

SUPPLEMENTARY MATERIALS

Table S1. Parameters of 44 Red Kites tracked by GPS/satellite telemetry tagged in Spain during the wintering season. Sex (F: female, M: male) and Age (A: adult, I: immature) are indicated together with bird ID. The wintering province in Spain and the summer destination after the spring migration are also shown. A hyphen (-) indicates that information is not available. *Italics* on dates indicate that they correspond to the beginning/end of measuring, not to beginning/end of wintering, so those were considered as “partial” winterings.

Name	Age	Sex	Wintering	Latitude (wintering)	Breeding	Beginning of wintering	End of wintering	No Days	Season
Huesca 01	A	F	Huesca	41.83267	Switzerland	2-dec.	20-feb.	80	2013- 2014
	A	F	Huesca	41.83500	Switzerland	16-dec.	14-feb.	60	2014- 2015
	A	F	Huesca	41.83033	Switzerland	14-nov.	6-feb.	84	2015- 2016
	A	F	Huesca	41.85850	Switzerland	7-jan.	21-feb.	45	2016- 2017
	A	F	Huesca	41.88200	Switzerland	12-jan.	14-feb.	33	2017- 2018
	A	F	Huesca	41.84386	Switzerland	10-dec.	16-feb.	68	2018- 2019
Segovia 02	A	F	Segovia	41.23400	Germany	<i>7-feb.</i>	11-apr.	63	2012- 2013
	A	F	Segovia	41.44900	Germany	18-oct.	<i>3-feb.</i>	108	2013- 2014
Álava 01	A	M	Álava	42.59118	France	<i>2-feb.</i>	12-feb.	10	2013- 2014
Álava 02	A	M	Álava	43.03312	Germany	<i>17-feb.</i>	13-mar.	24	2013- 2014

Álava 03	A	M	Álava	43.03410	Germany	<i>18-feb.</i>	13-mar.	23	2013-2014
Álava 04	A	M	Álava	43.07485	Germany	<i>17-feb.</i>	20-mar.	31	2013-2014
	A	M	France/Álava	43.97387	Germany	11-nov.	28-feb.	109	2014-2015
Álava 05	A	F	Álava	43.10015	Poland	<i>12-feb.</i>	1-mar.	17	2014-2015
	A	F	Álava	43.06533	Poland	28-oct.	12-feb.	107	2015-2016
	A	F	Álava/France	43.06567	Poland	12-jan.	13-feb.	32	2016-2017
	A	F	Álava	43.08320	Poland	13-nov.	24-feb.	103	2017-2018
	A	F	Álava	43.10017	Poland	24-oct.	14-feb.	113	2018-2019
	A	F	France	44.94693	Poland	13-nov.	27-jan.	75	2019-2020
Álava 06	A	M	Huesca	43.100183	Germany	<i>13-feb.</i>	27-feb.	14	2014-2015
Huesca 03	A	M	Huesca	41.87467	Poland	<i>2-feb.</i>	6-jun.	124	2012-2013
	A	M	Huesca	41.88654	Poland	20-nov.	15-mar.	115	2013-2014
Segovia 03	A	M	Segovia/Pamplona	42.88165	Switzerland	<i>7-feb.</i>	<i>10-apr.</i>	62	2012-2013
Huesca 07	A	M	Huesca	41.830567	Germany	2-nov.	9-mar.	127	2015-2016
	A	M	Huesca	41.829267	Germany	21-oct.	18-feb.	120	2016-2017
	A	M	Huesca	41.83285	Germany	7-nov.	16-feb.	101	2017-2018
Toledo 01	A	M	Toledo	40.575816	Germany	<i>8-mar.</i>	29-mar.	21	2015-2016

