

The birds of Bujagh national park, Iran, 2004–2016

ABBAS ASHOORI

This survey was carried out in order to determine the status of the birds occurring in Bujagh national park in Gilan province, northern Iran during the twelve-year period December 2004–April 2016. A total of 264 bird species were identified (48% of the Iranian avifauna). A large proportion of the species occurring in the park were mainly passage migrants (54.6%) and in many years, between 23 000 and 35 500 waterbirds, mainly Anatidae, were present December–February. Twelve of the species of birds that were recorded are globally Threatened and eighteen are Near Threatened. Two species were recorded for the first time in the south Caspian lowlands, namely Pacific Golden Plover and Pale Rockfinch, and a further six species were recorded for the first time in Gilan province: Little Bustard, Macqueen's Bustard, Armenian Gull, Pin-tailed Sandgrouse, Red-headed Bunting and Common Myna. This investigation confirms that Bujagh NP is an important area for birds in the south Caspian region and probably also in the West Siberian-Caspian-Nile flyway.

INTRODUCTION

Some 550 species of birds have been reported from Iran (Naziri *et al* 2017). There are several very extensive wetlands of great importance for a wide variety of waterbird species in Iran. Migratory elements include summer visitors, winter visitors, passage migrants, and internal migrants within Iran (Scott 1989). Gilan province has three internationally important wetlands and other ecosystems including the Caspian sea, rice fields, Hyrcanian forest and high mountain ranges. It is one of the most important areas for birds in Iran, with 348 bird species having been reported in the province (Ashoori & Abdoos 2013, Ashoori unpubl data). Bujagh NP, with its internationally important wetland, is one of these important habitats, and Ashoori & Abdoos (2013) reported that Bujagh is the most important habitat for birds in the province, in terms of species richness and diversity. In the UNEP/GEF Siberian Crane wetland project, Bujagh NP was considered to be an important site for waterbirds in the western flyway of the Siberian Crane *Grus leucogeranus* and was part of the programme to introduce the species to the area, although the introduction was not carried out (Sadeghizadegan *et al* 2009). Scott (2008) listed five records of rare birds in this area in the late 1960s and 1970s, including Red-breasted Goose *Branta ruficollis*, Rough-legged Buzzard *Buteo lagopus*, Red Phalarope *Phalaropus fulicarius*, Great Black-backed Gull *Larus marinus* and Black-legged Kittiwake *Rissa tridactyla*. Khaleghizadeh *et al* (2011) published a paper on rare birds in Iran 1980–2010 and mentioned 17 records of birds in the national park, including Black-throated Diver *Gavia arctica*, Red-breasted Goose, Taiga Bean Goose *Anser fabalis*, Long-tailed Duck *Clangula hyemalis*, Red Kite *Milvus milvus*, Rough-legged Buzzard, Red-footed Falcon *Falco vespertinus*, Black-winged Pratincole *Glareola nordmanni*, Sociable Lapwing *Vanellus gregarius*, Red Phalarope, Great Snipe *Gallinago media*, Western Barn Owl *Tyto alba*, White-winged Lark *Melanocorypha leucoptera*, Black-throated Accentor *Prunella atrogularis*, Icterine Warbler *Hippolais icterina*, Bearded Reedling *Panurus biarmicus* and Eurasian Bullfinch *Pyrrhula pyrrhula*. All except for the records of Black-throated Diver, Red-breasted Goose and Black-throated Accentor were obtained during the present study. Bujagh NP has also been considered as a regular stopover site for the critically endangered Sociable Lapwing (Ashoori *et al* 2013). Although there are a few other publications regarding the birds of Bujagh NP in Farsi (Ashoori *et al* 2008, Ashoori & Zolfinejad 2006) and in English (Scott 1995, Ashoori *et al* 2007, Ashoori 2011), this paper presents a comprehensive checklist of the birds that are known to have occurred in the park December 2004–April 2016 (the dates of my surveys, Table 1), and gives an indication of their status (Table 2).

Table 1. Number of survey visits to Bujagh national park in each month December 2004–April 2016.

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	Total
Jan	-	6	6	6	1	1	1	2	1	1	2	1	1	29
Feb	-	6	6	6	1	1	1	1	1	1	1	-	-	25
Mar	-	6	6	6	1	1	1	1	1	1	-	1	-	25
Apr	-	6	6	6	1	1	1	1	1	1	2	1	-	27
May	-	5	6	5	1	1	1	-	1	1	-	-	-	21
Jun	-	5	5	5	1	1	1	-	-	1	-	1	-	20
Jul	-	5	6	5	1	1	1	-	-	-	-	-	-	19
Aug	-	5	6	6	1	1	1	-	1	1	1	-	-	23
Sep	-	6	6	6	1	1	1	1	1	1	1	-	-	25
Oct	-	6	6	6	1	1	1	1	1	1	1	-	-	25
Nov	-	6	6	6	1	1	1	-	-	1	1	-	-	23
Dec	4	5	6	6	1	1	1	1	1	1	-	1	1	29
Total	4	67	71	69	12	12	12	8	9	11	9	5	2	291

Table 2. Results of an avifaunal survey of Bujagh national park, Gilan province, northern Iran, December 2004–April 2016, showing status, number of dates on which recorded (frequency of occurrence), maximum count or estimate, IUCN (2016) Red List category and location within the park. Species considered to be rarities in Iran by the Iran Bird Records Committee are indicated with an asterisk after the scientific name.

