

# SARIMAZI RAPTOR MIGRATION COUNT IN TURKEY

## TECHNICAL REPORT

under action D1 of the Egyptian Vulture New LIFE project (LIFE16 NAT/BG/000874)



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## CONTEXT

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## 1. Introduction

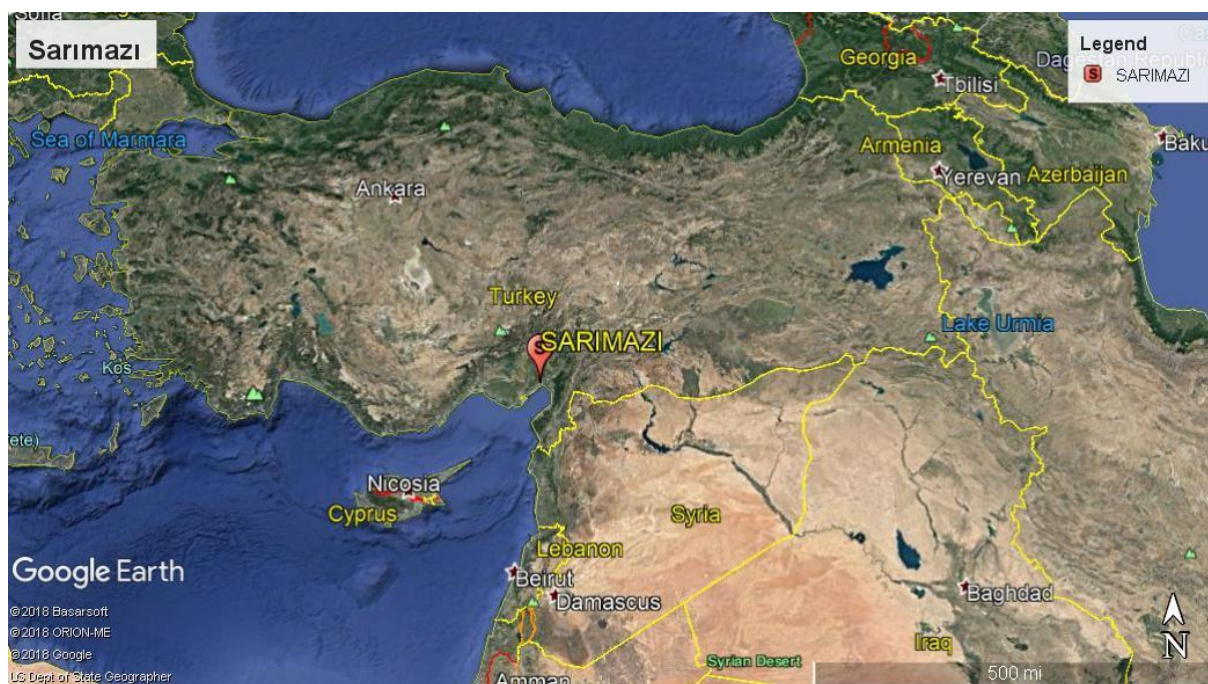
Turkey is an important migration route for migratory birds. It is of global importance, especially to the migratory soaring birds moving in the Africa-Europe and Africa-Asia directions. Some species reach their breeding grounds via Turkey, while others migrate to Turkey to winter. Migratory soaring individuals cross long distances, spending minimum energy through the warm air currents called “thermals” that occur above land. Therefore, they need to follow the ground and migrate during the day.

Hatay is a gateway to Turkey for the species that winter in Africa. In particular, the range of mountains that stretch across the Mediterranean coast creates a bottleneck for migratory soaring birds. Every year, millions of raptors, storks and others follow this route into Anatolia. On their way to the Caucasus, individuals pass through Eastern Anatolia to reach the eastern borders. In contrast, individuals on their way to Europe get Thrace via the Bosphorus and the Dardanelles. After arriving in their breeding grounds and raising their young, many species follow the same route back to their wintering grounds in autumn.

