

Supplementary information

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Table S1. Data of 29 Red Kited tracked by GPS/satellite telemetry and captured in different Spanish provinces. The resident or short-distance migratory behavior is indicated (in this case the distance to the wintering area appears in parentheses).

Bird ID	Province	Tagging date	Sex	Behaviour
KISP02	Soria	31/05/2016	Female	Short-distance migrant (344 km)
REKI02-Cac	Cáceres	23/05/2014	Female	Resident
REKI02-Zar	Zaragoza	01/06/2016	Female	Resident with postbreeding movement
REKI05	Madrid	30/05/2014	Male	Resident
REKI06	Madrid	02/06/2014	Female	Resident
REKI14	Cáceres	02/06/2017	Female	Resident with postbreeding movement
REKI15	Ávila	21/06/2015	Female	Resident
REKI16	Segovia	23/05/2015	Female	Resident
REKI17	Guipúzcoa	26/05/2015	Male	Resident
REKI18	Soria	01/06/2015	Female	Short-distance migrant (299 km)
REKI19	Zaragoza	28/05/2015	Female	Resident with postbreeding movement
REKI20	Ávila	21/06/2015	Female	Resident
REKI21	Segovia	23/05/2015	Female	Resident
REKI22	Soria	01/06/2015	Female	Short-distance migrant (560 km)
REKI23	Soria	03/06/2015	Male	Resident
REKI25	Ávila	21/06/2015	Male	Resident
REKI26	Guipúzcoa	26/05/2015	Female	Resident
REKI26	Toledo	19/05/2016	Female	Short-distance migrant (303 km)
REKI28	Valladolid	12/06/2015	Female	Resident with postbreeding movement
REKI29	Huesca	22/06/2015	Male	Resident
REKI30	Zamora	27/06/2015	Female	Resident with postbreeding movement
REKI34	Burgos	27/05/2016	Female	Resident
REKI35	Palencia	27/06/2016	Female	Resident with postbreeding movement
REKI36	León	17/05/2017	Female	Resident with postbreeding movement
REKI37	Salamanca	18/05/2017	Female	Resident
REKI38	Salamanca	18/05/2017	Female	Resident
123737	Madrid	09/05/2013	Female	Resident
123741	Toledo	12/06/2017	Male	Resident with postbreeding movement
87911	Baleares	02/06/2009 (as chick)	Female	Resident

Table S2. Home range size of 47 breeding events and maximum distances to nest for individuals of Red Kite tracked by GPS/satellite telemetry in Spain. Values are shown as mean $\pm$ standard deviation. F = Female; M = Male. MCP = Minimum Convex Polygon; K95% = 95% Kernel Density Estimation; K75% = 75% Kernel Density Estimation; K50% = 50% Kernel Density Estimation.

Bird ID	Sex	Period	Number of locations	MCP (km ²)	K95% (km ²)	K75% (km ²)	K50% (km ²)	Mean distance to nest (km)	Hourly distance covered (km per h)	Maximum distance to nest (km)
KISP02	F	01/03/2017–30/06/2017	1070	40.259	1.653	0.751	0.431	1.14 $\pm$ 1.78	0.85 $\pm$ 1.47	6.14
KISP02	F	01/03/2018–30/06/2018	855	110.651	1.032	0.499	0.263	0.68 $\pm$ 1.09	0.46 $\pm$ 0.69	12.98
REKI02-Cac	F	01/03/2015–30/06/2015	1715	85.392	2.647	0.924	0.529	1.75 $\pm$ 2.78	0.86 $\pm$ 1.81	10.25
REKI02-Zar	F	01/03/2017–30/06/2017	1330	616.65	2.551	1.138	0.632	0.94 $\pm$ 3.08	0.83 $\pm$ 1.65	28.96
REKI02-Zar	F	01/03/2018–30/06/2018	1440	832.711	17.938	10.466	5.951	3.96 $\pm$ 9.58	0.67 $\pm$ 1.91	41.14
REKI05	M	01/03/2015–30/06/2015	1383	60.927	1.091	0.558	0.308	1.14 $\pm$ 1.39	1.63 $\pm$ 1.74	6.65
REKI06	F	01/03/2015–30/06/2015	1528	91.606	0.476	0.257	0.144	0.58 $\pm$ 1.22	0.48 $\pm$ 1.21	9.09
REKI06	F	01/03/2016–30/06/2016	1135	24.864	0.316	0.153	0.085	0.36 $\pm$ 0.80	0.62 $\pm$ 1.18	5.11
REKI06	F	01/03/2017–30/06/2017	1335	29.018	0.236	0.099	0.051	0.25 $\pm$ 0.63	0.40 $\pm$ 0.85	6.3
REKI06	F	01/03/2018–30/06/2018	877	23.562	0.137	0.056	0.03	0.15 $\pm$ 0.42	0.28 $\pm$ 0.63	5.8
REKI14	F	01/03/2018–30/06/2018	1695	53.68	0.328	0.176	0.097	0.72 $\pm$ 0.68	0.66 $\pm$ 0.96	6.74
REKI15	F	01/03/2016–30/06/2016	1711	146.964	0.613	0.342	0.191	0.54 $\pm$ 1.53	0.61 $\pm$ 1.32	13.33
REKI15	F	01/03/2017–30/06/2017	1444	187.001	6.618	2.629	1.504	2.15 $\pm$ 3.89	0.80 $\pm$ 1.71	15.5
REKI15	F	01/03/2018–30/06/2018	1384	21.527	0.055	0.024	0.01	0.69 $\pm$ 0.33	0.45 $\pm$ 1.1	9.05
REKI16	F	01/03/2016–30/06/2016	1131	11.535	0.08	0.041	0.022	0.22 $\pm$ 0.42	0.51 $\pm$ 1.09	3.34
REKI16	F	01/03/2017–30/06/2017	1086	7.301	0.086	0.027	0.014	0.68 $\pm$ 0.25	0.35 $\pm$ 0.81	2.89
REKI16	F	01/03/2018–30/06/2018	1187	9.013	0.134	0.071	0.039	0.88 $\pm$ 0.22	0.49 $\pm$ 0.89	3.7
REKI17	M	01/03/2016–30/06/2016	1720	98.774	2.84	0.41	0.172	1.05 $\pm$ 1.29	1.17 $\pm$ 1.32	10.96
REKI17	M	01/03/2017–30/06/2017	1683	147.489	2.465	0.387	0.199	1.14 $\pm$ 1.42	1.48 $\pm$ 1.65	13.21
REKI17	M	01/03/2018–30/06/2018	1720	111.72	0.838	0.285	0.153	1.10 $\pm$ 1.46	1.42 $\pm$ 1.54	10.9
REKI18	F	01/03/2016–30/06/2016	1471	313.241	13.741	4.266	2.378	1.79 $\pm$ 3.66	1.58 $\pm$ 2.29	19.9
REKI22	F	01/03/2016–30/05/2016	1271	332.702	6.77	2.728	1.184	1.73 $\pm$ 3.45	0.82 $\pm$ 1.86	19.86
REKI23	M	01/03/2016–30/06/2016	1718	276.931	6.497	1.248	0.384	1.52 $\pm$ 1.67	1.55 $\pm$ 1.75	13.75

