

## WINTERING SHOREBIRDS MIGRATE DURING JANUARY 2009 ALONG THE EAST COAST OF NORTH SUMATRA PROVINCE, INDONESIA

MUHAMMAD IQBAL<sup>1</sup>, GIYANTO<sup>2</sup> & HASRI ABDILLAH<sup>3</sup>

<sup>1</sup>KPB-SOS, Jalan Tanjung api-api km 9 Komplek P & K Blok E 1 Palembang 30152, Indonesia; kpbsos26@yahoo.com.

<sup>2</sup>Jl. Bunga Wijaya no. 66, Padang Bulan Selayang, Medan 20131, Sumatera Utara, Indonesia. gigi\_giyanto@yahoo.com

<sup>3</sup>Sumatra Rainforest Institute, Komplek Perumahan Mobil Oil, Jl. Dr. Mansyur III No.4-A. Medan 20131. Indonesia. h45ri\_hab@yahoo.com

**Keywords:** Wintering, shorebirds, January, North Sumatra, Indonesia

A survey of the wader populations was carried out at three sites in east coast of North Sumatra Province (Indonesia) during January 2009. A total of 27,869 waders were counted of 20 species. The east coast of north Sumatra province was shown to be an important site for East Asian-Australasian migratory wader populations particularly for Green Sandpiper, Terek Sandpiper, Lesser Sand Plover, Eurasian Curlew, Eastern Curlew, Black-tailed Godwit, Bar-tailed Godwit, Common Redshank and Asian Dowitcher which occur in concentrations exceeding 1% of the estimated East Asian Australasian flyway population. We recommend that east coast of North Sumatra province be designated as a Wetland International importance under the Ramsar Convention.

### INTRODUCTION

Indonesia can be expected to be important for shorebirds during the non-breeding and migration periods, with birds on passage to Australia likely to pass through it on both northward and southward migration. Most internationally important sites recorded are in Sumatra (Bamford *et al.* 2008). However it is only during 1980's-1990's that detailed information on the distribution of coastal waterbirds has become available. In those years, large numbers of waders were recorded on the mudflats of the Southern Sumatra (Silvius 1988; Danielsen & Skov 1989; Verheugt *et al.* 1990; Verheugt *et al.* 1993).

Crossland *et al.* 2009 reported sites of international importance for shorebirds in Asahan regency: in North Sumatra province. Other reports from the northern parts of Sumatra mostly recorded in small size numbers of shorebirds (Marle & Voous 1988; Ollington & Parish 1989; Holmes 1996; Crossland 2000; Crossland & Sinambela 2005; Crossland & Sinambela 2009; Crossland *et al.* 2006). Crossland *et al.* (2009) reported that the east coast of Sumatra province was an important area for refueling shorebirds on migratory as well as over wintering shorebirds for the East Asian Australian flyway. In this paper, we report our records for waders at three sites in the east coast of North Sumatra province on the non-breeding (over wintering) waders during 3-4 January 2009. This study confirms that the east coast of North Sumatra province is a significance habitat for shorebirds in the East Asian Australian flyway.

### METHODS

Three selected sites were visited using small boats with outboard motors during 3-4 January 2009. Waders were counted during the low tide when they were present on the mudflat. Counting ended before high tide when the bird starting flying to roosts in the mangroves or inland plains. We found that the most effective method was to count from the boat as it was driven along the shores of the mudflat.

Wide mudflats areas were counted by walking along the shore, using binoculars and telescopes to count the more distant areas.

Standard site description and waterbird count forms (Asian Waterbird Census form) designed and tested by Wetlands International were used for the surveys. Site description forms enabled data to be collected on types of wetlands, vegetation, uses of and threats to wetlands. Waterbird count forms provided a standard list of all waterbirds, against which numbers could be tallied (the standard list included other waterbirds; e.g. sandpipers, plovers, Redshank).

### Study Area

Three selected sites were visited to conduct shorebird surveys along the east coast of North Sumatra province (Figure 1). East coast of Sumatra province was listed as one of Important Bird Areas by Holmes & Romabang (2001). The sites mentioned here are located following from northern to southern part of North Sumatra province; Tanjung Balai, Pantai Ancol and Bagan Percut.

#### Tanjung Balai (mouth of Asahan)

Tanjung Balai coast located in Bagan Asahan village, Tanjung Balai municipality, Asahan district north Sumatra province Indonesia. The area is very close to dense settlement because Tanjung Balai is capital city of district. However, good mangrove forest still occurs behind the mudflat. Tanjung Balai Asahan was visited in 3 January 2009.

