

## WALLACE'S HAWK-EAGLE

### *Spizaetus nanus*

Critical  —  
Endangered  —  
Vulnerable  A1c; A2c; C1



*This species is inferred to have a small and rapidly declining population, owing to widespread loss of lowland forest, which qualifies it as Vulnerable.*

**DISTRIBUTION** Wallace's Hawk-eagle (see Remarks 1) is essentially Sundaic in distribution, with records extending from southern Myanmar and southern Thailand south through West Malaysia onto Sumatra and its associated islands and Borneo (see Remarks 2). It is worth noting that the general record will be greatly distorted by the fact that the species has been considered "indistinguishable in the field" from Blyth's Hawk-eagle *Spizaetus alboniger* (Gore 1968). It is widespread but scarce in Sumatra, with surprisingly few records from Kalimantan (SvB); Smythies (1957, 1981) considered it a widespread lowland species on Borneo, and the map tends to confirm this view. The statement that it occurs on Kangean (MacKinnon and Phillipp 1993) has been questioned (*Kukila* 7: 163). Records are from:

■ **MYANMAR** Chatthin Wildlife Sanctuary, Sagaing division, January 1995 (Khin Ma Ma Thwin *in litt.* 1997), here treated as provisional owing to the range extension involved; **Mergui** (Myeik) (northernmost point of range in Tenasserim or Taninthayi), undated (Smythies 1986); **Bankachon** (Bankasoon), December 1875 (Stresemann 1938b, this specimen being listed under *alboniger* by Hume and Davison 1878);

■ **THAILAND** **Tha Sae district**, Chumphon province, June 1985 (P. D. Round *in litt.* 1998); **Khlong Saeng Wildlife Sanctuary**, May 1988 (*Bangkok Bird Club Bull.* 5[7]: 10–11); Plainam, **Ban Na San district**, Surat Thani province, December 1984 (specimen in TISTR); **Khao Nor Chuchi** (Khao Pra-Bang Khram Wildlife Sanctuary), 1987–1998, including three nests (P. D. Round and various observers *in litt.* 1998, 1999) and nearby Lam Thap, May 1988 (*Bangkok Bird Club Bull.* 5[7]: 10–11); **Khao Banthat Wildlife Sanctuary** at Khao Chong, Trang province, June 1984 (P. D. Round and J. Scharringa *in litt.* 1998); **Tong Nga Chang Wildlife Sanctuary**, Songkhla University, April 1982 (G. Walbridge *in litt.* 1998); near **Thaleban National Park**, Satun, January 1994 (C. Donald *in litt.* 1999); **Hala-Bala Wildlife Sanctuary**, Waeng district, Narathiwat, April 1997 (K. Ratanajun, R. Phimatai and S. Suthibut *in litt.* 1998); Sadet Nai Kromaluang Chumphon Park (Rap Ro Wildlife Sanctuary) (untraced), 1985 (P. D. Round *in litt.* 2000), July 1987 (D. Buckingham *in litt.* 1999);

■ **MALAYSIA** ■ **Peninsular Malaysia** **Gedong**, undated (Stresemann 1938b); **Belum Forest Reserve**, nesting, May 1998 (*Suara Enggang* May/June 1998, Lim Kim Chye *in litt.* 2000); **Taman Negara National Park**, undated (Thiollay 1983), with regular sightings in the south-west corner (K. D. Bishop *in litt.* 1999), at Kuala Kenyiam, September 1995 (D. Rogers *in litt.* 1999), with a nest there in May 1998 (*Suara Enggang* May/June 1998: 31) and another near the Bukit Tereseck trail, also in May 1998 (F. R. Lambert *in litt.* 1999, also *Suara Enggang* May/June 1998: 31); **Tekam Forest Reserve**, February 1969 (Wells 1972), April 1979–June 1981 (Johns 1986) and March–June 1987 (Johns 1989); **Kuala Lompat**, 1984–1987 (F. R. Lambert *in litt.* 1999); Krau or **Kerau Wildlife Reserve**, 1991 (A. C. Sebastian *in litt.* 1999); **Nenasi Forest Reserve**, Pahang, October 1998 (A. C. Sebastian *in litt.* 1999); **Pasoh Forest Reserve**, Negeri Sembilan, June 1985 (*Oriental Bird Club Bull.* 2 [1985]: 36–40) and January 1987 (Wells 1990c); **Endau-Rompin Park**, 1980s (Davison 1987); **Melaka** ("Malacca"), at

