 2025



Bird Survey, Kuala Bekah Ponds and Mangroves, 24th March 2025



Bird Survey, Telekom, Pmtg Rawa, Bakau Tua area, 30th March 2025



Crow-billed Drongo, Telekom area, 1st April 2025



Forest Wagtail, Telekom Area, 6th April 2025



Green-billed Malkoha, Permatang Rawa, 6th April 2025



Yellow-vented Bulbul, Pasir Gebu, 10th April 2025



Lineated Barbet, Telekom area, 10th April 2025



Asian Brown Flycatcher, Permatang Rawa-Telekom 13th April 2025



Chinese Pondheron, Pasir Gebu Paddyfield, 13th April 2025



Common Iora, Telekom area, 29th April 2025



Blue-Throated Beeeater Nesting, Pasir Gebu, 12th May 2025



11th June 2025, Red-collared Turtle-dove (introduced/feral) Telekom area



11th June 2025, Red Junglefowl (hen) at Telekom area



**19th June 2025, Telekom area HSK Pasir Gebu
Hume's White-eye**



Common Flameback



**1st July 2025, Sg Abul mudflats
Asian Openbill**



**Lahar Endin Mangroves
Copper-throated Sunbird**



13th July 2025, Telekom Area
Asian Koel - Female



Blue-winged Pitta



Bird Survey, Kuala Bekah Ponds and Mangroves, 13th July 2025



Kuala Bekah 25th July 2025
Mangrove Whistler



Telekom Area
Ashy Tailorbird



25th July 2025, Telekom area, Spotted Woodowl family of three



**22nd August 2025, Telekom area, Pied Triller
Female**



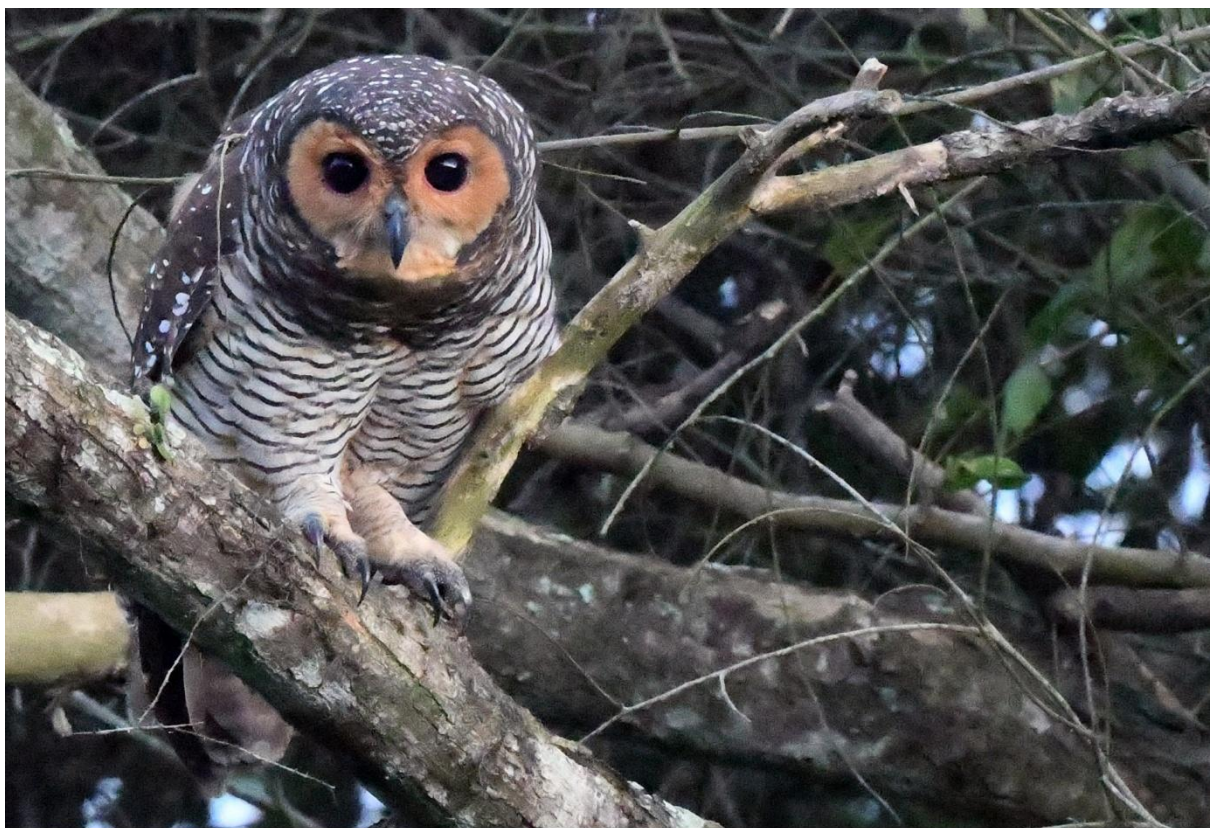
Male



Forest Wagtail, 30th August 2025, Kuala Bekah



16th Sept 2025, Sunda Pied Fantail, HSK Lahar Endin



Spotted Wood-owl, Permatang Rawa, 16th Sept 2025



Bird Survey, Kuala Bekah coastal mangroves, 21st Sept 2025



Brown Shrike, Paddyfield. 29th October 2025



Eastern Yellow Wagtail, Paddyfield, 29th October 2025



Black-headed Ibis, Paddyfield-Kuala Bekah, 18th Nov 2025



Buffy Fish-owl, Tanam Kuala Bekah mangroves, 18th November 2025