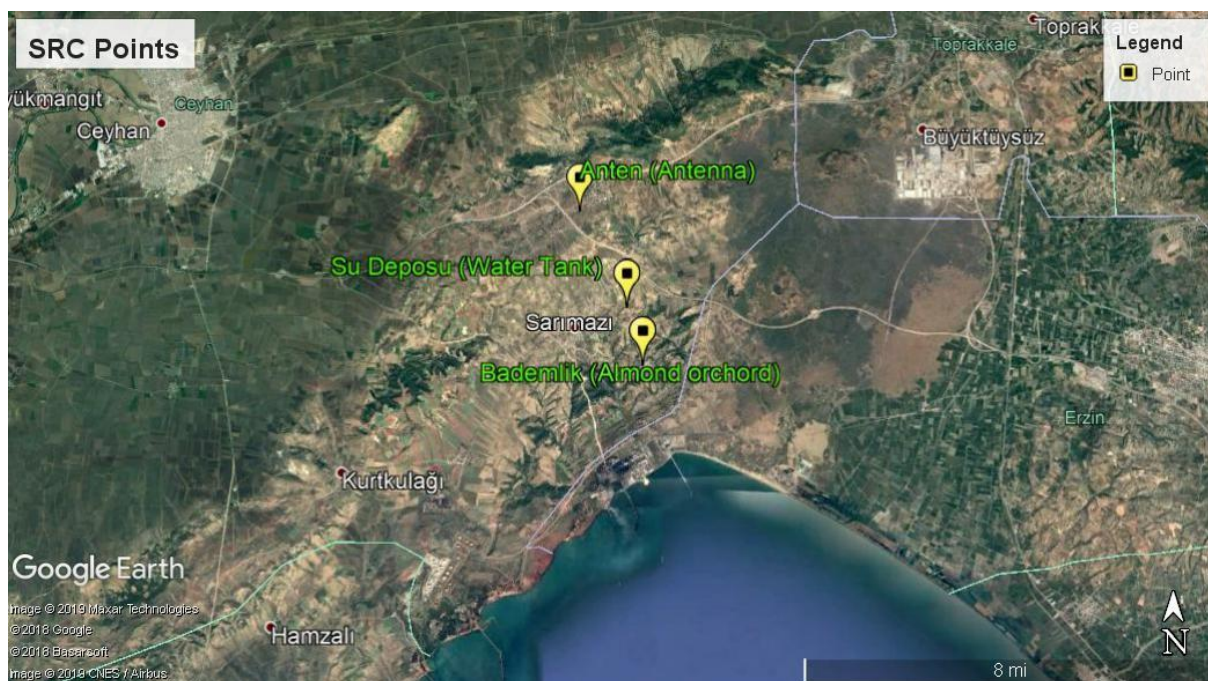
Counts in the bottleneck regions where birds are observed en masse are one of the most well-known methods to determine the population of migratory soaring birds. Therefore, these bottleneck regions have great importance.

Turkey contains important bottlenecks. During migration seasons, hundreds of thousands of birds pass through Turkey. Istanbul is one of the bottleneck regions where high numbers of soaring birds pass during migration. However, only a part of the migration can be observed in Istanbul; while the migratory birds from Eastern Europe and the Balkans can be observed there, the birds of Central and Western Turkey cannot. To overcome this issue, Oppel S. et al. (2014) conducted studies in the southern regions of Turkey in 2013. They determined 13 points used intensely by the soaring birds during the autumn migration season. Among these points, three were chosen due to the small number of volunteers and to prevent the duplication of the counts from observation points. These three points are located in the Sarımazı and Selimiye regions in Ceyhan, Adana (Map 1-2).