#### Pantai Ancol

Pantai Ancol administratively is located in Rugemuk village Labu sub-district Deli, Serdang district, North Sumatra province. Pantai Ancol is a recreation area in Deli Serdang. It is easy to reach by car. Although a small mangrove forest still occurs, there has been considerable conversion of mangrove forest for fish ponds and recreation and their loss



**Figure 1.** Survey sites, North Sumatra province; Tanjung Balai, Pantai Ancol and Bagan Percut. Shorebirds surveyed on 3–4 January 2009.

is a major problem for shorebird conservation in the future. Pantai Ancol was visited in 3 January 2009.

#### Percut/Bagan Percut

Percut or Bagan Percut is located administratively located in Bagan Percut Sei Tuan sub-district, Deli Serdang district. Percut is one of many birding sites in North Sumatra province. The area is very close to Medan, capital city of North Sumatra province. The mangrove forest is still present, and some large threatened waterbird (eg. Milky stork *Mycteria cinerea* and Lesser adjutant *Leptoptilos javanicus*) are also found here. Percut was visited in 4 January 2009.

### SPECIES ACCOUNT

An annotated list proved below provides details of waders recorded during survey on 3 January 2009. Distribution and number of species are also summarized in Table 1. The sequence and nomenclature of each species follow Sukmantoro *et al.* 2007 as reference for Indonesian birdlist.

#### Common Greenshank *Tringa nebularia*

A total of 50 bird in Pantai Ancol on 3 January 2009 and not recorded or overlooked in other sites. Marle & Voous (1988) recorded Common Greenshank from Percut on 14 February–2 March 1977 and 7 June 1979 without detail. Eight birds observed on 19 December 1995 at Sungai Asahan and total

of 5 birds in Pantai Sejara and West Sejara on 28 March 2002 (Crossland *et al.* 2009).

#### Common sandpiper *Actitis hypoleucos*

Approximately up to 100 birds counted in Pantai Ancol on 3 January 2009. Widespread at each site in small numbers. Crossland *et al.* (2009) reported a maximum of 40 birds counted on Asahan River on 19 December 1995.

#### Green Sandpiper *Tringa ochropus*

Approximately 10 birds recorded in Bagan Percut on 4 January 2009. Marle & Voous (1988) reported only two sightings from Sumatra; one record from Northern Sumatra (Aceh) before records from Southern Sumatra on October–November 1988 (Verheugt *et al.* 1993; Holmes 1996).

#### Marsh Sandpiper *Tringa stagnatilis*

Marle & Voous (1988) did not record this species in North Sumatra province. A total of 236 birds recorded in Pantai Sejara on 28 March 2008 (Crossland *et al.* 2009). There were at least 2 birds in Percut on 4 January 2009.

#### Terek Sandpiper *Xenus cinereus*

Marle & Voous (1988) did not record this species in North Sumatra province. There were 12 birds on 19 December 2005 in Asahan River and a total 254 birds from Pantai Sejara and West Tanjung Tiram (Crossland *et al.* 2009). A

**Table 1.** Shorebird counts in North Sumatra Province during 3-4 January 2009.

Species	Tanjung Balai	Pantai Ancol	Bagan Percut	TOTAL	TOTAL EAA POPULATION	% FROM EAA
Common Greenshank		50		50	60,000	0.08
Common Sandpiper	10	100	25	135	25,000	0.54
Green Sandpiper		10		10	25,000	1.2
Marsh Sandpiper			2	2	100,000	0.002
Terek Sandpiper		2500	250	2750	50,000	5.5
Broad-billed Sandpiper			20	20	25,000	0.08
Pacific Golden Plover		250	150	400	100,000	0.4
Lesser Sand Plover	750	3000	300	4050	130,000	3.11
Kentish Plover		100		100	100,000	0.1
Ruddy Turnstone		23		23	35,000	0.065
Eurasian Curlew	1417	200	2000	3617	40,000	9.04
Eastern Curlew	600	300	800	1700	38,000	4.47
Whimbrel	200	50	500	750	100,000	0.75
Black-tailed Godwit		1500	1200	2700	160,000	1.68
Bar-tailed Godwit		800	600	1400	325,000	1.68
Common Redshank		4000	500	4500	75,000	6
Great Knot			100	100	380,000	0.02
Red Knot		5		5	220,000	0.08
Curlew Sandpiper		2	5	7	180,000	0.003
Asian Dowitcher		150	400	550	23,000	32.39
Unidentified	1500	2500	1000	5000		
<b>TOTAL</b>	<b>4,477</b>	<b>15,540</b>	<b>7,852</b>	<b>27,869</b>		

**Note:** EAA = East Asian Australian Flyway (based on Bamford *et al.* 2008).

total of 2750 birds were recorded from Pantai Ancol and Bagan Percut on 3-4 January 2009.