least eight occasions in the nineteenth century (Stresemann 1938b); **Johor** (“Johore”), March 1880 (Stresemann 1938b); Panti Forest Reserve (not mapped), 1990s (Lim 1994b);

■ **Sabah Poring hot springs**, May 1987 (Lomosse and Lomosse 1987); **Labuk river**, undated (Sheldon *et al.* in press); **Meliu river** at its junction with the Labuk river, May 1956 (male in BMNH); **Dusun river**, undated (Sheldon *et al.* in press); **Kabili-Sepilok Forest Reserve**, May 1987 (Lomosse and Lomosse 1987) and undated (H. Beste in Mann in prep.); lower **Kinabatangan river**, presumably therefore in the Kinabatangan Wildlife Sanctuary, two pairs, one breeding, March 1999 (A. C. Sebastian *in litt.* 1999; see Measures Proposed), and undated (P. J. Heath in Mann in prep.); **Gomanton** (Gomantong), 30 m, April 1956 (female in BMNH), and in the forest reserve, July 1982 (Thiollay 1983), with two birds at the mouth of Gomanton caves, March 1984 (Smith 1984); **Sukau**, August 1986 (C. F. Brooks *in litt.* 1999); **Uncle Tan’s Jungle Camp**, prior to 1992 (F. Verbelen *per* A. C. Sebastian *in litt.* 1999); **Lamag**, north-east Borneo, January 1902 (Stresemann 1938b); **Lumerau**, undated (Sheldon *et al.* in press); **Tabin Wildlife Reserve**, undated (Sheldon *et al.* in press); **Ulu Tiulon**, undated (Sheldon *et al.* in press); **Danum Valley Conservation Area**, July 1986 (Smith 1986), including Ulu Segama Forest Reserve, August 1988 (D. Roberson *in litt.* 1999), between May 1989 and October 1990 (Lambert 1992) and irregularly in the 1990s (J. Day, L. R. Macaulay and I. Mauro separately *in litt.* 1999; also P. J. Heath, C. F. Mann and C. R. Robson in Mann in prep.) and at the Bole river, undated (Sheldon *et al.* in press); **Darvel bay**, undated but nineteenth century (Stresemann 1938b); **Sapulut**, undated (Sheldon *et al.* in press); **Kalabakan Forest Reserve** (Sabah Softwoods), May–July 1982 (Mitra and Sheldon 1993); **Quoin hill**, undated (Sheldon *et al.* in press); **Kalabakan river**, July 1937 (female in MCZ);

■ **Sarawak Baram river**, several occasions in the nineteenth century (Stresemann 1938b); **Lambir National Park**, south of Miri, July 1982 (Thiollay 1983); **Gunung Mulu National Park**, undated (Pope 1994 in Mann in prep.); **Niah limestone**, undated (Smythies 1957, 1981), flying at 400–450 m, 1965 (Harrison 1966); **Batu Niah estate**, c.25 km east of Batu Niah village, April 1983 (Duckett 1985); **Baram** (district), June 1898 (Stresemann 1938b); **Gunung Dulit**, 600 m, October 1895 (Stresemann 1938b; female in BMNH); **Balingian**, July 1910 (two males in MCZ); **Sebuyau Forest Reserve**, December 1996 (A. C. Sebastian *in litt.* 1999); **Lanjak Entimau Wildlife Sanctuary**, September 1981 (Kavanagh 1981); **Tapuh**, April 1953 (female in AMNH);