**Map 1.** Location of Sarımazi in the map of Turkey

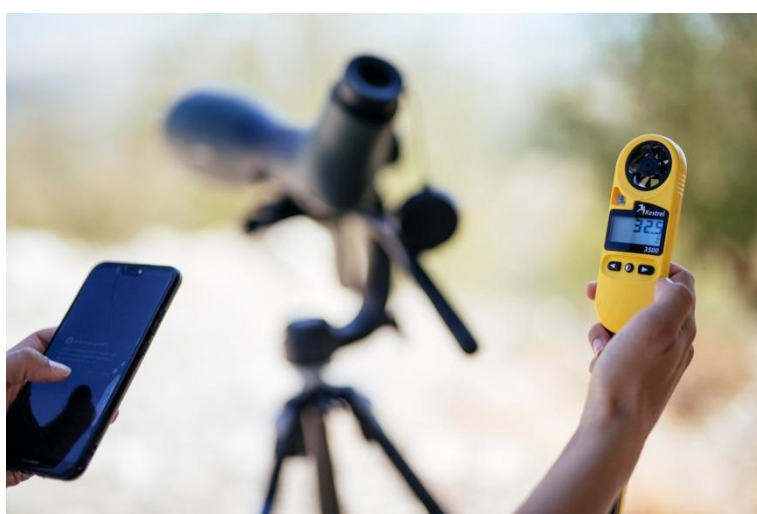


**Map 2.** Sarımazi Raptor Count observation points

This study aims to determine the migratory soaring bird populations and the population of the globally endangered (EN) Egyptian Vulture *Neophron percnopterus* and reveal the threats it faces during migration. So far, counts have been carried out in 2014, 2018, 2019, 2020, 2021 and 2022. In 2018, 2019 and 2022, 30 days were counted. In 2020 (12 days) and 2021 (10 days), the counts were kept short due to the Covid-19 pandemic. As of 2018, these counts are organised as part of the Egyptian Vulture New LIFE project. Sarımsazı Raptor Migration Count is aimed to be carried out every year to determine the population trends of the species passing through this bottleneck. This count is also an important opportunity for training on migratory bird censuses.

## 2. Methodology

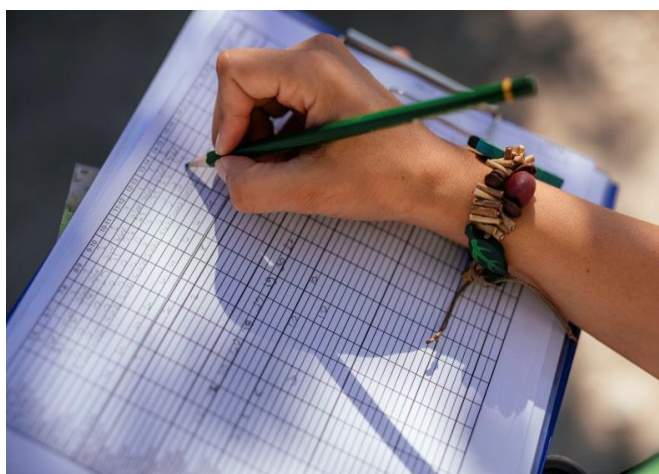
2022 Sarimazi Raptor Count was carried out between September 1<sup>th</sup> – September 30<sup>th</sup> with 16 experts and volunteers in the previously determined three points (Antenna, Water Tank and Almond Orchard). Each observation point equipped with a scoping scope, anemometer, binoculars, WiFi, power banks, and radios. The counts were carried out every day between 09.00 and 17.00. For data input a smart phone application called Trektellen was used. Data input was done hourly throughout the day, following measurements of the wind, temperature, visibility and cloud cover (Photograph 1).



**Photograph 1.** Observer performing the hourly measurements

Count charts were kept ready for the convenience of the observers during intense migration (Photograph 2). Each bird observed was recorded swiftly through the application. The observers were distributed so that the Antenna and the Water Tank had at least two, and the Almond Orchard had at least two or three observers who were in communication with each other, in order to prevent the same birds from being counted more than once. The communication tools used were smart phones and radios. As in previous years, we included the local children in the census and aimed to create local awareness (Photograph 3).





**Photograph 2.** Observer entering the data to the count chart during intense migration periods.



**Photograph 3.** Counts were carried out with local children in the Water Tank station.

### *Observation Points*

- **The Antenna**

The northernmost of the observation points, it is located between Selimiye and Dokuztekne regions.



**Photograph 4. The Antenna**

- **The Water Tank**

The point between the other two points. It also has a higher view range covering Antenna and Almond Orchard.



**Photograph 5. The Water Tank**



- **The Almond Orchard**

Southernmost point, it is the region through which the greatest number of migration is observing.