#### **Broad-billed Sandpiper *Limicola falcinellus***

A total of 20 birds were observed in Bagan Percut on 4 January 2009. Marle & Voous (1988) reported only 2 specimens from Sumatra, collected on the coastal mudflats of North Sumatra from Belawan and Pantai Cermin.

#### **Pacific Golden Plover *Pluvialis fulva***

A total of 400 birds were recorded at Pantai Ancol and Bagan Percut during this survey. Marle & Voous (1988) reported they were very common along the coast and in open country in lowlands and hills up to 1000 m at Balige, Lake Toba, North Sumatra province, usually in flocks of up to 50 or more. Crossland *et al.* (2009) did not record this species in their list but a total of 163 Grey Plover *Pluvialis squatarola* reported in Pantai Sejara and West Tanjung Tiram on 28 March 2002.

#### **Lesser Sand Plover *Charadrius mongolus***

A total of up to 4050 birds were recorded during this survey. This is second largest number of waders observed during the survey after Common Redshank. Marle & Voous (1988) reported Lesser Sand Plover occurred from June-July 1979 in North Sumatra, in Deli Serdang. Crossland *et al.* (2009) recorded a total of 1520 birds at Pantai Sejara and west Tanjung Tiram on 28 March 2002.

#### **Kentish Plover *Charadrius alexandrinus***

There were at least 100 birds of this species in Pantai Ancol on 3 January 2009. Marle & Voous (1988) recorded them at three sites in North Sumatra province without detail, Pantai Cermin, Deli Serdang and Perbaungan.

#### **Ruddy Turnstone *Arenaria interpres***

Approximately 23 birds were recorded in Pantai Ancol on 3 January 2009. Marle & Voous (1988) did not record this species in North Sumatra province. A total of 224 birds were recorded from Pantai Sejara and West Tanjung Tiram on 28 March 2002 (Crossland *et al.* 2009).

#### **Eastern Curlew *Numenius madagascariensis***

A total of up to 1700 Eastern Curlew were recorded from all sites during this survey. There have been no reports of this species from the Northern part of Sumatra (Marle & Voous 1988) since a record of 117 birds in mouth of Asahan River on 2 September 2006 (Crossland *et al.* 2009).

#### **Eurasian Curlew *Numenius arquata***

A total of up to 3617 Eurasian Curlew was recorded from all sites during this survey. Marle & Voous (1988) reported the occurrence of this species from June-July 1979 in Deli Serdang, North Sumatra province. A total of 405 were recorded by Crossland *et al.* (2009) in Asahan River mouth on 25 September 2005.

#### **Whimbrel *Numenius phaeopus***

A total of 750 Whimbrel from all sites were recorded during this survey. In Bagan Percut, the race *phaeopus* race was seen on 4 January 2009 in North Sumatra province (Figure 2). This is the second sighting for the *phaeopus* race, the first record being in June-July 2008 from South Sumatra (Iqbal & Ridwan 2009). Marle & Voous (1988) reported that Whimbrel occurred from June to July 1979 in Deli Serdang suggesting non-breeding summering. There was an inland record for Lake Toba on December 1988 (Holmes 1996). Crossland *et al.* (2009) reported 405 birds in Asahan River mouth on 25 September 2005.



**Figure 2.** A couple of Whimbrel showing phaeopus race in Bagan Percut.

### **Black-tailed Godwit *Limosa limosa***

A total of 2700 birds were recorded from Pantai Ancol and Bagan Percut during this survey. There are a few previous records from Percut, North Sumatra (Marle & Voous 1988). (Crossland *et al.* 2009) reported up to 4465 birds in Pantai Sejara and Tanjung Tiram on 28 March 2002. The largest count for Black-tailed Godwit in South-east coast Sumatra province was of up to 43,000 birds on July-August 1985 (Danielsen & Skov 1989).

### **Bar-tailed Godwit *Limosa lapponica***

Up to 1400 birds were recorded from Bagan Percut and Pantai Ancol on 3-4 January 2009. A few records have previously been noted from North Sumatra from Tanjung Tiram and Percut (Marle & Voous 1988). (Crossland *et al.* 2009) counted up to 125 birds on 25 September 2005 in Asahan River.