Species	Status				Frequency of occurrence	Maximum count or estimate	IUCN (2016) Red List	Location within park					
	Passage migrant	Winter visitor	Breeding summer visitor	Resident				Bujagh wetland	Lagoon	Grassland	Sefid-Rud River and mouth	Caspian sea	Margins of the park
<i>Gavia arctica</i> * Black-throated Loon	*				2	1	LC	*	-	-	-	*	-
<i>Tachybaptus ruficollis</i> Little Grebe		*	*		141	26	LC	*	*	-	*	*	-
<i>Podiceps cristatus</i> Great Crested Grebe	*	*			98	94	LC	*	*	-	*	*	-
<i>Podiceps grisegena</i> Red-necked Grebe		*			2	2	LC	-	-	-	-	*	-
<i>Podiceps nigricollis</i> Black-necked Grebe	*	*			151	34	LC	*	*	-	*	*	-
<i>Podiceps auritus</i> Horned Grebe		*			9	2	VU	-	*	-	-	*	-
<i>Pelecanus onocrotalus</i> Great White Pelican	*				2	2	LC	*	-	-	-	-	-
<i>Pelecanus crispus</i> Dalmatian Pelican		*			32	84	VU	*	*	-	*	*	-
<i>Phalacrocorax carbo</i> Great Cormorant	*	*			183	800	LC	*	*	-	*	*	-
<i>Phalacrocorax pygmeus</i> Pygmy Cormorant	*	*			201	110	LC	*	*	-	*	-	-
<i>Ardea cinerea</i> Grey Heron	*	*			269	38	LC	*	*	*	*	-	-
<i>Ardea purpurea</i> Purple Heron	*		*		114	73	LC	*	*	-	-	-	-
<i>Ardeola ralloides</i> Squacco Heron	*				96	64	LC	*	*	*	-	-	-

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	Passage migrant	Winter visitor	Breeding summer visitor	Resident				Bujagh wetland	Lagoon	Grassland	Sefid-Rud River and mouth	Caspian sea	Margins of the park
<i>Nycticorax nycticorax</i> Black-crowned Night Heron	*	*			105	18	LC	*	*	*	*	-	-
<i>Casmerodius albus</i> Western Great Egret	*	*			145	53	LC	*	*	*	*	-	-
<i>Egretta garzetta</i> Little Egret	*	*			273	580	LC	*	*	*	*	-	-
<i>Bubulcus ibis</i> Western Cattle Egret	*	*			88	340	LC	-	-	*	*	-	-
<i>Botaurus stellaris</i> Eurasian Bittern	*	*			21	3	LC	*	*	*	-	-	-
<i>Ixobrychus minutus</i> Little Bittern			*		92	12	LC	*	*	-	-	-	-
<i>Ciconia nigra</i> Black Stork	*				1	1	LC	-	-	*	-	-	-
<i>Ciconia ciconia</i> White Stork	*				19	7	LC	-	-	*	-	-	-
<i>Plegadis falcinellus</i> Glossy Ibis	*				115	53	LC	*	*	*	*	-	-
<i>Platalea leucorodia</i> Eurasian Spoonbill	*				40	16	LC	*	*	-	-	-	-
<i>Phoenicopterus (ruber) roseus</i> Greater Flamingo	*	*			104	164	LC	*	*	-	*	-	-
<i>Cygnus columbianus</i> * Tundra Swan		*			1	2	LC	*	-	-	-	-	-
<i>Cygnus cygnus</i> Whooper Swan		*			54	4635	LC	*	*	-	*	-	-
<i>Cygnus olor</i> Mute Swan		*			84	254	LC	*	*	-	-	-	-
<i>Anser albifrons</i> Greater White-fronted Goose		*			68	51	LC	*	-	*	-	-	-
<i>Anser erythropus</i> * Lesser White-fronted Goose		*			6	26	VU	*	-	*	-	-	-
<i>Anser fabalis</i> * Taiga Bean Goose		*			2	2	LC	-	-	*	-	-	-
<i>Anser anser</i> Greylag Goose	*	*			73	426	LC	*	-	*	-	-	-
<i>Tadorna ferruginea</i> Ruddy Shelduck	*	*			80	98	LC	*	-	*	-	-	-
<i>Tadorna tadorna</i> Common Shelduck	*	*			17	63	LC	*	-	*	*	*	-
<i>Anas penelope</i> Eurasian Wigeon		*			42	2340	LC	*	*	-	-	*	-
<i>Anas strepera</i> Gadwall	*	*			90	4110	LC	*	*	-	*	-	-
<i>Anas crecca</i> Eurasian Teal	*	*			124	16217	LC	*	*	*	*	*	-
<i>Anas platyrhynchos</i> Mallard	*	*	*		70	261	LC	*	*	*	*	*	-
<i>Anas acuta</i> Northern Pintail	*	*			53	108	LC	*	*	-	-	-	-
<i>Anas querquedula</i> Garganey	*		*		42	634	LC	*	*	-	-	-	-
<i>Anas clypeata</i> Northern Shoveler	*	*			155	1690	LC	*	*	-	-	-	-
<i>Netta rufina</i> Red-crested Pochard		*			28	69	LC	*	*	-	*	-	-
<i>Aythya ferina</i> Common Pochard		*			65	284	VU	*	*	-	*	-	-
<i>Aythya nyroca</i> Ferruginous Duck	*	*			53	110	NT	*	*	-	-	-	-
<i>Aythya fuligula</i> Tufted Duck		*			42	78	LC	*	-	-	*	-	-
<i>Aythya marila</i> * Greater Scaup		*			2	2	LC	*	-	-	-	-	-
<i>Clangula hyemalis</i> * Long-tailed Duck	*				1	1	VU	*	-	-	-	-	-
<i>Bucephala clangula</i> Common Goldeneye		*			34	34	LC	*	*	-	*	*	-
<i>Mergellus albellus</i> Smew		*			29	7	LC	*	*	-	*	-	-
<i>Mergus serrator</i> Red-breasted Merganser		*			1	2	LC	-	*	-	*	-	-