■ **BRUNEI Bandar Seri Begawan**, evidently in recent (post-1970) years (Mann 1987); near **Kampung Sungai Beruang** (= Lamunin in Mann 1987), c.30 km south-west of Bandar Seri Begawan, 1976 (Kidd and Beales 1977) and August 1977 (Kidd 1978), and, as Lamunin, 1980s (Mann in prep.); possibly on the Tutong Road, December 1977 (Kidd 1978; hence Mann 1987); **Badas**, July 1990 (M. J. Seal Coon *in litt.* 1999; also Mann 1991); **Seria**, 1969 (Vowles and Vowles 1997); **Sungai Mau**, undated (Mann 1991); **Belalong Forest Reserve**, October 1991 (A. C. Sebastian *in litt.* 1999; see also Mann 1996);

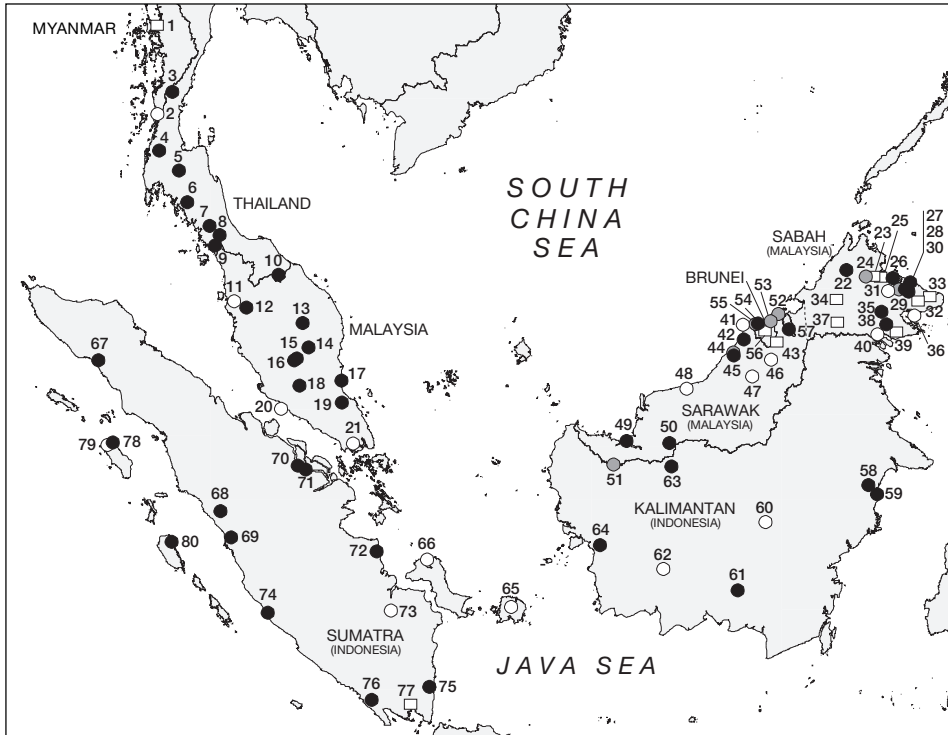
■ **INDONESIA Kalimantan** ■ **East Kalimantan Kutai National Park** at Mentoko, July–August 1990 (van Balen 1994; also *Oriental Bird Club Bull.* 13 [1991]: 47–52); Samarinda-**Bontang** road, July 1990 (van Balen 1994, Holmes 1997); Ramin (untraced), lower Mahakam, undated (Smythies and Davison 1999); Tengkwang (untraced), undated (Smythies and Davison 1999); ■ **Central Kalimantan upper Sungai Barito**, apparently late 1915 (Voous 1961); upper catchment of the **Sungai Sebangau**, 20 km south-west of Palangkaraya, 1993–1995 (Page *et al.* 1997); **Riam**, Kotawaringin, November 1935 (three specimens in AMNH; also Mayr 1938, Amadon 1953, and see Ecology); ■ **West Kalimantan Danau Sentarum National Park**, 1990s (Dennis 1994, van Balen 1996c, Holmes 1997), including Laboyan river, and one in captivity near Semangit, 1990s (Dennis 1994), and Bukit Tekeang, one regularly seen in mid-1990s (van Balen 1996c); **Gunung Palung National Park** at Cabang Panti, 1986–1995 (Laman *et al.* 1996), undated (Holmes 1997), and, adjacent to the park in the community forest area, July 1998