**Photograph 6.** The Almond Orchard

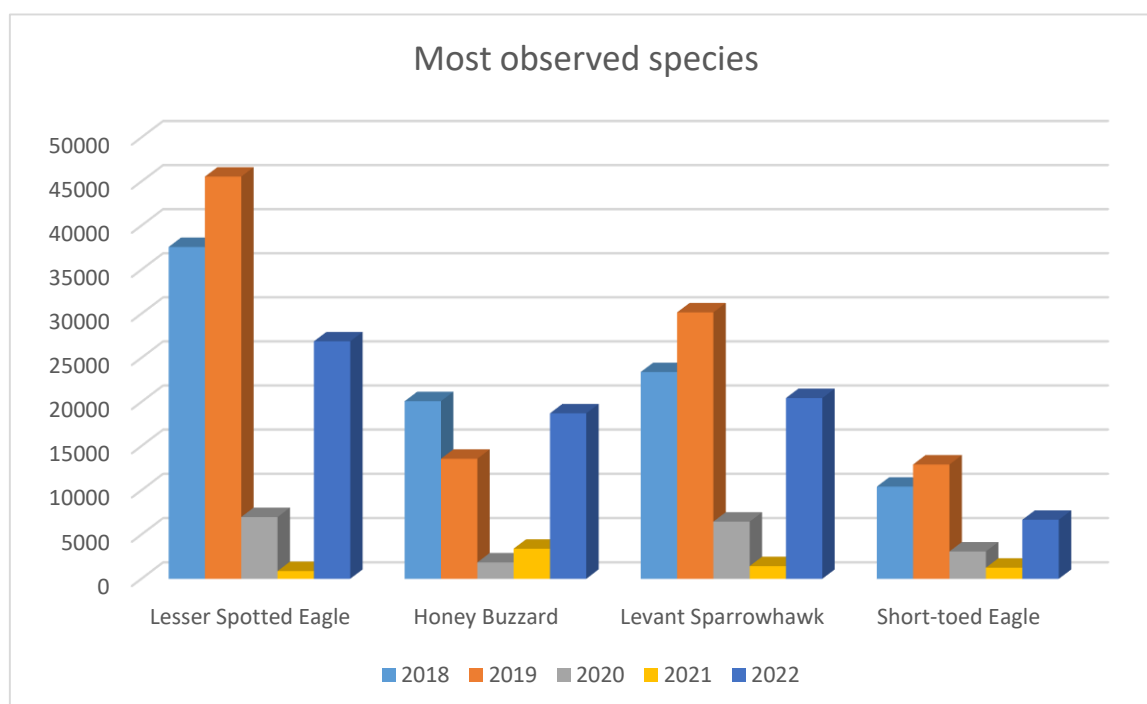
### 3. Findings

In the points determined in 2013, the first count was organised in 2014, and regular counts have started being carried out in 2018. 99896 raptors, 112318 raptors, 20290 raptors and 7561 raptors were counted in 2018, 2019, 2020, and 2021 respectively, while in 2022, the number was 77863 (Table 1).

**Table 1. Results of Count**

SARIMAZI RAPTOR COUNT							
Species (Turkish)	Species (Scientific)	Species (English)	1-30 September 2018 (30 days)	1-30 September 2019 (30 days)	9-20 September 2020 (12 days)	1-15 September 2021 (10 days)	1-30 September 2022 (30 days)
Küçük Orman Kartalı	<i>Clanga pomarina</i>	Lesser Spotted Eagle	37579	45560	6982	877	26870
Arı Şahini	<i>Pernis apivorus</i>	European Honey Buzard	20088	13567	1855	3403	18705
Yaz Atmacası	<i>Accipiter brevipes</i>	Levant Sparrowhawk	23387	30157	6462	1435	20442
Yılan Kartalı	<i>Circaetus gallicus</i>	Short-toed Snake Eagle	10414	12918	3089	1258	6673
Şahin	<i>Buteo buteo</i>	Common Buzard	2873	4383	282	24	907
Küçük Kartal	<i>Hieraaetus pennatus</i>	Booted Eagle	2192	2295	510	162	1578
Kara Çaylak	<i>Milvus migrans</i>	Black Kite	1878	1595	379	290	1353
Küçük Akbaba	<i>Neophron percnopterus</i>	Egyptian Vulture	809	881	275	71	553
Atmaca	<i>Accipiter nisus</i>	Eurasian Sparrowhawk	338	165	123	11	365
Saz Delicesi	<i>Circus aeruginosus</i>	Western Marsh Harrier	170	251	35	0	128
Kızıl Şahin	<i>Buteo rufinus</i>	Long-Legged Buzzard	46	46	73	4	164
Çayır Delicesi	<i>Circus pygargus</i>	Montagu's Harrier	37	11	1	2	15
Delice Doğan	<i>Falco subbuteo</i>	Euroasian Hobby	27	38	11	1	35
Bozkır Delicesi	<i>Circus macrourus</i>	Pallid Harrier	10	2	0	1	10
Gök Doğan	<i>Falco peregrinus</i>	Peregrine Falcon	11	20	7	6	11
Ada Doğanı	<i>Falco eleonora</i>	Eleonora's Falcon	7	7	0	0	1
Kızıl Çaylak	<i>Milvus milvus</i>	Red Kite	6	5	0	0	0
Gökçe Delice	<i>Circus cyaneus</i>	Hen Harrier	5	9	0	0	2
Kerkenez	<i>Falco tinnunculus</i>	Common Kestrel	5	30	15	2	28
Balık Kartalı	<i>Pandion haliaetus</i>	Western Osprey	3	9	3	0	1
Çakır	<i>Accipiter gentilis</i>	Northern Goshawk	3	5	0	2	0
Bozkır Kartalı	<i>Aquila nipalensis</i>	Steppe Eagle	2	15	0	0	2
Şah Kartal	<i>Aquila heliaca</i>	Eastern Imperial Eagle	2	8	0	0	2
Küçük Kerkenez	<i>Falco naumanni</i>	Lesser Kestrel	2	0	0	0	0
Ala Doğan	<i>Falco vespertinus</i>	Red-footed Falcon	1	0	0	0	0
Büyük Orman Kartalı	<i>Clanga clanga</i>	Greater Spotted Eagle	0	3	3	0	1
Ak Çaylak	<i>Elanus caeruleus</i>	Black-winged Kite	0	1	0	0	0
Ulu Doğan	<i>Falco cherrug</i>	Saker Falcon	0	2	0	2	2
Kızıl akbaba	<i>Gyps fulvus</i>	Eurasian Griffon Vulture	0	0	0	0	5
Boz Doğan	<i>Falco columbarius</i>	Merlin	1	1	0	0	0
Tanımlanamayan yırtıcı	-	unidentified raptors	0	334	185	10	10
<b>Yırtıcı kuşlar toplamı</b>	-	<b>Total of raptor birds</b>	<b>99896</b>	<b>112318</b>	<b>20290</b>	<b>7561</b>	<b>77863</b>
Kara leylek	<i>Ciconia nigra</i>	Black Stork	not counted	3445	1062	861	3414
Ak pelikan	<i>Pelecanus onocrotalus</i>	Great White Pelican	not counted	2224	2380	1794	3931
Leylek	<i>Ciconia ciconia</i>	White Stork	not counted	27721	906	20399	83109
<b>Toplam</b>		<b>Total</b>	<b>99896</b>	<b>145708</b>	<b>24638</b>	<b>30615</b>	<b>168317</b>