Yellow Bittern, Paddyfield-Titi Mukim, 13th December 2025



Long-toed Stint, Paddyfield-Permatang Bendahari, 18th Dec 2025



Temminck's Stint, Paddyfield - Permatang Bendahari, 20th December 2025



Black-crowned Nightheron (Juvenile) Sg Lahar Endin Jetty 7th January 2026



Common Sandpiper, Pasir Gebu Paddyfield, 22nd February 2026



Black Kite, Sg Tembus Jetty, 19th March 2026

CAMERA TRAPS PHOTOS – BIRDS



CamName08 81°F 27°C 06/17/2025 11:55:41

Black-naped Oriole - Pasir Gebu



000E 32 °C 89 °F 13/07/2025 17:59:56 0008

Streak-eared Bulbul - Kuala Bekah



000F 31 °C 87 °F 26/07/2025 16:18:24 0574 000E 28 °C 82 °F 15/07/2025 12:10:59 0315

Collared Kingfisher - Lahar Endin



000E 28 °C 82 °F 15/07/2025 12:10:59 0315

Laced Woodpecker - Kuala Bekah



CamName08 83°F 28°C 06/14/2025 13:26

Hume's White-eye - Pasir Gebu



CamName08 84°F 29°C 06/22/2025 15:16:

White-throated Kingfisher - Pasir Gebu



Blue-winged Pitta, Fledgling - Kuala Bekah

Red-collared Dove - Kuala Bekah



Jungle Myna - Kuala Bekah

Sunda Pied Fantail - Kuala Bekah



Yellow-vented Bulbul - Pasir Gebu

Spotted Dove - Pasir Gebu



CamName08 87°F 31°C 07/09/2025 15:26:41

Pink-necked Green-pigeon - Pasir Gebu



ID:0000 77 °F 25 °C 06/20/2025 18:21:22

White-breasted Waterhen - Pasir Gebu



000F 26 °C 78 °F 06/09/2025 09:58:08 0134

6th Sept 2025 Ruddy Kingfisher, HSK Lahar Endin



000E 28 °C 82 °F 07/07/2025 09:41:07 00

Crested Serpent-eagle - Kuala Bekah



82°F 28°C

07/03/2025 12:24:00

Asian Glossy Starling - Pasir Gebu



CamName08

83°F 28°C

05/20/2025 12:17:31

20th May 2025, Crake Species, Telekom area



● ☹ 29 °C 84 °F 12/05/2025 11:44:02AM 0637

**12th May 2025, Grey Heron scavenging on Fish
presumably dropped by White-bellied Sea-eagle**



CamName08 79°F 26°C 05/13/2025 08:15:37
13th May 2025, Greater Coucal, Telekom area