(E. Pollard *in litt.* 2000); Senuang (untraced but possibly Singkawang on the far west coast), August and September 1937 (Stresemann 1938b);

*Belitung* foot of Gunung Badan (untraced), 100 m, March 1937 (male in MZB); Amfiun (untraced), west part of the island, sea-level, February 1936 (female in MZB);

*Bangka Klabat Bay*, June 1904 (Mees 1986); *Tanjong Pamuga* (untraced), April 1904 (Mees 1986);

*Sumatra* ■ *Aceh Ketambe*, Gunung Leuser National Park, 1991–1992 (Holmes 1996, Wind *in press*); ■ *West Sumatra Maninjau*, 1991–1992 (Holmes 1996); *Ulu Gadut* at Pinang-pinang,



**The distribution of Wallace's Hawk-eagle *Spizaetus nanus*:** (1) Mergui; (2) Bankachon; (3) Tha Sae district; (4) Khlong Saeng Wildlife Sanctuary; (5) Ban Na San district; (6) Khao Nor Chuchi; (7) Khao Banthat Wildlife Sanctuary; (8) Ton Nga Chang Wildlife Sanctuary; (9) Thaleban National Park; (10) Hala-Bala Wildlife Sanctuary; (11) Gedong; (12) Belum Forest Reserve; (13) Taman Negara National Park; (14) Tekam Forest Reserve; (15) Kuala Lompat; (16) Kerau Wildlife Reserve; (17) Nenasi Forest Reserve; (18) Pasoh Forest Reserve; (19) Endau-Rompin Park; (20) Melaka; (21) Johor; (22) Poring hot springs; (23) Labuk river; (24) Meliau river; (25) Dusun river; (26) Kabil-Sepilok Forest Reserve; (27) Kinabatangan river; (28) Gomanton; (29) Sukau; (30) Uncle Tan's Jungle Camp; (31) Lamag; (32) Lumerau; (33) Tabin Wildlife Reserve; (34) Ulu Tiulon; (35) Danum Valley Conservation Area; (36) Darvel bay; (37) Sapulut; (38) Kalabakan Forest Reserve; (39) Quoin hill; (40) Kalabakan river; (41) Baram river; (42) Lambir National Park; (43) Gunung Mulu National Park; (44) Niah limestone; (45) Batu Niah estate; (46) Baram; (47) Gunung Dulit; (48) Balingian; (49) Sebuyau Forest Reserve; (50) Lanjak Entimau Wildlife Sanctuary; (51) Tapuh; (52) Bandar Seri Begawan; (53) Kampong Sungai Beruang; (54) Badas; (55) Seria; (56) Sungai Mau; (57) Belalong Forest Reserve; (58) Kutai National Park; (59) Bontang; (60) upper Sungai Barito; (61) Sungai Sebangau; (62) Riam; (63) Danau Sentarum; (64) Gunung Palung National Park; (65) Belitung; (66) Klabat Bay; (67) Ketambe; (68) Maninjau; (69) Ulu Gadut; (70) Sungai Rawa; (71) Sungai Metas; (72) Berbak National Park; (73) Palembang; (74) Ipuh; (75) Way Kambas National Park; (76) Bukit Barisan Selatan National Park; (77) Teluk Betung; (78) Tuhemberua; (79) Sungai Moesaj; (80) Sikabalan.

