

Bird species diversity captured by protected areas in the Andes of Colombia: a gap analysis

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Appendix 1 Area, subregions encompassed, elevation and references for protected areas (numbers refer to locations in Fig. 1) in the mountains of Colombia (protected areas without a bibliographical reference lack inventories).

Protected area ¹	Area (ha)	Subregion	Elevation (m)	Reference
1, PNN Sierra Nevada de Santa Marta	383,000	Sierra Nevada de Santa Marta	0–5,775	SAO ² , unpubl. data
2, PNN Catatumbo Bari	158,125	E versant, E Cordillera	200–2,000	
3, PNN Paramillo	460,000	W versant, W Cordillera	100–3,960	
4, PNN Tamá	48,000	E versant, E Cordillera	350–3,400	Canaday, 1986
5, PNN Cocuy	306,000	W versant, E Cordillera	4,000–5,330	Olivares, 1973
		E versant, E Cordillera	600–5,330	
6, PNN Las Orquídeas	32,000	W versant, W Cordillera	300–3,850	P. Florez, unpubl. data; SAO ² , unpubl. data; Echeverry, 1986
		E versant, W Cordillera	2,800–3,850	P. Florez, unpubl. data; SAO ² , unpubl. data; Echeverry, 1986
7, SFF Guantotá Alto Río Fonce	10,429	W versant, E Cordillera	2,000–4,000	
8, PNN Pisba	45,000	W versant, E Cordillera	3,400–3,800	
		E versant, E Cordillera	2,000–3,800	
9, SFF Iguaque	6,750	W versant, E Cordillera	2,400–3,880	C.D. Cadena, unpubl. data
10, PNN Tatamá	51,900	W versant, W Cordillera	2,000–4,200	Hilty, 1997
		E versant, W Cordillera	2,000–4,200	Hilty, 1997
11, PNN Los Nevados	58,300	W versant, C Cordillera	2,600–5,300	C. Downing, unpubl. data; Orejuela, undated; Pfeifer <i>et al.</i> , 2001
		E versant, C Cordillera	2,600–5,300	C. Downing, unpubl. data; Orejuela, undated; Pfeifer <i>et al.</i> , 2001
		W versant, E Cordillera	3,500–4,020	
12, PNN Chingaza	76,600	E versant, E Cordillera	800–4,020	
		W versant, C Cordillera	1,800–2,200	G. Kattan <i>et al.</i> , unpubl. data; CARDER ³ , 1994; Naranjo, 1994
13, SFF Otún Quimbaya	489	W versant, E Cordillera	3,600–4,360	
14, PNN Sumapaz	154,000	E versant, E Cordillera	1,500–4,360	
		W versant, C Cordillera	2,800–4,200	Sarria, 1991
15, PNN Las Hermosas	125,000	E versant, C Cordillera	1,800–4,200	Sarria, 1991
		W versant, C Cordillera	200–4,100	Sarria, 1993
16, PNN Farallones de Cali	205,266	W versant, W Cordillera	1,800–4,000	Sarria, 1993
		E versant, W Cordillera	400–2,500	Cadena <i>et al.</i> , 2000
17, PNN Sierra de la Macarena - 20, PNN Tinigua	837,280	Serranía de la Macarena	3,000–5,780	
18, PNN Nevado del Huila	158,000	W versant, C Cordillera	2,600–5,780	
		E versant, C Cordillera	450–3,800	IavH ⁴ , unpubl. data
19, PNN Cordillera de los Picachos	447,740	E versant, E Cordillera	500–3,100	Negret, 1994
21, PNN Munchique	44,000	W versant, W Cordillera	2,400–3,100	Negret, 1994
		W versant, C Cordillera	3,000–5,000	P. Florez, unpubl. data; Hilty & Silliman, 1983
22, PNN Putaré	83,000	E versant, C Cordillera	2,500–5,000	P. Florez, unpubl. data; Hilty & Silliman, 1983
		W versant, E Cordillera	1,650–2,800	
23, PNN Cueva de los Guácharos	700	E versant, E Cordillera	400–2,700	
24, PNN Alto Fragua Indi Wasi	68,000	W versant, W Cordillera	2,200–4,276	Calderon, 1998
25, SFF Galeras	7,615	W versant, W Cordillera		

¹SFF, Fauna and Flora Sanctuary; PNN, National Natural Park

²SAO, Sociedad Antioqueña de Ornitología

³CARDER: Corporación Autónoma Regional de Risaralda

⁴IavH, Instituto de Investigación de Recursos Biológicos Alexander von Humboldt

Appendix 2 Threatened and near-threatened bird species occurring in the mountains of Colombia, number of protected areas where they have been recorded, and number of protected areas where additional populations may occur.