When we look at the censuses between 2018-2022, it is seen that the four most observed species by year are the lesser-spotted eagle, honey buzzard, Levant sparrowhawk and short-toed eagle. The change over the years is given below. (Graph 1).



**Graph 1.** The most observed species in 2018, 2019, 2020, 2021 and 2022 and their numbers

In the raptor migration count carried out in Sarımazı, 809 individuals of the globally endangered (EN) Egyptian Vulture were observed in 2018, 881 individuals in 2019, 275 individuals in 2020, 71 individuals in 2021, and 553 individuals in 2022. (Table 2).

**Table 2.** The number of Egyptian Vultures observed in 2018, 2019, 2020, 2021 and 2022.

	2018	2019	2020	2021	2022
Egyptian Vulture	809	881	275	71	553



## 4. Conclusions and Evaluation

Significant findings were obtained within the scope of migration monitoring studies, which took place regularly in September from 2018 to 2022. Migration monitoring studies are challenging and demanding work. It takes place due to bringing together experts, finding budgets and creating the necessary conditions.

The censuses, which were fully realized in 2018-2019 and 2022, were limited in 2020 and 2021 due to the Covid-19 pandemic, which affected the whole world, and this situation was also reflected in the census results.

Turkey has an important position for migratory soaring bird species. The fact that migration counts continue for many years under the same conditions also facilitates the interpretation of the data. Sarımazı village in the south of Turkey is also an important bottleneck for migratory soaring bird species during the autumn migration period. The censuses realized thanks to the Egyptian Vulture New LIFE Project once again revealed the importance of Sarımazı. The censuses were carried out from three points in Sarımazı, and 99896 birds of prey were counted in 2018, 112318 in 2019, 20290 in 2020, 7561 in 2021 and 77863 in 2022. The project's target species which is the Egyptian vulture were counted as 809 individuals in 2018, 881 individuals in 2019, 71 individuals in 2020 and 553 individuals in 2021.

After this process, the continuation of the censuses in Sarımazı and the creation of similar conditions are of great importance in the meaningful interpretation of the census results. Although local governments in Turkey do not give these activities much importance, it is thought that Ceyhan Municipality will contribute more to the censuses in the future.