○ Historical (pre-1950) ● Fairly recent (1950–1979) ● Recent (1980–present) □ Undated

nesting, February 1995 (Kobayashi *et al.* 1995); ■ **Riau Sungai Rawa**, April 1991 (Holmes 1996); **Sungai Metas**, April 1991 (Holmes 1996); ■ **Jambi** Berbak river, presumably therefore in **Berbak National Park**, probably in 1984, certainly in October 1992 (Silvius and Verheugt 1986, Burn and Brickle 1992, Holmes 1996); ■ **South Sumatra** Kepahiang river (unconfirmed sighting), May 1989 (Verheugt *et al.* 1993); **Palembang**, August 1919 (van Heurn and van Heurn 1923); ■ **Bengkulu** lower foothills near **Ipuh**, October 1989 (SvB in Holmes 1996); ■ **Lampung Way Kambas National Park**, between April 1983 and August 1985 (Parrott and Andrew 1996), and formerly regularly seen, but not in recent visits (B. F. King verbally 1998), although one there, June 1999 (I. Mauro *in litt.* 1999); **Bukit Barisan Selatan National Park** at Krui, May–June 1991 (Holmes 1996, D. A. Holmes *in litt.* 1999), at c.700 m above Krui, July 1994 (JAT), and at Way Canguk, 1997–1999 (Winarni 1999); **Teluk Betung**, undated (two specimens in RMNH, van Marle and Voous 1988);

**Nias** (see Remarks 3) north of **Tuهمberua**, July 1992 (Thiollay 1996); **Sungai Moesaj** (“Mojeia River”), between July and December 1897, and March 1905 (Stresemann 1938b, Amadon 1953, Thiollay 1996);

**Siberut** following an unconfirmed sight record (van Marle and Voous 1988)—although given as unequivocal in Holmes (1996)—**Sikabalu**n, once in the period 1997–1999 (Kemp 1999).

On Sumatra there are unconfirmed sight records from the following places: Alas Valley, Aceh (van Marle and Voous 1988); Gunung Kerinci, West Sumatra (van Marle and Voous 1988); and Padang-Sugihan Wildlife Reserve, South Sumatra, between August 1984 and June 1985 (Nash and Nash 1985), although in any case this reserve has been overrun by local settlers (Rudyanto verbally 2000).

**POPULATION** The difficulty of telling Wallace’s Hawk-eagle from Blyth’s has made the assessment of its status a matter of guesswork and assumption (see, e.g., Gore 1968, Mann 1987); moreover, the fact that it is rarely seen—and is therefore generally characterised as uncommon to rare—is no particular guide to its true abundance, and it may be commoner than hitherto suspected (del Hoyo *et al.* 1994). However, as a lowland forest specialist of the Sundaic region it is still inevitably in very steep decline, whatever its abundance (see Threats). Moreover, Wells (1999) pointed out that for 25 years only a single pair has bred in the uncut 600 ha area of Pasoh research forest, which implies that 6 km<sup>2</sup> of forest is too small to hold more. Inevitably, therefore, in areas where forest has been reduced to small parcels the species will be badly affected, and this may particularly be the case at the edges of its range: there is no information concerning Myanmar, but in Thailand it was described as uncommon or rare, and possibly threatened by habitat destruction (Boonsong and Round 1991), while less than 10 years later it was judged close to extinction (Wells 1999); and on Nias the endemic race *stresmanni* is currently judged to be highly endangered (del Hoyo *et al.* 1994, Thiollay 1996).

In Peninsular Malaysia the species is declining with forest loss and its survival is likely to depend on a few large reserves such as Taman Negara, Kerau and Endau-Rompin (Wells 1999). There is no good indication of status in Sumatra. For Borneo, although Smythies (1957, 1981), referring to the Sarawak Museum collection, commented that “according to skin records it is commoner than [Blyth’s Hawk-eagle] *S. alboniger*, and more widely distributed in the lowlands, including Indonesian Borneo”, it is now described as “rather scarce and local” (Mann *in prep.*). A healthy breeding population appears to be present in Gunung Palung National Park, based on “a number of good records of adult and juvenile plumage birds” (Laman *et al.* 1996), but such a situation seems likely to hold in a handful of large protected areas, and in any case circumstances at Gunung Palung have deteriorated (see Threats).