	A	M	Toledo/Badajoz	38.929082	-	17-oct.	5-mar.	139	2016-2017
Huesca 08	I	-	Huesca	41.867716	Austria	1-nov.	21-feb.	112	2015-2016
Ornitela 01	I	-	Álava	42.863029	Germany	<i>16-feb.</i>	18-apr.	<i>61</i>	2019-2020
Ornitela 02	I	-	Huesca	41.736111	Switzerland	<i>4-jan.</i>	7-apr.	<i>93</i>	2018-2019
	A	-	Huesca	41.556404	Switzerland	30-oct.	9-mar.	130	2019-2020
Ornitela 42	A	-	Álava	43.065178	Germany	<i>15-feb.</i>	12-apr.	<i>56</i>	2018-2019
	A	-	Álava	43.082405	Germany	16-nov.	10-mar.	114	2019-2020
Ornitela 57	I	-	Segovia	41.085445	France	<i>13-feb.</i>	14-apr.	<i>60</i>	2018-2019
	A	-	Cáceres	39.364162	Switzerland	10-dec.	31-mar.	111	2019-2020
Ornitela 59	I	-	Huesca	41.833813	Switzerland	<i>28-feb.</i>	27-mar.	<i>27</i>	2019-2020
Ornitela 67	A	F	Huesca	41.835056	Germany	<i>4-jan.</i>	26-feb.	<i>53</i>	2018-2019
Ornitela 67-2	I	-	Huesca	41.899185	Germany	<i>1-mar.</i>	9-apr.	<i>39</i>	2019-2020
Ornitela 72	A	-	Huesca	41.846012	France	<i>5-jan.</i>	8-feb.	<i>34</i>	2018-2019
Ornitela 73	A	-	Huesca	41.887726	Germany	<i>4-jan.</i>	31-jan.	<i>27</i>	2019-2020
Ornitela 74	I	-	Huesca	41.827923	Germany	<i>5-jan.</i>	21-apr.	<i>106</i>	2018-2019
	A	-	Huesca	41.89352	France	14-nov.	5-mar.	111	2019-2020
Ornitela 78	A	-	Segovia	41.376953	Germany	<i>28-jan.</i>	12-apr.	<i>74</i>	2018-2019

	A	-	Segovia	42.274231	Germany	15-nov.	2-apr.	138	2019-2020
Ornitela 79	A	-	Segovia/Pamplona	41.44083	Germany	26-nov.	23-jan.	58	2019-2020
Ornitela 82	A	-	Segovia	41.369122	Germany	18-nov.	25-jan.	68	2019-2020
Ornitela 98	A	-	France	45.292576	Switzerland	5-dec.	10-feb.	67	2019-2020
Ornitela 96-2	I	-	Huesca	41.833031	Germany	<i>1-mar.</i>	2-apr.	32	2019-2020
Ornitela 112	A	-	Álava	43.065212	Belgium	<i>16-feb.</i>	28-feb.	12	2018-2019
	A	-	Álava	43.031124	Germany	16-nov.	12-feb.	88	2019-2020
Ornitela 151	I	-	Álava	42.900139	Germany	<i>16-feb.</i>	7-apr.	50	2019-2020
Ornitela 154	I	-	Álava/France	43.665081	Germany	<i>16-feb.</i>	18-apr.	61	2019-2020
Ornitela 156	I	-	Álava	42.935135	Germany	<i>16-feb.</i>	8-apr.	51	2019-2020
Ornitela 157	I	-	Álava/France	45.265434	France	<i>16-feb.</i>	2-apr.	45	2019-2020
Ornitela 163	I	-	Álava	42.903809	Germany	<i>16-feb.</i>	14-apr.	57	2019-2020
Ornitela 177	A	-	Álava	42.920593	Germany	<i>16-feb.</i>	8-apr.	51	2019-2020
Ornitela 194	A	-	Álava/France	43.497177	Germany	<i>16-feb.</i>	27-mar.	39	2019-2020
Ecotone 19	I	-	Segovia	42.076216	Germany	<i>28-jan.</i>	28-mar.	59	2018-2019
	A	-	Burgos	42.077099	-	26-nov.	<i>30-dec.</i>	34	2019-2020
Ecotone 21	I	-	Huesca	41.551916	Germany	<i>4-jan.</i>	23-apr.	109	2018-2019

Ecotone 31	I	-	Huesca/France	41.551916	Germany	<i>4-jan.</i>	7-may.	123	2018-2019
	A	-	Huesca	41.893149	Germany	9-nov.	5-mar.	116	2019-2020
Ecotone 46	I	-	Álava	43.065983	Germany	<i>16-feb.</i>	1-apr.	44	2018-2019
	A	-	Álava	43.102633	Germany	25-nov.	9-mar.	104	2019-2020
Ecotone 53	I	-	Huesca	41.822367	Germany	<i>4-jan.</i>	1-apr.	87	2018-2019
	A	-	Huesca	41.892649	Germany	8-nov.	12-mar.	124	2019-2020
Ecotone 86	A	-	Segovia	41.421132	Germany	<i>29-jan.</i>	14-mar.	44	2018-2019
	A	-	Segovia	41.422716	Germany	29-nov.	12-feb.	75	2019-2020
Ecotone 102	I	-	Álava	41.376416	Germany	<i>29-jan.</i>	24-feb.	26	2018-2019
	A	-	Álava	41.087883	Germany	3-nov.	23-feb.	112	2019-2020
Ecotone 106	I	-	Segovia/Salamanca	41.376132	Germany	<i>28-jan.</i>	29-apr.	91	2018-2019

Figure S1. Wintering areas (95% KDE) used by the 44 tagged Red Kites during their non-breeding seasons in Spain and Southern France. Each color represents one wintering area.