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<i>Mergus merganser</i> * Common Merganser		*			6	3	LC	-	-	-	*	*	-
<i>Oxyura leucocephala</i> White-headed Duck		*			2	7	EN	*	-	-	-	-	-
<i>Haliaeetus albicilla</i> White-tailed Eagle	*	*			93	4	LC	*	*	*	-	-	-
<i>Pandion haliaetus</i> Western Osprey	*				4	2	LC	-	*	-	*	-	-
<i>Milvus migrans</i> Black Kite	*	*			114	31	LC	*	*	*	*	*	-
<i>Milvus milvus</i> * Red Kite		*			3	1	NT	-	-	*	-	-	-
<i>Circus gallicus</i> Short-toed Snake Eagle	*				1	2	LC	-	-	*	-	-	-
<i>Circus cyaneus</i> Northern Harrier	*	*			47	3	LC	*	*	*	*	-	-
<i>Circus macrourus</i> Pallid Harrier	*	*			34	3	NT	*	*	*	*	-	-
<i>Circus aeruginosus</i> Western Marsh Harrier	*	*	*		187	18	LC	*	*	*	*	-	*
<i>Accipiter brevipes</i> * Levant Sparrowhawk	*				1	1	LC	-	-	*	-	-	*
<i>Accipiter badius</i> Shikra			*		19	5	LC	-	-	*	-	-	*
<i>Accipiter nisus</i> Eurasian Sparrowhawk	*	*			65	4	LC	-	-	*	-	-	*
<i>Accipiter gentilis</i> * Northern Goshawk	*				11	1	LC	-	-	*	-	-	*
<i>Buteo buteo</i> Common Buzzard	*				24	7	LC	-	-	*	-	-	*
<i>Buteo lagopus</i> * Rough-legged Buzzard	*				2	2	LC	-	-	*	-	-	-
<i>Buteo rufinus</i> Long-legged Buzzard		*			64	6	LC	-	-	*	-	-	*
<i>Aquila clanga</i> Greater Spotted Eagle	*	*			9	2	VU	*	*	*	-	-	*
<i>Aquila pomarina</i> Lesser Spotted Eagle	*				4	2	LC	-	-	*	-	-	*
<i>Aquila nipalensis</i> Steppe Eagle	*				5	1	EN	-	-	*	-	-	-
<i>Falco naumanni</i> Lesser Kestrel	*				2	32	LC	-	-	*	*	-	-
<i>Falco tinnunculus</i> Common Kestrel	*	*			40	6	LC	-	-	*	*	-	-
<i>Falco columbarius</i> Merlin	*	*			73	4	LC	-	-	*	*	-	-
<i>Falco subbuteo</i> Eurasian Hobby	*		*		64	3	LC	-	-	*	*	-	*
<i>Falco cherrug</i> Saker Falcon	*				8	2	EN	-	-	*	*	-	-
<i>Falco peregrinus</i> Peregrine Falcon	*	*			41	4	LC	-	-	*	*	-	-
<i>Falco pelegrinoides</i> Barbary Falcon	*				9	1	LC	-	-	*	*	-	*
<i>Falco vespertinus</i> * Red-footed Falcon	*				1	3	NT	-	-	-	*	-	-
<i>Coturnix coturnix</i> Common Quail	*				39	3	LC	-	-	*	-	-	-
<i>Phasianus colchicus</i> Common Pheasant			*		64	5	LC	-	-	*	-	-	-
<i>Grus grus</i> Common Crane	*				15	13	LC	-	-	*	-	-	-
<i>Crex crex</i> Corn Crake	*				4	1	LC	-	-	*	-	-	-
<i>Rallus aquaticus</i> Water Rail			*		90	5	LC	*	*	-	-	-	-
<i>Porzana porzana</i> Spotted Crake	*				14	2	LC	*	*	-	-	-	-
<i>Porzana parva</i> Little Crake	*				7	1	LC	*	*	-	-	-	-
<i>Gallinula chloropus</i> Common Moorhen			*		152	14	LC	*	*	-	-	-	-

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<i>Porphyrio poliocephalus</i> Grey-headed Swamphen			*		104	19	LC	*	*	-	-	-	-
<i>Fulica atra</i> Eurasian Coot		*	*		126	4360	LC	*	*	-	*	-	-
<i>Tetrax tetrax</i> Little Bustard	*	*			26	67	NT	-	-	*	-	-	-
<i>Chlamydotis macqueenii</i> Macqueen's Bustard	*				2	1	VU	-	-	*	-	-	-
<i>Haematopus ostralegus</i> Eurasian Oystercatcher	*				14	16	NT	-	-	-	*	-	-
<i>Himantopus himantopus</i> Black-winged Stilt	*		*		70	82	LC	*	*	-	*	-	-
<i>Recurvirostra avosetta</i> Pied Avocet	*	*			48	47	LC	*	*	-	*	-	-
<i>Burhinus oedicephalus</i> Eurasian Stone-curlew	*				9	1	LC	-	-	*	*	-	-
<i>Glareola pratincola</i> Collared Pratincole	*		*		65	180	LC	-	-	*	*	-	-
<i>Glareola nordmanni</i> * Black-winged Pratincole	*				2	3	NT	-	-	*	-	-	-
<i>Vanellus vanellus</i> Northern Lapwing		*	*		146	10000	NT	*	*	*	*	-	-
<i>Vanellus leucurus</i> White-tailed Lapwing	*	*			8	8	LC	*	*	-	-	-	-
<i>Vanellus gregarius</i> * Sociable Lapwing	*				12	4	CR	-	-	*	*	-	-
<i>Pluvialis apricaria</i> European Golden Plover	*	*			73	1210	LC	-	-	*	-	-	-
<i>Pluvialis fulva</i> * Pacific Golden Plover	*				1	1	LC	-	-	*	-	-	-
<i>Pluvialis squatarola</i> Grey Plover		*			59	72	LC	*	*	*	*	-	-
<i>Charadrius hiaticula</i> Common Ringed Plover	*	*			116	167	LC	*	*	*	*	-	-
<i>Charadrius dubius</i> Little Ringed Plover	*		*		88	21	LC	-	-	*	*	-	-
<i>Charadrius alexandrinus</i> Kentish Plover	*	*			63	38	LC	*	*	*	*	-	-
<i>Charadrius leschenaultii</i> Greater Sand Plover	*				21	11	LC	-	-	-	*	-	-
<i>Charadrius asiaticus</i> * Caspian Plover	*				17	12	LC	-	-	*	*	-	-
<i>Charadrius morinellus</i> * Eurasian Dotterel	*				1	2	LC	-	-	*	-	-	-
<i>Limosa limosa</i> Black-tailed Godwit	*	*			83	226	NT	*	*	*	-	-	-
<i>Limosa lapponica</i> Bar-tailed Godwit	*				9	2	NT	-	-	-	*	-	-
<i>Numenius phaeopus</i> Whimbrel	*				32	195	LC	*	*	*	*	-	-
<i>Numenius arquata</i> Eurasian Curlew	*	*			64	11	NT	*	*	*	*	-	-
<i>Tringa erythropus</i> Spotted Redshank	*	*			34	65	LC	*	*	*	*	-	-
<i>Tringa totanus</i> Common Redshank	*	*			114	104	LC	*	*	*	*	-	-
<i>Tringa stagnatilis</i> Marsh Sandpiper	*	*			38	95	LC	*	-	-	-	-	-
<i>Tringa nebularia</i> Common Greenshank	*				39	8	LC	*	*	-	*	-	-
<i>Tringa ochropus</i> Green Sandpiper	*				70	23	LC	*	*	*	*	-	-
<i>Tringa glareola</i> Wood Sandpiper	*				63	258	LC	*	*	*	*	-	-
<i>Actitis hypoleucos</i> Common Sandpiper	*				34	12	LC	*	*	-	*	-	-
<i>Xenus cinereus</i> Terek Sandpiper	*				21	8	LC	*	*	-	*	-	-
<i>Arenaria interpres</i> Ruddy Turnstone	*				42	9	LC	*	-	*	-	-	-
<i>Phalaropus lobatus</i> Red-necked Phalarope	*				28	102	LC	*	*	-	*	-	-