Species	Red List category*	No. of protected areas where recorded	No. where additional populations may occur
<i>Tinamus osgoodi</i>	EN	0	0
<i>Crypturellus saltuarius</i>	CR	0	0
<i>Aburria aburri</i>	NT	5	0
<i>Odontophorus hyperythrus</i>	NT	4	0
<i>Sarkidiornis melanotos</i>	EN	1	0
<i>Neochen jubata</i>	NT	1	0
<i>Anas georgica</i>	EN	0	0
<i>Anas cyanoptera</i>	EN	0	0
<i>Netta erythrophthalma</i>	CR	1	0
<i>Oxyura jamaicensis</i>	EN	2	0
<i>Penelope ortonii</i>	VU	2	0
<i>Penelope perspicax</i>	EN	2	0
<i>Pauxi pauxi</i>	VU	2	0
<i>Crax alberti</i>	CR	2	0
<i>Crax daubentoni</i>	VU	0	0
<i>Odontophorus atrifrons</i>	VU	1	0
<i>Odontophorus melanonotus</i>	VU	0	0
<i>Odontophorus strophium</i>	CR	0	1
<i>Podiceps occipitalis</i>	EN	2	2
<i>Accipiter collaris</i>	NT	2	1
<i>Leucopternis plumbeus</i>	NT	2	0
<i>Morphnus guianensis</i>	NT	1	0
<i>Harpia harpyja</i>	NT	1	0
<i>Micrastur plumbeus</i>	NT	1	2
<i>Vultur gryphus</i>	EN	6	0
<i>Harpyhaliaetus solitarius</i>	EN	2	1
<i>Oroaetus isidori</i>	EN	7	0
<i>Rallus semiplumbeus</i>	EN	1	0
<i>Gallinula melanops</i>	CR	0	0
<i>Leptotila conoveri</i>	EN	0	0
<i>Ara militaris</i>	VU	6	0
<i>Ara ambiguus</i>	VU	2	0
<i>Ognorhynchus icterotis</i>	CR	4	0
<i>Leptosittaca branickii</i>	VU	5	2
<i>Pyrrhura viridicata</i>	EN	1	0
<i>Pyrrhura calliptera</i>	VU	0	4
<i>Bolborhynchus ferrugineifrons</i>	VU	2	1
<i>Touit stictopterus</i>	EN	4	0
<i>Megascops colombianus</i>	NT	1	2
<i>Pionopsitta pyrrilia</i>	VU	3	1
<i>Hapalopsittaca amazonina</i>	VU	5	4
<i>Hapalopsittaca fuertesi</i>	CR	1	0
<i>Neomorphus radiolus</i>	VU	1	0
<i>Nyctiphrynus rosenbergi</i>	NT	1	0
<i>Glaucidium nubicola</i>	VU	0	3
<i>Cypseloides lemosi</i>	CR	1	2
<i>Campylopterus phainopeplus</i>	EN	1	0
<i>Heliodoxa gularis</i>	NT	0	0
<i>Amazilia castaneiventris</i>	CR	0	1
<i>Eriocnemis derbyi</i>	NT	3	0
<i>Metallura iracunda</i>	EN	0	0
<i>Eriocnemis cupreiventris</i>	NT	2	0
<i>Anthocephala floriceps</i>	VU	3	0
<i>Haplophaedia lugens</i>	NT	0	0
<i>Coeligena prunellei</i>	EN	1	0

Appendix 2 (Continued)