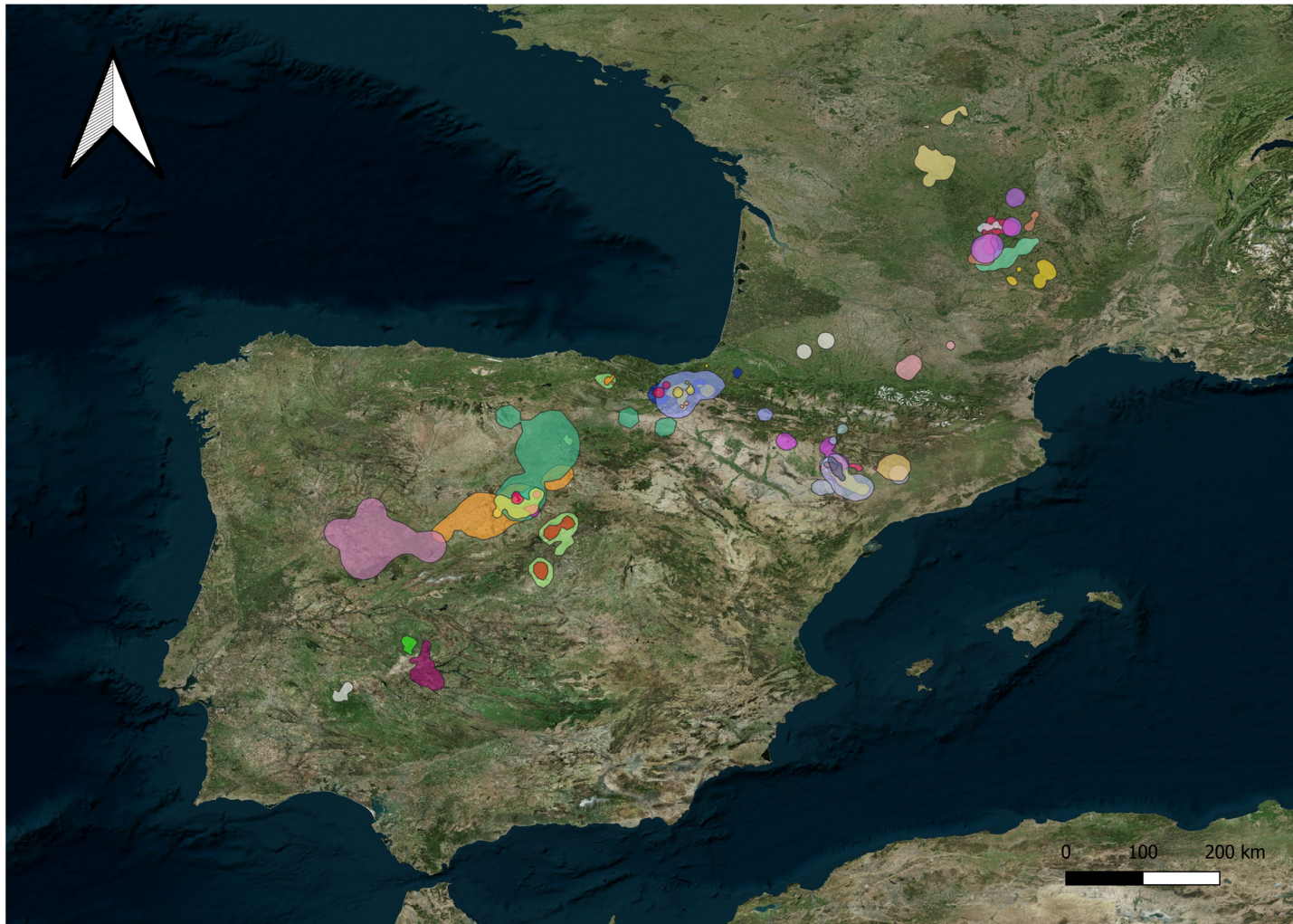


Figure S2. Comparison between individuals with one and two areas during the same wintering event based on home range size estimations (MCP, 95% KDE, 75% KDE and 50% KDE).

