

Short Communication

Estimating Seasonal Populations of Some Corvids in Iran, 2001–2002

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Abstract

A national programme was organised to estimate the population size of eight species of the Corvidae in Iran during the period from November 2001 to September 2002 and revealed that the maximum number of 259,497 individuals were counted in winter. The highest counts were 71,983 corvids in the Hamedan Province and 50,000 individuals of Rook *Corvus frugilegus*.

Introduction

Since 1967 regular censuses have been carried out to estimate the population size of most species of waterbirds in Iran (Evans 1994), but little information is available on the population sizes of other species of birds. Thirteen species of Corvidae have been recorded in Iran (Scott & Adhami 2006), but no attempt has hitherto been made to estimate their population sizes. The reason for this attempt to collect population sizes of corvids was firstly to find an appropriate response to the requests submitted by some groups and organizations regarding the control of corvid populations in some areas where their numbers had increased in recent years due to natural habitat destruction. A second reason was to stimulate a greater interest in corvids which are often a neglected group of birds. The aim of the present survey was simply to determine distribution and relative abundance and to answer recent concerns raised about most corvids which are considered to be pests both by farmers in village areas and by city-dwellers in urban areas. We are presenting the data as a pilot study in order to determine

the feasibility of undertaking nationwide censuses of particular groups of landbirds in Iran in the future.

Materials and Methods

A national programme was organised to estimate the population size of eight species of Corvidae in Iran (excluding Pleske's Ground Jay *Podoces pleskei*, Spotted Nutcracker *Nucifraga caryocatactes*, House Crow *Corvus splendens*, Large-billed Crow *Corvus macrorhynchus* and Brown-necked Raven *Corvus ruficollis*) during the period from November 2001 to September 2002. The program was organized by the Ornithology Unit of the Department of Environment (DOE), and all the data were collected by DOE provincial staff. Counts were undertaken in 15 of Iran's 30 provinces. Using Road-side Count method, observers visited the areas where they expected to find flocks of corvids throughout the day. Site selection for counts was therefore based completely on the local knowledge of observers of the distribution of the target species. Using the results for a selected site, observers were able to extrapolate and determine population sizes of corvid species for other similar, rural areas. The principal townships and areas covered in each province are presented in Table 1. The original data include name of species, total numbers recorded and locality of each count.

Table 1. Provinces, area and townships included in the study.

Province	Area of province (km ²)	Areas surveyed	Areas not surveyed
Chaharmahal & Bakhtiari	16,532	Shahre Kurd, Lordegan, Farsan	Ardal, Boroujen, Kugrang
Fars	122,400	Kazerun, Shiraz, Neiriz	Abadeh, Arsanjan, Estahban, Eqlid, Pasargad, Jahrom, Khonj, Darab, Fasa, Firouz-Abad, Lamerd, Mamasani, Marvdasht, Sepidan, Zarrin-Dasht, Farashband, Larestan, Mehr, Bovanat, Khorram-Bid, Qir-o-Karzin
Qazvin	15,820	Takestan, Abyek, Qazvin, Bojn Zahra	Labors
Gilan	22,000	Anzali, Rasht, Lasht-e-Nesha, Astara, Astaneh, Soumeah-Sara	Amlash, Rezvanshahr, Rudbar, Rudsar, Siahkal, Shaft, Talish, Fouman, Lahijan, Langarud, Masal
Golestan	22,000	Minoudasht, Aliabad, Bandar Gaz, Bandar Turkmen, Kordkoy, Gonbad, Gorgan	Azad-Shahr, Ramian, Agh-Ghala, Kalaleh, Maraveh-Tappeh
Hamedan	20,172	Malayer, Nahavand, Kabudar Ahang, Razan, Toiserkan, Nahavand, Asadabad	Hamadan, Bahar
Ilam	19,086	Dehloran, Ilam, Ivan, Mehran, Darreh-Shahr	Shirvan, Chardavel, Abdanan
Esfahan	107,027	Freidoun Shahr, Flavarjan, Golpaigan, Esfahan	Ardestan, Samirom, Shareza, Faridan, Khomeini-Shahr, Kashan, Mobarakeh, Naeen, Natanz, Najaf-Abad, Khansar, Aran-o-Bidgol, Barlkhar-o-Maimeh, Tiran-o-Koroun, Chadgan, Samirom-e Sofla, Lenjan
Kermanshah	24,434	Paveh, Harsin, Songhor, Islamabad Gharb, Kangavar, Ghasr Shirin	Ravansar, Dalaho, Javanrud, Kermanshah, Sehneh, Gilan-e Ghab, Sarpol-e Zohab, Babajani-Solas
Kordestan	28,203	Divandareh, Saghez, Marivan, Sanandaj, Bijar, Ghorveh, Kamyaran	Sarv-Abad, Baneh
Markazi	29,530	Shazand, Saveh, Arak, Khomein, Mahallat, Tafresh	Ashtian, Delijan, Zarandiyeh, Komijan
Mazandaran	24,091	Neka, Noor, Amol, Ramsar, Ghaem Shahr, Babol, Tonekabon, Sari	Behshahr, Galugah, Babolsar, Mahmoud-Abad, Jouybar, NowShahr, Chalous, Savad-Kuh
Qom	10,743		Qom
Tehran	18,814	Tehran, Varamin, Taleqan, Firouzkouh, Shahriyar, Robat-Karim	Eslam-Shahr, Pakdasht, Damavand, Rey, Savojbolagh, Karaj, Nazar-Abad, Shemiranat
Zanjan	22,164	Zanjan, Abhar, Taron, Khodabandeh	Khorram-Darreh, Eijrud, Mah-Neshan

Results

According to the data collected, the maximum number of corvids occurred in winter, while the minimum number occurred in spring: 259,497 and 45,069 individuals respectively. The highest counts of corvids were obtained in Hamedan Province (71,983 in winter) and Chaharmahal & Bakhtiari Province (37,430 in autumn). Table 2 gives the maximum counts of each of the eight species under investigation in each of the 15 provinces.