**ECOLOGY Habitat** This species inhabits primary, logged and riverine evergreen forests, in the dryland lowlands and on lower hill slopes, but nests have been recorded mainly in the

level lowlands (Brown and Amadon 1968, Medway and Wells 1976, Smythies 1981, Wells 1985, 1999, Boonsong and Round 1991, del Hoyo *et al.* 1994), albeit apparently up to 1,000 m in places (MacKinnon and Phillipps 1993, Sheldon *et al.* in press). Mann (in prep.) gives “riverine forest, lowland dipterocarp forest, and occasionally secondary forest of lowlands and foothills”. Amadon (1953) pointed out that three specimens taken in southern (lowland) Borneo and identified as *alboniger* by Mayr (1938) are all *nanus*, whereas three specimens from the Kelabit uplands in Sarawak were all *alboniger*, and speculated that *nanus* was a lowland species. Thiollay (1983) accepted that it is primarily a bird of level lowlands, but noted that he had records of it from low hills and secondary forest, sometimes sympatric with *alboniger*. Two nests at Khao Pra-Bang Khram were in mature lowland forest, the third at the ecotone between lowlands and foothills (P. D. Round *in litt.* 1998). The species may be tolerant of some habitat degradation, as it has been recorded in heavily logged forest in Kalimantan and Sumatra (Collar *et al.* 1994), in logged forest in Endau-Rompin, Malaysia (Davison 1987), and in *Albizia* plantations near primary forest in Sabah (Mitra and Sheldon 1993). However, it requires tall trees for nesting (Collar *et al.* 1994), and its presence in logged areas is no indication of its ability to reproduce successfully in the long term in such habitat.

**Food** Prey includes birds, bats, lizards and skinks; hunting methods are probably similar to congeners (del Hoyo *et al.* 1994) but may chiefly involve still-hunting (Wells 1999). A specimen had eaten birds (Brown and Amadon 1968). Smythies (1981) reported “birds, lizards, bats (at Niah)”. A bird seen hunting from a low perch at a burnt patch of mixed scrub adjacent to peatswamp forest was seen to catch and eat an agamid lizard (A. C. Sebastian *in litt.* 1999), another was seen eating a lizard (P. D. Round and J. Scharringa *in litt.* 1998), a third was seen to catch a frog (C. F. Brooks *in litt.* 1999), and a fourth was attracted to the distress calls of a drongo being taken from a mistnet (Wells 1999).

**Breeding** Established pairs stay on their nest territories all year round (Wells 1999). From the sparse evidence below it appears that the species focuses breeding effort in the six-month period December–May, but with extensions either side of this. At Khao Pra-Bang Khram, Thailand, in the years 1996–1997 nests were recorded at three sites: one with an adult sitting nearby, December (U. Treesucon *in litt.* 1998), one with an incubating or brooding adult, May (U. Treesucon *in litt.* 1998), and one with a recently fledged juvenile roosting nearby, August (K. Christensen, N. Vedel and P. D. Round *in litt.* 1998). In Peninsular Malaysia a nest (c.35 m up, in the lowest fork of a huge tualang tree *Koompassia excelsa* in forest) with a large chick was found in early February (Wells 1972 in Medway and Wells 1976, del Hoyo *et al.* 1994), and a pair were observed at a small stick nest in May (Lim Kim Chye *in litt.* 2000). Nesting was observed in February, West Sumatra (Kobayashi *et al.* 1995). Another *K. excelsa* was being used by a pair in March, Sabah, the nest being 15 m up in an exposed fork (A. C. Sebastian *in litt.* 1999). Copulation has been witnessed in August at Danum Valley, Sabah (Mann in prep.), with a nest there in September (Smythies and Davison 1999), and carrying of nesting material in December in Brunei (Kidd and Beales 1977). A nest probably with young was found in January (Mann in prep.). A pair was attending a nest (contents unknown), 20 m up in the branch of a tree beside a disused logging track, April, Sarawak (Duckett 1985). A semi-dependent juvenile was recorded in Sabah, April (Mann in prep.). Nests are generally well inside forest but a pair continued to attend a nest in a tree newly isolated by cutting, well out from the forest boundary (Wells 1999).