CamName08 87°F 30°C 05/18/2025 15:23:11
18th May 2025, Jungle Myna, Telekom area



000E ○ ☹ 32 °C 89 °F 03/06/2025 15:20:49 0738

3rd June 2025, HSK Kuala Bekah, Blue-winged Pitta with Fledgling



000E ● ☹ 25 °C 77 °F 13/07/2025 11:24:44 0998

Abbot's Babbler, HSK Kuala Bekah



000E ☾ 29 °C 84 °F 05/06/2025 18:59:19 0926

5th June 2025, Blue-winged Pitta, HSK Kuala Bekah



ID:0000

86 °F 30 °C

04/01/2025 17:59:00

Chestnut-winged Cuckoo HSK Pasir Gebu (Pmtg Rawa) 1st April 2025



000F ○ 29 °C 84 °F 23/03/2026 10:10:19 0608

Mangrove Pitta, Taman Penaga (HSK Lahar Endin), 23rd March 2026



84°F 28°C

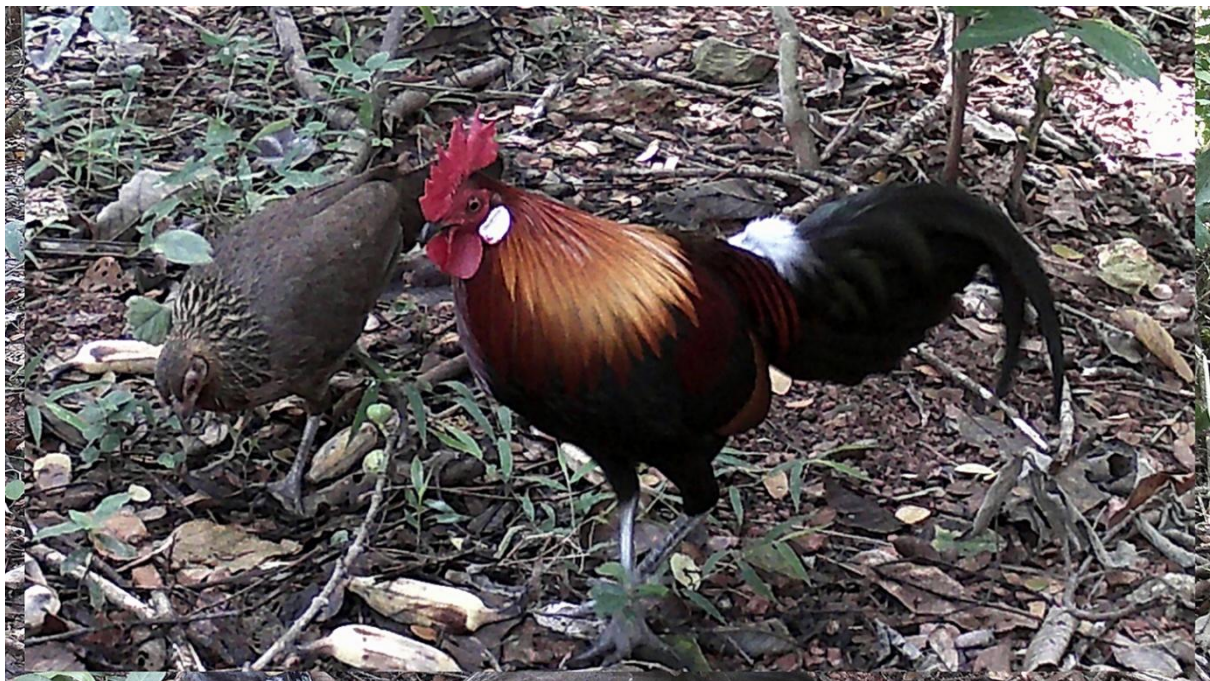
● 03/23/2025 14:38:22

Mangrove Pitta, Taman Penaga (HSK Lahar Endin) 23rd March 2025



○ ⓘ 29 °C 84 °F 23/02/2025 10:21:02 0039

Red Junglefowl & Harem (2 Hens) HSK Pasir Gebu (Pmtg Rawa)



○ ⓘ 27 °C 80 °F 23/02/2025 10:15:05 0022

Red Junglefowl with Hen, HSK Pasir Gebu (Pmtg Rawa)



000F ● 34 °C 93 °F 08/03/2026 16:11:42 0419

Greater Flameback, Pair, HSK Lahar Endin (Tanam Penaga)



000E ● 28 °C 82 °F 11/04/2025 15:22:17 0609

Brown Shrike, Kuala Bekah



Slaty-legged Crake HSK Pasir Gebu - Telekom Marsh



Green-backed Flycatcher HSK Pasir Gebu (Pmtg Rawa) 1st April 2025



000E ○ 28 °C 82 °F 26/11/2024 13:11:01 0378

Eye-browed Thrush, HSK Kuala Bekah



12/01/2025 13:23:23

Eye-browed Thrush, Pair, HSK Pasir Gebu



000E ○ 27 °C 80 °F 28/04/2025 11:24:32 0784
Siberian Blue-robin, Kuala Bekah



10 30 00:00 00:25

78 °F 26 °C

04/16/2025 12:30:13

Siberian Blue-robin, HSK Pasir Gebu (Telekom Marsh)