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<i>Phalaropus fulicarius</i> * Red Phalarope	*				1	1	LC	*	-	-	-	-	-	-
<i>Scolopax rusticola</i> Eurasian Woodcock		*			30	10	LC	-	-	*	-	-	-	*
<i>Gallinago media</i> * Great Snipe	*				1	1	NT	*	-	-	-	-	-	-
<i>Gallinago gallinago</i> Common Snipe	*	*			105	197	LC	*	*	*	*	-	-	-
<i>Lymnocyptes minimus</i> Jack Snipe		*			9	3	LC	*	*	*	-	-	-	-
<i>Calidris alba</i> Sanderling	*	*			30	38	LC	*	*	*	*	-	-	-
<i>Calidris minuta</i> Little Stint	*	*			39	87	LC	*	*	*	*	-	-	-
<i>Calidris temminckii</i> Temminck's Stint	*				5	6	LC	*	-	-	-	-	-	-
<i>Calidris alpina</i> Dunlin	*	*			112	203	LC	*	*	*	*	-	-	-
<i>Calidris ferruginea</i> Curlew Sandpiper	*				9	28	NT	*	*	*	*	-	-	-
<i>Limicola falcinellus</i> Broad-billed Sandpiper	*				7	34	LC	*	-	-	-	-	-	-
<i>Philomachus pugnax</i> Ruff	*				68	320	LC	*	*	*	*	-	-	-
<i>Stercorarius pomarinus</i> * Pomarine Skua	*				1	1	LC	-	-	-	*	*	-	-
<i>Stercorarius parasiticus</i> Parasitic Skua	*	*			3	2	LC	-	-	-	*	*	-	-
<i>Larus canus</i> Common Gull		*			36	114	LC	-	-	-	*	*	-	-
<i>Larus cachinnans</i> Caspian Gull	*	*			115	890	LC	*	*	-	*	*	-	-
<i>Larus armenicus</i> Armenian Gull		*			6	3	NT	-	-	-	*	*	-	-
<i>Larus fuscus</i> Lesser Black-backed Gull	*				35	68	LC	-	-	-	*	*	-	-
<i>Larus ichthyaetus</i> Pallas's Gull		*			101	198	LC	*	*	-	*	*	-	-
<i>Larus ridibundus</i> Black-headed Gull	*	*			200	1200	LC	*	*	-	*	*	-	-
<i>Larus genei</i> Slender-billed Gull	*	*			70	21	LC	-	-	-	*	*	-	-
<i>Larus minutus</i> Little Gull		*			65	174	LC	*	*	-	*	*	-	-
<i>Larus melanocephalus</i> * Mediterranean Gull		*			3	1	LC	-	-	-	*	*	-	-
<i>Rissa tridactyla</i> * Black-legged Kittiwake		*			1	1	LC	-	-	-	*	*	-	-
<i>Chlidonias hybridus</i> Whiskered Tern	*				96	104	LC	*	*	-	*	-	-	-
<i>Chlidonias leucopterus</i> White-winged Tern	*				54	97	LC	*	*	-	*	-	-	-
<i>Chlidonias niger</i> * Black Tern	*				5	6	LC	-	-	-	*	*	-	-
<i>Sterna caspia</i> Caspian Tern	*				27	34	LC	*	*	-	*	*	-	-
<i>Sterna hirundo</i> Common Tern	*				56	73	LC	*	*	-	*	*	-	-
<i>Sterna albifrons</i> Little Tern	*				21	18	LC	-	-	-	*	*	-	-
<i>Sterna sandvicensis</i> Sandwich Tern	*	*			52	73	LC	-	-	-	*	*	-	-
<i>Sterna nilotica</i> Gull-billed Tern	*				13	1	LC	*	*	-	-	*	-	-
<i>Pterocles alchata</i> Pin-tailed Sandgrouse	*				4	8	LC	-	-	*	-	-	-	-
<i>Columba palumbus</i> Common Wood Pigeon		*			40	84	LC	-	-	-	-	-	-	*
<i>Columba livia</i> Rock Dove	*	*			16	6	LC	-	-	*	-	-	-	*
<i>Streptopelia turtur</i> European Turtle Dove	*				31	16	VU			*				*