REKI23	M	01/03/2017–30/06/2017	1700	298.857	7.417	1.145	0.459	1.41 ± 1.81	1.53 ± 1.65	28.19
REKI23	M	01/03/2018–30/06/2018	1206	90.597	2.587	0.532	0.248	1.08 ± 1.19	1.28 ± 1.37	8.12
REKI25	M	01/03/2016–30/06/2016	1334	143.963	4.6	0.614	0.305	1.59 ± 1.58	1.52 ± 1.44	14.27
REKI25	M	01/03/2017–30/06/2017	665	29.416	5.306	0.79	0.207	1.60 ± 1.15	1.43 ± 1.02	4.98
REKI25	M	02/03/2018–30/06/2018	1032	23.848	4.86	1.012	0.179	1.79 ± 1.14	1.32 ± 1.08	6.41
REKI28	F	01/03/2016–30/06/2016	1417	15.621	0.198	0.056	0.026	0.53 ± 0.38	0.16 ± 0.45	4.94
REKI28	F	01/03/2017–08/06/2017	875	16.656	0.082	0.041	0.021	0.15 ± 0.38	0.19 ± 0.49	3.74
REKI29	M	01/03/2016–30/06/2016	1676	349.579	9.315	3.219	1.575	2.38 ± 4.85	2.49 ± 3.66	25.58
REKI29	M	01/03/2017–30/06/2017	1640	404.808	6.578	2.306	0.95	1.29 ± 3.32	1.35 ± 2.63	27.43
REKI29	M	01/03/2018–30/06/2018	1239	347.684	6.662	2.604	0.88	1.48 ± 3.34	1.45 ± 2.61	28.14
REKI30	F	01/03/2016–30/06/2016	971	27.557	0.157	0.083	0.045	0.30 ± 0.61	0.29 ± 0.59	5.51
REKI30	F	01/03/2017–30/06/2017	928	273.659	2.833	0.894	0.485	0.73 ± 1.69	0.86 ± 1.70	21.47
REKI34	F	01/03/2017–30/06/2017	1641	253.382	2.676	1.468	0.819	0.84 ± 2.82	0.83 ± 2.10	21.91
REKI35	F	15/03/2017–30/06/2017	877	123.837	0.97	0.557	0.314	1.19 ± 2.93	1.29 ± 2.34	9.74
REKI35	F	01/03/2018–30/06/2018	694	604.212	8.016	4.651	2.613	1.66 ± 4.69	0.95 ± 1.88	33.39
REKI36	F	01/03/2018–30/06/2018	1635	17.532	0.132	0.063	0.034	0.31 ± 0.61	0.42 ± 0.70	4.65
REKI37	F	01/03/2018–30/06/2018	1277	505.671	8.896	5.148	2.876	0.93 ± 4.88	0.35 ± 1.45	47.61
123737	F	05/03/2014–30/06/2014	261	20.389	1.119	0.428	0.243	0.74 ± 0.84	0.57 ± 0.71	4.79
123737	F	02/03/2015–30/06/2015	338	21.663	0.937	0.338	0.187	0.64 ± 0.73	0.40 ± 0.42	4.54
123737	F	01/03/2016–30/06/2016	319	49.596	2.988	0.98	0.542	1.65 ± 0.94	0.64 ± 0.74	11.12
123741	M	01/03/2018–30/06/2018	822	149.497	1.602	0.673	0.377	1.26 ± 1.71	1.18 ± 1.36	12.61
87911	F	01/03/2014–30/06/2014	500	236.111	15.71	9.288	5.287	3.71 ± 5.68	3.36 ± 4.90	22.47
87911	F	01/03/2015–30/06/2015	580	275.525	7.177	4.373	2.502	1.24 ± 4.08	1.04 ± 2.86	25.62
87911	F	01/03/2016–30/06/2016	393	36.79	1.691	0.984	0.563	0.50 ± 1.70	0.59 ± 1.75	9.74