**THREATS** The species is increasingly threatened by loss of lowland rainforest throughout its range (del Hoyo *et al.* 1994). Habitat loss is the primary threat, hunting secondary (Round 1988a). As the species “most narrowly associated with the lowland rain forests, it is likely to be the first local raptor species to become extinct” (J. M. Thiollay in Holmes 1996; see also Johns 1986, 1989). Deforestation in the Sundaic lowlands—biologically one of the most diverse biomes of the world—has proceeded at catastrophic speed in the past few decades,

seriously compromising the future of every one of the uncountable multitude of primary-forest life-forms in the region, including that of this particular species, even inside key protected areas (for an outline of the crisis, see Threats under Crestless Fireback *Lophura erythrophthalma*). Threats to Siberut's forests are outlined in Threats for Storm's Stork *Ciconia stormi*. On Nias, the sighting of two birds in 1992 was in a patch of swamp forest, the last remnant of lowland forest on the island and still being encroached; it was surrounded by densely cultivated areas, suggesting that it would shortly be cleared, i.e. the species is unlikely to survive much longer on the island (Thiollay 1996).

As with other large birds, this eagle is certainly at risk from the high level of human hunting which pervades all parks and sanctuaries in Thailand (PDR).

**MEASURES TAKEN** Wallace's Hawk-eagle is listed on Appendix II of CITES. However, the only real conservation this species has experienced is through protected areas (always acknowledging that "forest reserves" are not necessarily relevant to wildlife conservation). It has been recorded from (Thailand) Thaleban National Park and Khlong Saeng, Khao Pra-Bang Khram, Khao Banthat, Tong Nga Chang, Rap Ro and Hala-Bala Wildlife Sanctuaries; (Peninsular Malaysia) Taman Negara National Park, Kerau Wildlife Reserve, Endau-Rompin Park, these three sites being identified as of global importance for the species by (Wells 1999); (Sabah) Danum Valley Conservation Area, Kinabatangan Wildlife Sanctuary (for new status of this site, see Measures Taken under Storm's Stork) and Tabin Wildlife Reserve; (Sarawak) Lambir and Gunung Mulu National Parks, and Lanjak Entimau Wildlife Sanctuary; (Kalimantan) Danau Sentarum, Gunung Palung and Kutai National Parks; (Sumatra) Gunung Leuser, Berbak, Bukit Barisan and Way Kambas National Parks.

Establishment of a national park on Siberut was finally achieved in 1998 (see equivalent section under Storm's Stork); but see Threats.

**MEASURES PROPOSED** Urgent concerted survey of and conservation effort for major tracts of extreme lowland primary forest in the Sundaic region is called for in the equivalent section under Crestless Fireback.

More surveys are needed to assess the distribution and habitat needs of Wallace's Hawk-eagle. Additional reserves are to be established, and the following containing the species have been proposed: Nias Island holds four forest fragments, totalling about 480 km<sup>2</sup>, which are proposed as game reserves (Holmes 1994) but are in any case severely degraded (SvB; also Dymond 1994, Thiollay 1996). On Borneo there is a proposal to create a major protected area in the Sebuku-Sembakung region of East Kalimantan, adjacent to the frontier with Sabah, and Wallace's Hawk-eagle has been predicted to be present there (Momberg *et al.* 1998).

The ecological separation of this species from *alboniger*, given their occasional syntopic occurrence, requires study (Thiollay 1983). The results of this work will allow for improved reserve design and habitat management in all future efforts to secure viable populations of the species.

**REMARKS** (1) This bird was long considered conspecific with Blyth's Hawk-eagle *Spizaetus alboniger*, owing to confusion over immature plumages (del Hoyo *et al.* 1994), but recognised as distinct by Stresemann (1938). (2) Given the elevational and presumably ecological equivalence of *S. alboniger* and the Javan Hawk-eagle *S. bartelsi*, van Balen *et al.* (2000b: 300) speculated that a lowland *Spizaetus*, very possibly *namus*, might have existed on Java in the past but become extinct with level lowland forest clearance. (3) Nias is home to the endemic race *stresemanni* (Amadon 1953), distinguished on juveniles having head and underparts white (del Hoyo *et al.* 1994).