Species	Status				Frequency of occurrence	Maximum count or estimate	IUCN (2016) Red List	Location within park					
	Passage migrant	Winter visitor	Breeding summer visitor	Resident				Bujagh wetland	Lagoon	Grassland	Sefid-Rud River and mouth	Caspian sea	Margins of the park
<i>Streptopelia senegalensis</i> Laughing Dove			*		7	3	LC	-	-	-	-	-	*
<i>Cuculus canorus</i> Common Cuckoo	*		*		45	5	LC	*	*	-	-	-	*
<i>Tyto alba</i> Western Barn Owl	*				4	1	LC	-	-	-	-	-	*
<i>Asio flammeus</i> Short-eared Owl		*			26	5	LC	*	-	*	*	-	-
<i>Caprimulgus europaeus</i> European Nightjar	*				5	1	LC	-	-	*	*	-	*
<i>Coracias garrulus</i> European Roller	*				42	4	NT	-	-	*	*	-	*
<i>Alcedo atthis</i> Common Kingfisher			*		102	4	LC	*	*	-	*	-	*
<i>Merops apiaster</i> European Bee-eater	*				42	36	LC	-	-	*	*	-	*
<i>Merops persicus</i> Persian Bee-eater	*		*		104	265	LC	-	-	*	*	-	*
<i>Upupa epops</i> Eurasian Hoopoe			*		60	10	LC	-	-	*	*	-	*
<i>Jynx torquilla</i> Eurasian Wryneck	*				19	9	LC	-	-	*	-	-	-
<i>Melanocorypha calandra</i> Calandra Lark	*	*			34	84	LC	-	-	*	*	-	-
<i>Melanocorypha leucoptera</i> * White-winged Lark		*			7	2	LC	-	-	*	*	-	-
<i>Calandrella brachydactyla</i> Greater Short-toed Lark	*				32	12	LC	-	-	*	*	-	-
<i>Calandrella rufescens</i> Lesser Short-toed Lark	*	*			30	50	LC	-	-	*	*	-	-
<i>Galerida cristata</i> Crested Lark	*				6	6	LC	-	-	*	-	-	-
<i>Lullula arborea</i> Woodlark	*				6	3	LC	-	-	*	-	-	*
<i>Alauda arvensis</i> Eurasian Skylark	*	*			140	1200	LC	-	-	*	*	-	-
<i>Riparia riparia</i> Sand Martin			*		50	110	LC	-	-	*	*	-	-
<i>Hirundo rustica</i> Barn Swallow	*		*		132	300	LC	*	*	*	*	-	-
<i>Delichon urbicum</i> Common House Martin	*				52	8	LC	-	-	*	-	-	-
<i>Motacilla alba</i> White Wagtail		*		*	290	120	LC	*	*	*	*	-	*
<i>Motacilla flava</i> Western Yellow Wagtail	*		*		87	180	LC	*	*	*	*	-	*
<i>Motacilla citreola</i> Citrine Wagtail	*	*			93	24	LC	*	*	*	*	-	*
<i>Motacilla cinerea</i> Grey Wagtail	*				7	2	LC	-	-	-	*	-	-
<i>Anthus pratensis</i> Meadow Pipit		*			105	90	NT	*	*	*	-	-	*
<i>Anthus campestris</i> Tawny Pipit	*				15	8	LC	-	-	*	-	-	-
<i>Anthus cervinus</i> Red-throated Pipit	*				11	6	LC	-	-	*	-	-	*
<i>Anthus spinoletta</i> Water Pipit		*			80	36	LC	*	*	*	*	-	-
<i>Lanius collurio</i> Red-backed Shrike	*				64	17	LC	-	-	*	-	-	*
<i>Lanius phoenicuroides</i> Turkestan Shrike	*				5	1	LC	-	-	-	-	-	*
<i>Lanius minor</i> Lesser Grey Shrike	*				42	6	LC	-	-	*	-	-	*
<i>Lanius excubitor</i> * Great Grey Shrike	*				2	1	LC	-	-	*	*	*	*
<i>Lanius senator</i> Woodchat Shrike	*				6	5	LC	-	-	*	-	-	*
<i>Troglodytes troglodytes</i> Eurasian Wren		*			60	6	LC	-	-	-	-	-	*
<i>Prunella modularis</i> Dunnock		*			110	3	LC	-	-	-	-	-	*