Species	Red List category*	No. of protected areas where recorded	No. where additional populations may occur
<i>Eriocnemis mirabilis</i>	CR	1	0
<i>Capito squamatus</i>	NT	0	0
<i>Capito quinticolor</i>	NT	1	0
<i>Semnornis ramphastinus</i>	NT	2	0
<i>Galbula pastazae</i>	VU	0	0
<i>Andigena nigrirostris</i>	NT	9	0
<i>Capito hypoleucus</i>	EN	0	0
<i>Andigena hypoglaucha</i>	VU	4	1
<i>Andigena laminirostris</i>	VU	0	0
<i>Veniliornis chocoensis</i>	NT	1	0
<i>Campephilus gayaquilensis</i>	NT	0	0
<i>Melanerpes pulcher</i>	VU	0	0
<i>Schizoeaca perijana</i>	EN	1	0
<i>Synallaxis fusciorufa</i>	VU	1	0
<i>Siptornis striaticollis</i>	NT	1	0
<i>Margarornis stellatus</i>	NT	1	0
<i>Campylorhamphus pucherani</i>	NT	0	0
<i>Clytoctantes alixii</i>	EN	1	1
<i>Dysithamnus occidentalis</i>	VU	2	0
<i>Grallaricula cucullata</i>	NT	4	0
<i>Grallaria gigantea</i>	EN	1	1
<i>Grallaria alleni</i>	EN	2	0
<i>Grallaria bangsi</i>	VU	1	0
<i>Grallaria kaestneri</i>	EN	1	0
<i>Grallaria rufocinerea</i>	VU	2	0
<i>Grallaria milleri</i>	EN	1	0
<i>Grallaricula lineifrons</i>	VU	2	0
<i>Polystictus pectoralis</i>	NT	1	0
<i>Pseudocolaptes acutipennis</i>	VU	0	1
<i>Phylloscartes lanyoni</i>	EN	0	0
<i>Muscisaxicola maculirostris</i>	EN	1	0
<i>Myiotheretes pernix</i>	EN	1	0
<i>Ampelion rufaxilla</i>	NT	5	0
<i>Doliornis remseni</i>	EN	1	1
<i>Pipreola chlorolepidota</i>	VU	1	0
<i>Lipaugus weberi</i>	CR	0	0
<i>Xenopipo flavicapilla</i>	NT	3	0
<i>Cephalopterus penduliger</i>	VU	2	0
<i>Cyanolyca pulchra</i>	NT	4	0
<i>Vireo masteri</i>	VU	0	2
<i>Eremophila alpestris</i>	EN	0	0
<i>Cistothorus apolinari</i>	EN	2	0
<i>Thryothorus nicefori</i>	CR	0	0
<i>Iridosornis porphyrocephalus</i>	NT	4	0
<i>Tangara johannae</i>	NT	0	0
<i>Bangsia melanochlamys</i>	VU	2	0
<i>Bangsia aureocincta</i>	EN	2	0
<i>Buthraupis wetmorei</i>	VU	2	1
<i>Chlorochrysa nitidissima</i>	VU	5	0
<i>Dacnis hartlaubi</i>	VU	0	1
<i>Dacnis berlepschi</i>	VU	1	0
<i>Habia gutturalis</i>	NT	0	0
<i>Diglossa gloriosissima</i>	EN	4	2
<i>Chlorospingus flavovirens</i>	VU	1	0
<i>Ammodramus savannarum</i>	CR	1	0
<i>Oreothraupis arremonops</i>	VU	2	0
<i>Atlapetes flaviceps</i>	EN	1	0
<i>Atlapetes fuscoolivaceus</i>	VU	1	0

Appendix 2 (Continued)

Species	Red List category*	No. of protected areas where recorded	No. where additional populations may occur
<i>Saltator cinctus</i>	VU	1	2
<i>Basileuterus cinereicollis</i>	NT	1	0
<i>Cacicus uropygialis</i>	NT	3	0
<i>Basileuterus conspicillatus</i>	EN	1	0
<i>Basileuterus basilicus</i>	VU	1	0
<i>Macroagelaius subalaris</i>	CR	0	1
<i>Hypopyrrhus pyrohypogaster</i>	EN	5	0
<i>Carduelis cucullata</i>	EN	0	0

*From Renjifo *et al.*, 2002; CR, Critically Endangered; EN, Endangered; VU, Vulnerable; NT, Near Threatened.