



LESSER KESTREL BALKAN EXPERT WORKSHOP

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Captive-bred and released lesser kestrels (*Falco naumanni*) for reintroduction in Bulgaria between 2009 - 2022

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Introduction

In 2009, a captive breeding programme for the critically endangered in Bulgaria lesser kestrel (*Falco naumanni*) (Red Data Book of the Republic of Bulgaria, 2011) was initiated in the Wildlife Rehabilitation and Breeding Centre (WRBC), part of Green Balkans – Stara Zagora NGO, with two pairs imported from Germany. Thanks to the following EU funding, 40 genetically diverse birds were transported from Spain to the WRBC as part of the five year project Lesser Kestrel Recovery LIFE11 NAT/BG/000360. The breeding group was maintained after the end of the project, and a new one - project LIFE for Lesser Kestrel LIFE19 NAT/BG/001017, was initiated in 2020. Following the breed-and-release results reported by Marin & Vasileva (2016), this study summarised the whole period of the lesser kestrel reintroduction activities, from 2009 until 2022.

Methods

During the period between 2009 and 2013, the WRBC team encountered difficulties in the breeding of lesser kestrels, as the available birds were closely related. The actual breeding program started in 2014 following the arrival of 40 genetically diverse juvenile lesser kestrels, granted to Green Balkans by the Government of Extremadura, Spain as part of project Lesser Kestrel Recovery LIFE11NAT/BG/360. The methodology of the Spanish organization DEMA was followed for the collective captive breeding of the birds. Rearing in a large communal aviary gives the birds the opportunity to choose their own nests and partners. The interior of the cages, nest boxes, daily washing of the cages, as well as twice-a-day feeding are methods adopted as recommended from DEMA.

The good condition of the breeding stock is helped by quality and varied food, as well as continuous veterinary care. Round-the-clock video surveillance provides breeding experts with access to valuable information about the birds' habits and behavior, as well as accurate information about laying and hatching. Dozens of rescued eggs and hatchlings from wild colonies passed through the WRBC incubators every year. 'Foster parenting' was applied as a natural method of rearing injured young from wild colonies. Breeding pairs each year became foster parents for rescued rescued eggs and hatchlings from the wild colonies, giving them a second chance for survival.



Results

Thanks to the gradually increasing breeding stock, a sufficient number of young birds were released in the wild via the hacking method. The releases started in 2014 within the project Lesser Kestrel Recovery LIFE11 NAT/BG/000360 in the village of Levka in the Sakar Special Protection Area (SPA) in Bulgaria. After the completion of the five-year project, the breeding of lesser kestrels continued. The reared chicks continued to support the already established colony in Levka.

In 2017, due to the large number of birds hatched and released in the colony in Levka, an experimental release via hacks began at the WRBC in the town of Stara Zagora, Bulgaria. Thanks to the subsequent annual releases, a new wild colony was formed at the WRBC.

The collected data for the period 2014-2022, i.e. from the establishment of the first lesser kestrel colony in Levka, Sakar SPA, until 2022 inclusive - or for 9 breeding seasons, the following results have been reported: out of 76 collected (rescued) eggs from the colony in Levka, 19 hatched at the WRBC. Of the rescued 77 chicks from Levka and 12 chicks from the wild colony in Stara Zagora, 84 survived and were raised. **That's a total of 103 kestrels that have survived, thanks to the care given at WRBC**, and which wouldn't have had a chance in the wild. Of these, 26 have been left in the breeding programme over the years. The remaining 87 have been released in the wild. Added to the 358 released chicks produced by the WRBC and released, the number of released lesser kestrels reared at the WRBC was 435. The total number of our own and foster reared chicks raised at WRBC was 506.

Breeding success between 2010-2022

Year	Sexually matured birds	Formed pairs	Incubating pairs	Eggs laid without a partner	Pairs with hatched chicks	Pairs with a reared chick	Eggs laid	Chicks hatched	Number of reared chicks	Number of released chicks
2010	4	0	1	1	0	0	1	0	0	0
2011	4	2	2	0	2	1	10	6	4	0
2012	4	0	0	0	0	0	0	0	0	0
2013	8	3	2	0	0	0	11	0	0	0
2014	48	11	11	2	9	8	53	31	29	29
2015	44	12	11	3	9	9	54	32	28	20
2016	53	20	20	2	19	17	105	79	71	63
2017	62	25	25	1	21	21	126	92	88	88
2018	40	14	14	3	14	13	78	53	45	43
2019	41	14	14	0	14	14	71	58	54	43
2020	16	3	3	0	3	3	17	12	12	12
2021	23	8	8	1	7	7	55	28	26	18
2022	48	14	14	4	13	13	94	52	50	37

Contribution of the WRBC in raising rescued eggs and chicks																
year	Saved eggs		hatched from saved eggs		chicks for rearing		reared chicks		left for breeding			saved and released		released from WRBC	total released reared in WRBC	total reared in WRBC
	Levka	wild SZ	Levka	wild SZ	Levka	wild SZ	Levka	wild SZ	Levka	wild SZ	WRBC	Levka	wild SZ			
2014	16		5		4		4		0		0	9		29	38	38
2015	18		2		0		0		2		8	0		20	20	30
2016	3		2		6		6		3		8	5		63	68	79
2017	9		0		2		2		0		0	2		88	90	90
2018	6	0	2	0	6	0	6	0	2	0	2	6	0	43	49	53
2019	9	0	3	0	20	0	16	0	0	0	11	19	0	43	62	73
2020	10	0	3	0	19	2	18	2	2	1	0	19	1	12	32	35
2021	3	0	1	0	13	6	13	6	5	4	8	9	2	18	29	46
2022	2	0	1	0	7	4	7	4	5	2	8	3	2	42	47	62
общо	76	0	19	0	77	12	72	12	19	7	45	72	5	358	435	506

Conclusions

As a result of implemented captive breeding methods, between 2009-2022, there were between 2 and 25 lesser kestrel breeding pairs every season in the Centre. There was breeding evidence in 9 out of these 13 breeding seasons. The total number of chicks hatched over the years from the breeding group at the WRBC was 403, and the total number of released lesser kestrels hatched there was 358. Reared by foster lesser kestrel pairs were 103 chicks rescued from the wild. The total number of reared lesser kestrel chicks is 506. For the purposes of the project, birds from the WRBC breeding program were released in Levka and in Stara Zagora (from the WRBC). Good partnership was established with zoos and breeding centres in Bulgaria, Spain, the UK and Czech Republic, as throughout the years birds and knowledge was exchanged between the facilities.

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