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<i>Erithacus rubecula</i> European Robin	*	*			102	11	LC	*	*	-	-	-	*
<i>Luscinia svecica</i> Bluethroat	*	*			14	3	LC	*	*	-	-	-	-
<i>Luscinia megarhynchos</i> Common Nightingale	*		*		38	8	LC	-	-	*	-	-	*
<i>Cercotrichas galactotes</i> Rufous-tailed Scrub Robin	*				2	3	LC	-	-	*	-	-	-
<i>Phoenicurus erythronota</i> Eversmann's Redstart	*				2	1	LC	-	-	-	-	-	*
<i>Phoenicurus phoenicurus</i> Common Redstart	*				39	9	LC	*	*	*	-	-	*
<i>Phoenicurus ochruros</i> Black Redstart	*				36	7	LC	*	*	*	-	-	*
<i>Saxicola rubetra</i> Whinchat	*				36	12	LC	*	*	*	-	-	*
<i>Saxicola rubicola</i> European Stonechat	*				11	3	LC	*	*	*	-	-	*
<i>Saxicola maurus</i> Siberian Stonechat	*				45	12	LC	*	*	*	-	-	*
<i>Oenanthe oenanthe</i> Northern Wheatear	*				129	60	LC	-	-	*	-	-	-
<i>Oenanthe deserti</i> Desert Wheatear	*				6	6	LC	-	-	*	-	-	-
<i>Oenanthe isabellina</i> Isabelline Wheatear	*				8	4	LC	-	-	*	*	-	-
<i>Oenanthe finschii</i> Finsch's Wheatear	*				1	1	LC	-	-	-	*	-	-
<i>Oenanthe hispanica</i> Black-eared Wheatear	*				9	8	LC	-	-	*	-	-	-
<i>Oenanthe pleschanka</i> Pied Wheatear	*				8	2	LC	-	-	*	-	-	-
<i>Monticola saxatilis</i> Rufous-tailed Rock Thrush	*				1	1	LC	-	-	*	-	-	-
<i>Turdus merula</i> Common Blackbird		*			90	10	LC	-	-	*	-	-	*
<i>Turdus pilaris</i> Fieldfare		*			3	2	LC	-	-	-	-	-	*
<i>Turdus iliacus</i> Redwing		*			6	6	NT	-	-	-	-	-	*
<i>Turdus philomelos</i> Song Thrush		*			73	13	LC	-	-	*	-	-	*
<i>Turdus viscivorus</i> Mistle Thrush		*			24	6	LC	-	-	-	-	-	*
<i>Cettia cetti</i> Cetti's Warbler	*	*			38	22	LC	*	*	-	-	-	-
<i>Acrocephalus melanopogon</i> Moustached Warbler	*	*	*		75	34	LC	*	*	-	-	-	-
<i>Acrocephalus schoenobaenus</i> Sedge Warbler	*				6	6	LC	*	-	-	-	-	-
<i>Acrocephalus scirpaceus</i> Eurasian Reed Warbler			*		28	18	LC	*	*	-	-	-	-
<i>Acrocephalus arundinaceus</i> Great Reed Warbler			*		64	150	LC	*	*	-	-	-	-
<i>Hippolais icterina</i> Icterine Warbler	*				5	2	LC	-	-	-	-	-	*
<i>Hippolais pallida</i> Eastern Olivaceous Warbler	*				6	4	LC	-	-	-	-	-	*
<i>Sylvia atricapilla</i> Eurasian Blackcap	*				7	7	LC	-	-	-	-	-	*
<i>Sylvia borin</i> Garden Warbler	*				2	6	LC	-	-	-	-	-	*
<i>Sylvia communis</i> Common Whitethroat	*				49	18	LC	-	-	*	-	-	*
<i>Sylvia curruca</i> Lesser Whitethroat	*				40	8	LC	-	-	*	-	-	*
<i>Sylvia mystacea</i> Menetries's Warbler	*				8	7	LC	*	*	*	-	-	-
<i>Phylloscopus collybita</i> Common Chiffchaff	*	*			140	10	LC	*	*	*	-	-	*
<i>Phylloscopus nitidus</i> Green Warbler	*				60	3	LC	-	-	-	-	-	*

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<i>Phylloscopus trochilus</i> Willow Warbler	*				48	6	LC	-	-	-	-	-	*
<i>Muscicapa striata</i> Spotted Flycatcher	*				60	16	LC	*	*	*	-	-	*
<i>Ficedula parva</i> Red-breasted Flycatcher	*				69	16	LC	*	*	*	-	-	*
<i>Ficedula semitorquata</i> Semicollared Flycatcher	*				4	2	NT	-	-	*	-	-	*
<i>Aegithalos caudatus</i> Long-tailed Tit		*			65	38	LC	-	-	-	-	-	*
<i>Parus ater</i> Coal Tit		*			36	8	LC	-	-	-	-	-	*
<i>Parus major</i> Great Tit	*	*			154	10	LC	*	*	*	-	*	*
<i>Parus caeruleus</i> Eurasian Blue Tit		*			18	8	LC	-	-	-	-	-	*
<i>Panurus biarmicus</i> * Bearded Reedling	*				2	15	LC	-	-	*	-	-	-
<i>Emberiza calandra</i> Corn Bunting	*				8	2	LC	-	-	-	-	-	*
<i>Emberiza citrinella</i> Yellowhammer		*			15	22	LC	-	-	-	-	-	*
<i>Emberiza leucocephalos</i> Pine Bunting		*			15	8	LC	-	-	-	-	-	*
<i>Emberiza hortulana</i> Ortolan Bunting	*				8	8	LC	-	-	*	-	-	-
<i>Emberiza melanocephala</i> Black-headed Bunting	*				24	9	LC	-	-	*	-	-	-
<i>Emberiza bruniceps</i> Red-headed Bunting	*				1	1	LC	-	-	*	-	-	-
<i>Emberiza schoeniclus</i> Common Reed Bunting		*			60	80	LC	*	*	-	-	-	-
<i>Fringilla coelebs</i> Common Chaffinch	*	*			128	110	LC	-	-	-	-	-	*
<i>Fringilla montifringilla</i> Brambling		*			7	4	LC	-	-	-	-	-	*
<i>Carduelis chloris</i> European Greenfinch		*	*		68	22	LC	-	-	-	-	-	*
<i>Carduelis spinus</i> Eurasian Siskin	*	*			86	140	LC	-	-	-	-	-	*
<i>Carduelis carduelis</i> European Goldfinch	*	*			34	56	LC	-	-	*	-	-	*
<i>Carpodacus erythrinus</i> Common Rosefinch	*				2	4	LC	-	-	*	-	-	*
<i>Coccothraustes coccothraustes</i> Hawfinch	*	*			14	34	LC	-	-	-	-	-	*
<i>Passer domesticus</i> House Sparrow	*		*		291	600	LC	-	-	*	-	-	*
<i>Passer hispaniolensis</i> Spanish Sparrow		*			100	60	LC	-	-	*	-	-	*
<i>Passer montanus</i> Eurasian Tree Sparrow		*			156	150	LC	-	-	*	-	-	*
<i>Carpospiza brachydactyla</i> Pale Rockfinch	*				1	12	LC	-	-	*	-	-	-
<i>Sturnus vulgaris</i> Common Starling		*	*		291	1950	LC	*	*	*	*	-	*
<i>Sturnus roseus</i> Rosy Starling	*				49	454	LC	-	-	*	-	-	-
<i>Acridotheres tristis</i> Common Myna			*		19	26	LC	-	-	-	-	-	*
<i>Oriolus oriolus</i> Eurasian Golden Oriole	*				36	26	LC	-	-	*	-	-	*
<i>Garrulus glandarius</i> Eurasian Jay	*				6	6	LC	-	-	-	-	-	*
<i>Pica pica</i> Eurasian Magpie			*		280	8	LC	-	-	*	*	-	*
<i>Corvus cornix</i> Hooded Crow			*		290	27	LC	-	-	*	*	-	*
<i>Corvus frugilegus</i> Rook	*				164	250	LC	-	-	*	-	-	*