The highest provincial counts recorded for each species were as follows: 16,600 Eurasian Magpie *Pica pica* in Markazi, 50,000 Rook *Corvus frugilegus* in Hamedan, 19,900 Hooded

Crow *Corvus corone cornix* in Hamedan, 750 Common Raven *Corvus corax* in Hamedan, 1,006 Western Jackdaw *Corvus monedula* in Kordestan, 1,631 Red-billed Chough *Pyrrhocorax pyrrhocorax* in Golestan, 333 Alpine Chough *Pyrrhocorax graculus* in Mazandaran and 194 Eurasian Jay *Garrulus glandarius* in Ilam.

The most abundant species in all four seasons was *C. frugilegus* in the surveyed provinces. The next most abundant species were *C. corone cornix* in winter and spring, and *P. pica* in autumn and summer.

Table 2. Maximum counts of eight species of Corvidae in each of the 15 provinces.

Province	<i>Pica pica</i>	<i>Corvus frugilegus</i>	<i>Corvus corone</i>	<i>Corvus corax</i>	<i>Corvus monedula</i>	<i>Pyrrhocorax pyrrhocorax</i>	<i>Pyrrhocorax graculus</i>	<i>Garrulus glandarius</i>
Chaharmahal & Bakhtiari	0	37,430	0	0	0	0	0	0
Fars	44	12,850	92	0	0	135	0	0
Qazvin	0	13,195	1,155	0	0	-	-	-
Gilan	127	15,664	340	0	0	0	0	0
Golestan	1,374	7,896	4,500	300	492	1,631	0	45
Hamedan	4,000	50,000	19,900	750	500	300	-	-
Ilam	66	60	4	33	22	134	16	194
Esfahan	12,000	1,160	28	0	0	50	0	0
Kermanshah	627	11,068	429	197	0	230	200	90
Kordestan	1,754	13,622	3,223	335	1,006	983	200	100
Markazi	16,600	35,000	8,000	510	-	700	-	-
Mazandaran	827	23,189	7,681	200	0	320	333	150
Qom	0	100	50	0	0	0	0	0
Tehran	88	9,050	2,500	0	0	0	0	0
Zanjan	915	14,300	1,230	0	0	0	0	0
TOTAL	38,422	244,584	49,132	2,325	2,020	4,483	749	579

Table 3. Total numbers of corvids recorded by province and season. A dash (-) indicates no count in that season.

Name of province	Autumn	Winter	Spring	Summer
	(23 Sep–21 Dec)	(22 Dec–20 Mar)	(21 Mar–21 Jun)	(22 Jun–22 Sep)
Chaharmahal & Bakhtiari	37,430	14,070	665	944
Fars	70	13,121	-	-
Qazvin	-	14,350	-	-
Gilan	-	16,131	-	-
Golestan	12,694	15,598	6,179	-
Hamedan	30,365	71,983	28,579	19,825
Ilam	300	194	-	213
Esfahan	12,050	2,396	-	8,500
Kermanshah	11,183	13,706	460	721
Kordestan	7,882	19,643	8,767	19,339
Markazi	-	31,889	-	-
Mazandaran	4,941	32,467	-	-
Qom	-	-	150	-
Tehran	12,250	-	-	-
Zanjan	16,073	15,305	-	-
Total numbers (No. of provinces involved)	145,238 (11)	260,853 (13)	44,800 (6)	64,490 (6)

Discussion

Observers in Qazvin Province believe that *C. frugilegus* causes damage to agricultural crops, as well as causing a noise nuisance and damage to the landscape around residential areas. In the case of Ilam Province it is said that the reason for Eurasian Jay being the commonest species in Ilam Province – overtaking the number of corvids is due to the misuse of pesticides in agricultural ecosystems in an effort to reduce the number of corvids that are considered as agriculture pests in areas such as Dehloran and Mousian. There is some evidence of mass mortality of birds as a result of the misuse of pesticides. This indicates that close cooperation is necessary between the Department of the Environment, the Iranian Research Institute of Plant Protection and the Plant Protection Organisation in order to remedy this problem in this province of Iran.

The data in Table 2 confirm the distribution of the commoner corvid species in Iran as indicated by Mansoori (2008). It is now necessary to extend this study to the other 15 provinces of Iran. Separate surveys should be conducted to estimate the populations of Pleske's Ground Jay (see Sehhatiasabet 2007) in the central deserts, and of Red-billed Chough and Yellow-billed Chough in the high mountains of Iran. Surveys of corvids in southern Iran would be useful to document the spread of the House Crow. As mentioned by

D.A. Scott (pers. comm.) for meaningful population estimates of the commoner corvids, much the best way would be to carry out censuses of breeding pairs in sample areas (e.g. 10 km squares) during spring/summer and extrapolate from these. The populations of wintering species such as Rook and Western Jackdaw are probably best derived from counts of birds going to roost.

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