82 °F 28 °C

04/11/2025 17:43:01



Kmpg Pmtg Rawa (near HSK Pasir Gebu) 11th April 2025



25 °C 77 °F 25/01/2023 08:16:34 0326

Ashy Drongo (top left) with Oriental Magpie Robin, Kuala Bekah



000E ○ 33 °C 91 °F 24/04/2025 13:03:31 0124

Forest Wagtail, Kuala Bekah



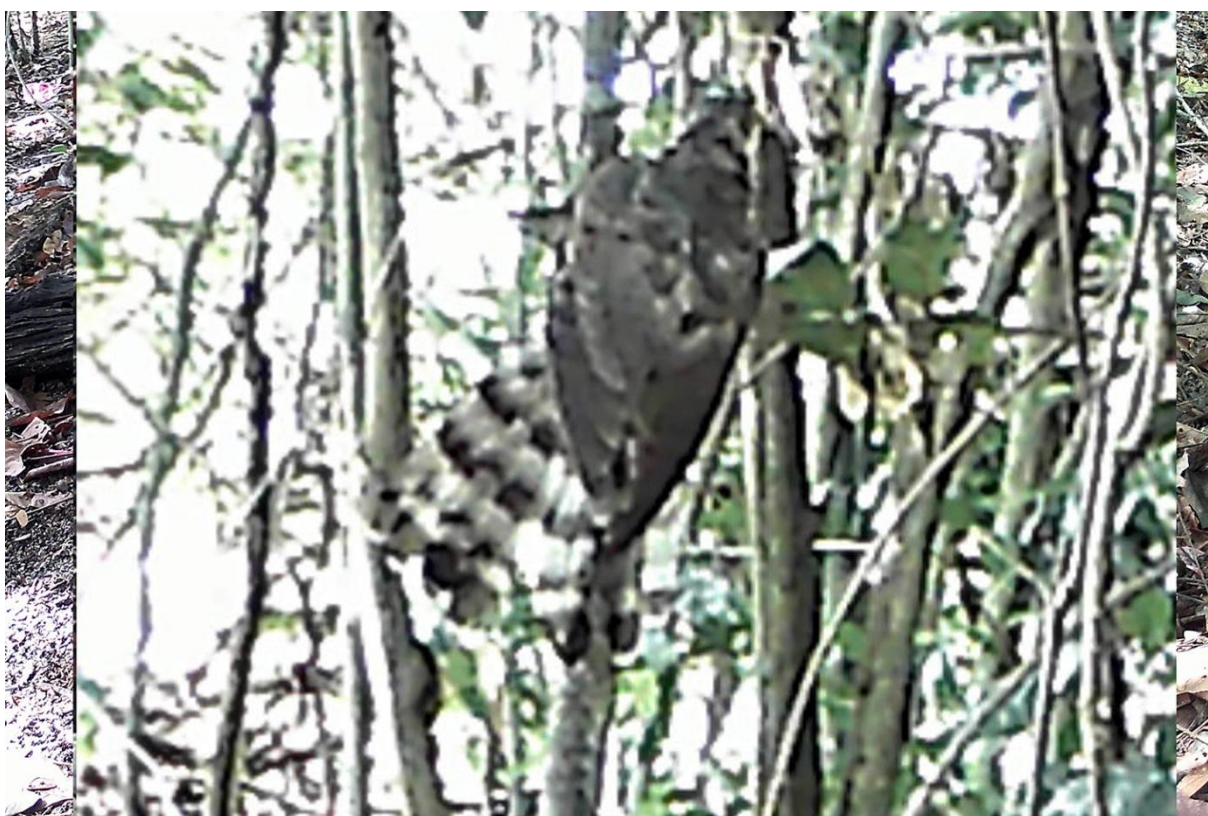
000E ○ 32 °C 89 °F 26/04/2025 09:46:23 0875

Oriental Magpie Robin feeding Fledgling, HSK Kuala Bekah



000E ○ 32 °C 89 °F 31/07/2025 11:46:35 0159

Common Tailorbird, Kuala Bekah



000E ○ 26 °C 78 °F 02/04/2025 10:18:14 0646

Crested Goshawk, HSK Kuala Bekah, 2nd April 2025



000E ● 26 °C 78 °F 13/04/2025 09:06:15 0020

Jungle Myna with Fledgling, HSK Kuala Bekah



32 °C 89 °F 31/08/2025 04:12:14PM 0062

Lesser Coucal, HSK Pasir Gebu (Pmtg Rawa)



CamName08

86°F 30°C



12/04/2025 16:40:48

Shikra, HSK Pasir Gebu, 4th Dec 2025



73 °F 23 °C

14/01/2026 09:23:04

Green-backed Flycatcher, HSK Pasir Gebu (Video Grab)



Orange-headed Thrush, HSK Pasir Gebu (Video Grab)

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Report by Tan Choo Eng & Kanda Kumar