MATERIALS AND METHODS

Study Area

Bujagh NP (37° 27' N, 49° 55' E, 3260 ha) is located in Gilan province, on the southwest coast of the Caspian sea. The area includes a complex of two main parts, marine and terrestrial. The terrestrial part comprises the Sefid-Rud river and its mouth in the center, a freshwater coastal wetland (Bujagh), grassland, sand and mud flats along the coast west of the river and a brackish coastal lagoon (Bandar Kiashahr lagoon) together with a small shallow freshwater coastal wetland (the 22-Bahman wetland), sandy shoreline and clumps of trees and shrubs to the east of the river. The marine part of the study area is restricted to areas of the Caspian sea with a depth of less than 6 m. This zone extends 400–700 m north from the shoreline, and c6 km east and west from the mouth of the Sefid-Rud. The Common Reed *Phragmites australis* is the dominant plant species in the wetlands and *Juncus* sp is dominant on land. The grassland may be flooded during some rainy seasons, especially in winter. Within the area of the park, cattle and water buffalo graze freely. Bandar Kiashahr lagoon together with the mouth of Sefid-Rud (500 ha) were designated as a Ramsar site in 1975. In 1998, areas west of the river were declared a no-hunting area (800 ha) for five years, and in 2002, the whole area was established as a national park. In 2009, almost the entire area of the park (3177 ha) was designated as a wetland of international importance, with the name Bujagh NP replacing the old name Bandar Kiashahr lagoon and mouth of Sefid-Rud as listed under the Ramsar Convention (Ashoori & Abdoos 2013). The site has been identified as an IBA by BirdLife International (Evans 1994).

Data Collection

Fieldwork was carried out December 2004–April 2016. In the first three years of the survey, the site was visited 2/3 days during each two-week period, and from 2008–2010, the site was visited on one day in every month. Thereafter, only occasional visits were made to the site. In all, the site was visited on a total of 291 occasions (Table 1). An attempt was made to investigate all the major habitats during each visit (often on foot, sometimes on a motorcycle and rarely with the help of a motor boat). Birds were identified following Scott *et al* (1975), Mansoori (2001, 2008), Porter *et al* (1996) and Mullarney *et al* (1999). Identification was facilitated with the aid of a telescope, binoculars and digital cameras. The status of each species (breeding summer visitor, winter visitor, passage migrant and resident) was determined on the basis of the season of observation and with reference to the Atlas of Birds of Iran (Kaboli *et al* 2012). The total count method was used to determine the numbers of conspicuous species, particularly waterbirds, while the numbers of other species were roughly estimated.

RESULTS AND DISCUSSION

A total of 264 species of birds were recorded in Bujagh NP during the study period (48% of the species known to occur in Iran) (Table 2). Passeriformes and Charadriiformes, with 96 and 64 species respectively, showed the highest species richness, while Gaviiformes, Cuculiformes, Caprimulgiformes and Piciformes, with one species each, were the least species-rich orders. Some 54.6% of the species recorded were mainly passage visitors, while only 35.2%, 6.8% and 3.4% were winter visitors, breeding summer visitors and residents, respectively. The largest numbers of birds were present in winter, when there were often between 23 000 and 35 500 waterbirds in the park. Numbers were especially high in 2016 (and 2017) over 35 000 waterbirds and in 2010 (30 361 waterbirds). Most of these were usually species of Anatidae, particularly Common Teal *Anas crecca* (16 217 individuals in January 2016). Several species of waterbirds occurred in their highest numbers during

severe winters, eg large numbers of Whooper Swans *Cygnus cygnus* were observed during the severe winters of 2008 (1443 individuals), 2009 (378 individuals), 2013 (4635 individuals) and 2017 (1972 individuals), while in other years the species was absent or appeared in only small numbers (fewer than 80 individuals). Other species which occurred most commonly in severe winters included Greater Scaup *Aythya marila*, Common Goldeneye *Bucephala clangula*, Smew *Mergus albellus* and Red-breasted Merganser *Mergus serrator*. 27 species of Anatidae were recorded at the site, making this the dominant family in winter. The numbers of birds were at their lowest in June and July.

Of the 264 species of birds recorded in the national park, 37 were recorded on fewer than three occasions and 26 were species that are considered by the Iran Bird Records Committee to be rarities in Iran (Table 2). Eighteen species are globally Near Threatened (Ferruginous Duck *Aythya nyroca*, Red Kite, Pallid Harrier *Circus macrourus*, Red-footed Falcon, Little Bustard *Tetrax tetrax*, Eurasian Oystercatcher *Haematopus ostralegus*, Black-winged Pratincole, Northern Lapwing *Vanellus vanellus*, Black-tailed Godwit *Limosa limosa*, Bar-tailed Godwit *Limosa lapponica*, Eurasian Curlew *Numenius arquata*, Great Snipe, Curlew Sandpiper *Calidris ferruginea*, Armenian Gull *Larus armenicus*, European Roller *Coracias garrulus*, Meadow Pipit *Anthus pratensis*, Redwing *Turdus iliacus* and Semi-collared Flycatcher *Ficedula Semitorquata*). Twelve species are globally threatened: eight Vulnerable (Horned Grebe *Podiceps auritus*, Dalmatian Pelican *Pelecanus crispus*, Lesser White-fronted Goose *Anser erythropus*, Common Pochard *Aythya ferina*, Long-tailed Duck, Greater Spotted Eagle *Aquila clanga*, Macqueen's Bustard *Chlamydotis macqueenii*, European Turtle Dove *Streptopelia turtur*); three Endangered (White-headed Duck *Oxyura leucocephala*, Steppe Eagle *Aquila nipalensis* and Saker Falcon *Falco cherrug*); and one Critically Endangered (Sociable Lapwing).