### **Common Redshank *Tringa totanus***

Common Redshank was the most abundant wader counted during this survey with total of 4,500 birds. Records from North Sumatra province on June-July 1979 in Deli Serdang suggest non-breeding summering occurs (Marle & Voous 1988). Crossland *et al.* (2009) reported of up to 1256 birds on 28 March 2002 in Pantai Sejara and Tanjung Tiram.

### **Curlew Sandpiper *Calidris ferruginea***

Marle & Voous (1988) recorded this species at three sites in North Sumatra province in Belawan, Deli and Percut, but without detail. Crossland *et al.* (2009) reported a total of 546 birds from Pantai Sejara & West Tanjung Tiram on 28 March 2002. Two birds were seen in Pantai Ancol on 3 January 2009 and 5 birds in Percut on 4 January 2009.

### **Great Knot *Calidris tenuirostris***

Approximately 100 birds were recorded from Bagan Percut on 4 January 2009. There are no previous reports from Sumatra (Marle & Voous 1988) after 380 birds on Pantai Sejara on 28 March 2002 (Crossland *et al.* 2009).

### **Red Knot *Calidris canutus***

Five birds were recorded during this survey, but it may be possible that some birds went unrecorded among unidentified shorebird flocks. Marle & Voous (1988) reported a few birds on 7 June 1979 in small flock at Percut, North Sumatra. Approximately 400 birds were observed in Bagan Percut on 14 April 2007 (Crossland & Sinambela 2009).

### **Asian Dowitcher *Limnodromus semipalmatus***

During this survey, at least 550 birds were observed at Pantai Ancol and Bagan Percut on 3-4 January 2009. There are no previous reports from Sumatra (Marle & Voous 1988) after 7957 birds on 28 March 2002 in Pantai Sejara and Tanjung Tiram (Crossland *et al.* 2009).

## **DISCUSSION**

With total up to 27,869 waders recorded from three sites in North Sumatra province, it is clear that east coast of North Sumatra province is important habitat and feeding ground for migratory non-breeding shorebirds in East Asian Australasian flyway. This survey data shows that nine migratory wader species; Green Sandpiper, Terek Sandpiper, Lesser Sand Plover, Eurasian Curlew, Eastern Curlew, Black-tailed Godwit, Bar-tailed Godwit, Common Redshank and Asian Dowitcher occur in concentrations exceeding 1% of the estimated East Asian Australasian flyway population (Bamford *et al.* 2008).

The largest count of shorebirds at the three survey sites was at Pantai Ancol where 15,540 shorebirds were counted (Figure 3). The second largest site was at Bagan Percut where there was a maximum of 7,852 shorebirds (Figure 4). The lowest density site was Tanjung Balai which supported 4,477 shorebirds. Large areas of the intertidal mudflats and coastal wetlands along the coast of North Sumatra remain unsurveyed. Crossland *et al.* 2009 predicted that during peak migration periods the entire coastline would support upwards of 100,000 waders. Verheugt *et al.* (1990) estimated 500,000 waders are dependent on the coastal mudflat of South





**Figure 3.** A photo of at least 6000 shorebirds in Pantai Ancol (total number in flight and feeding).



**Figure 4.** Mix flock of shorebirds foraging together in Bagan Percut.

Sumatra. Although estimated to support fewer birds than the South Sumatra coast the east coast of North Sumatra province is a significant area for migratory non-breeding shorebirds in the East Asian Australasian.

Beside large number of migratory shorebirds, the east coast of North Sumatra province supports sizeable populations of other waterbird including the globally threatened Milky stork *Mycteria cinerea* and Lesser Adjutant *Leptoptilos javanicus*. Some areas in North Sumatra Province are protected as conservation area or important conservation area (Wibowo & Suyatno 1997; Wibowo & Suyatno 1998). However, based on the occurrence of at least 27,869 waders, it is recommended that the east coast of

North Sumatra province be designated as Wetland International Importance under the Ramsar convention to protect shorebird conservation in the area.

## ACKNOWLEDGMENTS

Field work in this survey is a part of Milky stork *Mycteria cinerea* population assessment in Sumatra, supported by Rufford Small Grant (RSG) with additional fund from WCS RFP (Wildlife Conservation Society Research Fellowship Programme) and equipment grant from Idea Wild. We would like to thank Rufford Small Grant Secretariat (Josh Cole and Jane Rufford), WCS RFP secretariat (William Banham, Ph.D., Kate Mastro, Lynn Duda and Dr. Nick Brickle), and

Idea Wild (Dr. Wally van Sickle, Henry Stephen, Anne Marie and Sean Kelly). The first author thanks Yus Rusila Noor (Wetland International), Dr. Mike Crosby (Birdlife International) and Dr. Dewi Prawiradilaga (LIPI-Indonesia) for giving recommendation to implementing this project. Finally, we would like to thank Dedek our driver who supporting us very well during fieldwork in North Sumatra.