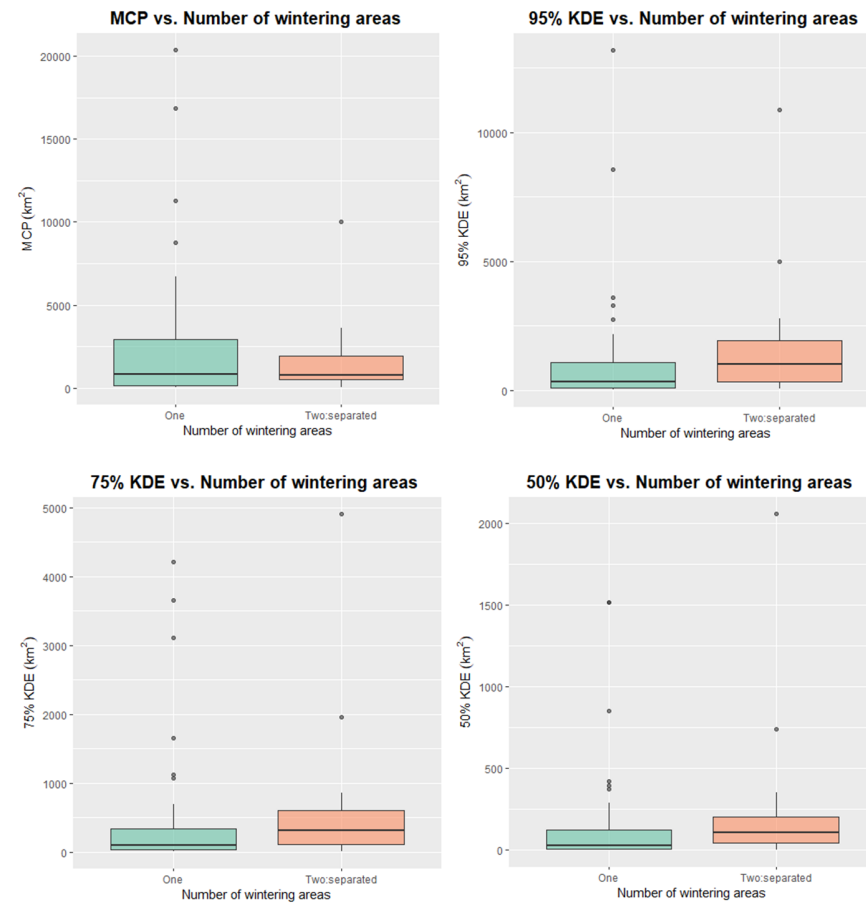


Figure S3. Comparison between sexes based on home range size estimations (MCP, 95% KDE, 75% KDE and 50% KDE).

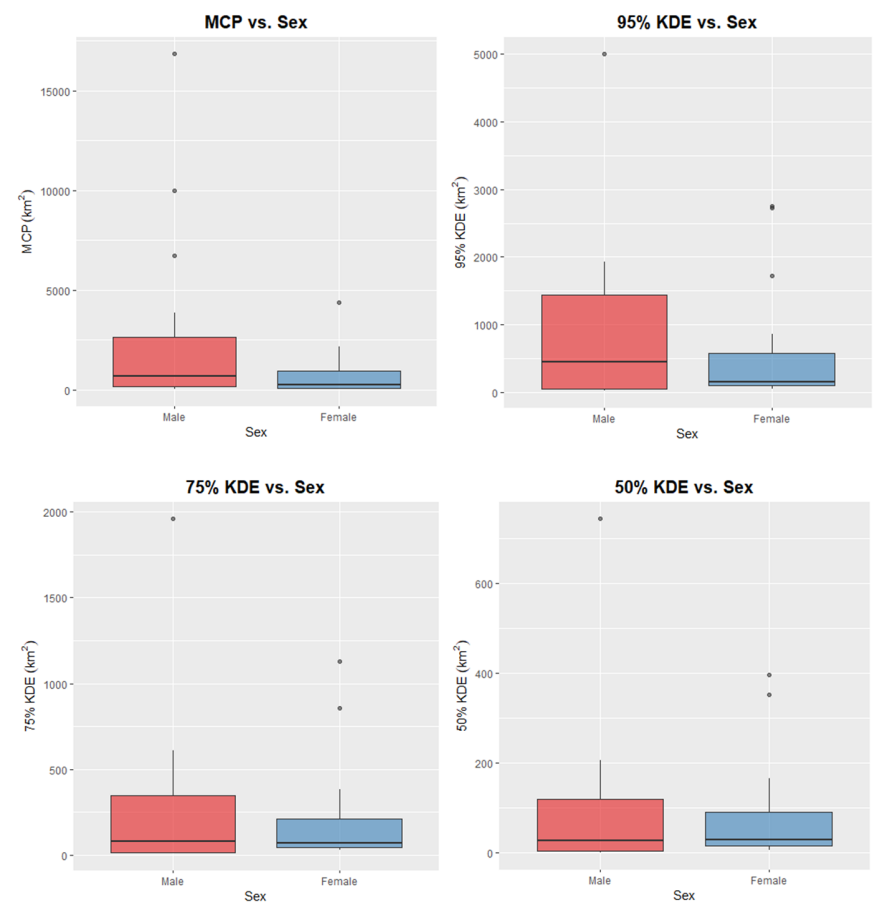


Figure S4. Wintering areas (95% KDE) used by immatures (green) and adults (red) Red Kites during their non-breeding seasons in Spain and Southern France.