Bujagh NP is the only site in Gilan province where the Lesser White-fronted Goose has been recorded in the last ten years (Ashoori 2009, Ashoori unpubl data), although there are some records from Anzali wetland in the 1970s (Scott 1995). 26 individuals were present in Bujagh in November and December 2016, suggesting that the national park may be an important habitat for this globally threatened species. The grassland in the park was also a regular staging area September–November for one to four Sociable Lapwings. Two Sociable Lapwings were also recorded 27 January 2009. Eight species were recorded for the first time for Gilan province: Little Bustard, Macqueen's Bustard, Pacific Golden Plover *Pluvialis fulva*, Armenian Gull, Pin-tailed Sandgrouse *Pterocles alchata*, Red-headed Bunting *Emberiza bruniceps*, Pale Rockfinch *Carpospiza brachydactyla* and Common Myna *Acridotheres tristis*, and two of these, namely Pacific Golden Plover and Pale Rockfinch were the first records for the south Caspian lowlands. At least two nests of the Common Myna were discovered in the guard station in the park during the 2015 and 2016 breeding seasons. 26 individuals were recorded near the breeding area on 3 November 2016. These are the first breeding records of the Common Myna in the south Caspian lowlands. Species richness was highest in the grassland (with 147 species), followed by Bujagh freshwater wetland (with 123 species), the Sefid-Rud river and its mouth (with 113 species), the brackish lagoon and freshwater marsh at 22-Bahman (with 106 species), the margins of the park (with 85 species) and the Caspian sea (35 species). The largest numbers of birds were counted at Bujagh freshwater wetland (14 000–20 200 individuals, mainly dabbling ducks). In the grassland, the Northern Lapwing was regularly the dominant species, often numbering between 6000 and 10 000 in autumn and winter. The rich diversity of habitats within the national park doubtless accounts for the high number of species recorded there.

In addition to the 264 species recorded during the present study, thirteen species are known to have occurred in the area in the past, namely Red-breasted Goose (Scott 2008), Eastern Imperial Eagle *Aquila heliaca* (DA Scott *in litt*), Great Black-backed Gull (Scott 2008),

Stock Dove *Columba oenas* (DA Scott *in litt*), Collared Dove *Streptopelia decaocto* (PN Paul *in litt*), Egyptian Nightjar *Caprimulgus aegyptius* (PN Paul *in litt*), Alpine Swift *Tachymarptis melba* (PN Paul *in litt*), Common Swift *Apus apus* (PN Paul *in litt*), Tree Pipit *Anthus trivialis* (PN Paul *in litt*), Black-throated Thrush *Turdus atrogularis* (A Eftekhar *in litt*), Eurasian Penduline Tit *Remiz pendulinus* (PN Paul *in litt*), Common Linnet *Carduelis cannabina* (DA Scott *in litt*) and Black-throated Accentor (Kahleghizadeh *et al* 2011).

The Little Bittern *Ixobrychus minutus*, Water Rail *Rallus aquaticus*, Common Moorhen *Gallinula chloropus*, Grey-headed Swamphen *Porphyrio porphyrio*, Collared Pratincole *Glareola pratincola* and Little Ringed Plover *Charadrius dubius* were regular breeding waterbirds, while Little Grebe *Tachybaptus ruficollis*, Purple Heron *Ardea purpurea*, Mallard *Anas platyrhynchos*, Garganey *Anas querquedula*, Eurasian Coot *Fulica atra*, Black-winged Stilt *Himantopus himantopus* and Northern Lapwing were found breeding in only a few years. The relatively small numbers of breeding waterbirds can be attributed to periods of drought and the resulting low water levels in much of the park during the breeding season, the conversion of suitable breeding habitat for waterbirds in 22-Bahman wetland to fish ponds in 2005 and 2006, heavy grazing by cattle and water buffalo, and excessive disturbance by local people and visitors. According to Scott (2007), in the 1970s, over 15 pairs of Common Terns *Sterna hirundo* were breeding around the lagoon, and there was a colony of over 1000 pairs of Great Cormorants *Phalacrocorax carbo* and a mixed breeding colony of herons and egrets (200 pairs of Black-crowned Night-Herons *Nycticorax nycticorax*, 10 pairs Squacco Herons *Ardeola ralloides*, 30 pairs Little Egrets *Egretta garzetta*, one or two pairs of Grey Heron *Ardea cinerea* and at least one pair of Cattle Egret *Bubulcus ibis*) in woodland adjacent to the lagoon. None of these species was found breeding during the present study. The disappearance of the breeding colonies of cormorants, herons and egrets is perhaps attributable to the rise in the level of the Caspian sea, the building of a wooden bridge across the center of the wetland (from the woodland to the coast), the creation of a forest recreational park, and the great increase in recreational and fishing activities in the wetland. The Western Barn Owl was not found to be breeding in the national park during the present study, but there were reports of breeding in villages around the park (Ashoori *et al* 2011). As suitable habitat for the species is available within the park, it is possible that the species will breed there in future. Further surveys would be desirable, especially of some of the smaller passerines, notably warblers, which pose identification problems.

The recent rise in the level of the Caspian sea together with an increase in the density of water plants (particularly *Phragmites australis*) in Bujagh freshwater wetland and an increase in the density of *Juncus* spp in the grassland have resulted in decreases in the area of open water and grassland in the park. The increase in vegetation and decrease in open-water habitat are considered to be the most important threat to the park at the moment. Other threats include illegal hunting, fishing activities in the river and adjacent Caspian sea, and the encroachment of agriculture and human settlement in the vicinity of the park.

Given the great species richness and high numbers of birds that occur in the area, it is clear that Bujagh is a very important area for birds in the West Siberian-Caspian-Nile flyway. As a national park, the area has the highest level of protection and conservation of wildlife in Iran. It has been identified as an IBA by Birdlife International and a wetland of international importance by the Ramsar Convention. In view of the excessive poaching of waterbirds that occurs elsewhere in the province, and especially in rice fields around the park (Ashoori 2008), the protection and conservation of Bujagh NP should be prioritized.

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Abbas Ashoori, Gilan Provincial Office, Department of the Environment, Rasht, Iran. abbasashoori67@gmail.com