## REFERENCES

- Bamford, M., D. Watkins, W. Bancroft, G. Tischler & J. Wahl.** 2008. Migratory Shorebirds of the East Asian - Australasian Flyway; Population Estimates and Internationally Important Sites. Wetlands International-Oceania, Canberra, Australia.
- Crossland, A.C.** 2000. Notes on the waders wintering at the North-western tip of Sumatra, Indonesia. *Stilt* 36: 4-6.
- Crossland, A.C., & S.A. Sinambela.** 2005. An initial assessment of the migratory waders community found on Batam Island, Riau, Archipelago, western Indonesia. *Stilt* 50: 19-21.
- Crossland, A.C., Sinambela, S.A., Sitorus, A.S. & A.W. Sitorus.** 2006. An overview of the status and abundance of migratory waders in Sumatra, Indonesia. *Stilt* 50: 90-95.
- Crossland, A.C., Sinambela, S.A., Sitorus, A.S. & A.W. Sitorus.** 2009. The coastal zone of Asahan regency: An area of international importance for migratory waders in North Sumatra province, Indonesia. *Stilt* 55: 8-12.
- Crossland, A.C. & S.A. Sinambela.** 2009. Passage of Red Knot *Calidris canutus* through North Sumatra Province, Indonesia. *Stilt* 55: 13-15.
- Danielsen, F. & W.J.M. Verheugt.** 1990. Integrating conservation and land-use planning in the coastal region of South Sumatra. With contribution from H. Skov., U. Suwarman & A. Purwoko. PHPA/AWB-Indonesia, Bogor.
- Danielsen, F. & H. Skov.** 1989. The importance of South-east Sumatra as a summering area for non-breeding waders, especially the Bar-tailed Godwit *Limosa lapponica*. *Stilt* 14: 40-42.
- Holmes, D. A.** 1996. Sumatra bird report. *Kukila* 8: 9–56.
- Holmes, D. & Rombang, W.** (2001) Daerah Penting bagi Burung: Sumatera. PHPA/BirdLife International Indonesia Programme.
- Iqbal, M. & A. Ridwan.** 2009. Summering of Whimbrel in southern Sumatra, Indonesia. *Stilt* 55: 20-24.
- Mackinnon, J., K. Phillips & B.V. Balen.** 1998. Burung-burung di Sumatera, Kalimantan, Jawa dan Bali. Birdlife International Indonesia. Programme Puslitbang Biologi LIPI, Bogor.
- Marle, J.G. Van. & K.H. Voous.** 1988. The Birds of Sumatra: An Annotated Checklist. BOU Checklist No. 10. Tring, UK.
- Silvius, M.J.** 1988. On the importance of Sumatra's east coast for waterbirds with notes on the Asian Dowitcher *Limnodromus semipalmatus*. *Kukila* 3 (3-4): 117-137.
- Sukmantoro, W., M. Irham, W. Novarino, F. Hasudungan, N. Kemp & M. Muchtar.** 2007. *Daftar Burung Indonesia No. 2*. The Indonesian Ornithologist's Union/LIPI/OBC Smythies Fund/Gibbon Foundation, Bogor.
- Verheugt, W. J. M., Danielsen, F., Skov, H., Purwoko, A., Kadarisman, R. & U. Suwarman.** 1990. Seasonal variations in the wader populations of the Banyuasin Delta, South Sumatra, Indonesia. *Wader Study Group Bulletin* 58: 28-53.
- Verheugt, W. J. M., Skov, H., Danielsen, F., Suwarman, U., Kadarisman, R. & A. Purwoko.** 1993. Notes on the birds of the tidal lowlands and floodplains of South Sumatra province, Indonesia. *Kukila* 6: 53–84.
- Wetlands International** 2006. Waterbird population estimates. Fourth edition. Wetlands International, Wageningen, The Netherlands.
- Wibowo, P. & N. Suyatno.** 1997. An overview of Indonesian wetland sites – included in wetland database. Wetlands International-Indonesia Programme/PHPA, Bogor.
- Wibowo, P. & N. Suyatno.** 1998. An overview of Indonesian wetland sites-II – an update information - included in wetland database. Wetlands International-Indonesia Programme/PHPA, Bogor.

