

Methodology for Bird Surveys in the ESIA Studies

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List of Abbreviations

ESIA	Environmental and Social Impact Assessment
EU	European Union
IBA	Important Bird Area
MGHST	Mersin Gaziantep High Standard Train

1 Purpose

The main objectives of the bird survey to be conducted in the ESIA phase of the Mersin Gaziantep High Standard Train (MGHST) Project are as follows:

- To obtain the measurable baseline data on densities and communities of all bird species along the railway route.
- To define the status of the globally threatened species and restricted range species along the railway route (i.e., identification of birds during the wintering and breeding period:
It is aimed to determine wintering activities between December 15 - January 15, and breeding activities between March 15 - April 15).
- To survey bird population that occurs in wetlands and rivers and other sensitive habitats near and along the railway route. At least, 15 days of observations will be made to conduct collision risk analysis (SNH) at stations determined to be important. For example, river crossings and IBAs.
- To identify the list of bird species that possibly breed on land and vegetation exactly on the railway route and that will possibly be affected during construction activities. Reproduction data will be based on expert opinion and literature information. However, in the report to be presented after the field studies, it will be recommended to revisit the habitats that are important during the breeding period.

This survey targets breeding species that actually breed on the railway route or which breed in the close proximity and use the railway route for foraging, staging or resting. However sites or habitats not identified herein as being important should not be assumed to have no ornithological value at other times of year. Those areas may be important staging areas for autumn migration or wintering ground of some species. Despite the possibility of low-flying critical species in these important areas and river crossings, monitoring studies will also be carried out during winter and migration periods.

2 Methodology

The survey will start on 14 October in Mersin and finish by latest 16 October 2021 in Gaziantep. The main part of the survey will comprise line transects (Bibby et. al. 1998, 2000) walked along the centreline of the railway route.

Transect will comprise 500 m lengths or 30 minutes duration whichever was reached first but with the aim never to be less than 20 minutes duration. All identified birds seen or heard were recorded as within or without a 100 m distance parallel with the observers track. Most of the survey area is composed of agricultural fields or steppe. Therefore, a broader band of 100 m is preferred to 25 or 50 m bands.

Transects will be followed by Şafak Bulut walking in one direction along the route from Identification Points (IPs) selected randomly in advance and located to within 10 m by Global Positioning System (GPS).

Points were selected prior to the field survey to ensure random selection of habitats to reflect their distribution along the route. Observation stations will be selected with a focus on further work in IBAs (IBAs have been identified as important habitats for critical species after 30 years of observation. At present, detailed studies on potentially critical bird species possessed by IBAs will be determined by obtaining wintering and breeding data). At the beginning, IPs will be selected at every 10 km and associated facilities as borrow pits, bech plants, camp sites. The map of IPs are given in Appendix 1. However, at the field it is not expected to be able to reach exactly every IPs. In such cases the closest point the nearest point will be selected. A total of 36 transect point will be surveyed along 286 km railway route. The survey will start at 06:00 and will cease at 10:00, unless it is cool and cloudy and the bird activity continues.

The transects are already clustered into four groups according to general habitats. Moreover, at each transect the habitats will be recorded to make a habitat specific analysis of bird communities. These clusters are as follows

- Agricultural Areas: Mersin-Adana-Osmaniye
- Makies and mountain forests: Osmaniye-Nurdağı-Amanos-Gaziantep
- Oak forests and rocky areas: Gaziantep

In addition to transect survey, stream crossings will also be surveyed. The major river crossings already defined during previous route survey are selected as prime bird survey locations. In addition to these 16 major stream crossings, six (6) crossings are selected as additional survey locations considering their potential habitat characteristics for birds. These crossings are; Seyhan Reservoir, Berdan River, Ceyhan River, Küskün Stream, Karasu Stream and Akcasu Stream.

At those points, instead of surveying along the centreline, the starting point will be taken as the crossing point and transects were walked in opposite directions perpendicularly to the route along one or more banks. The target species will be: Grey Heron, Little Ringed Plover, White Kingfisher, White Kingfisher, Sand Martin, White Wagtail, Grey Wagtail. Flights between these important bird areas will be determined by detailed observation studies to be carried out during the wintering and migration periods and measures will be proposed.

2.1 Important Bird Areas (IBAs) near the railway route

There are four IBAs that are of close proximity to the railway routes: These IBAs are Yeşilce (TR138), Gavur Lake (TR 080), Bolkar Mountains (TR 076) and Amanos Mountains (TR 081). In addition to these IBAs, there is also a protected wetland named as Seyhan Dam Lake. It will be recommended to carry out monitoring studies for January 2022 in order to obtain wintering data in these important bird areas.

2.2 Globally Threatened Species near the railway route

In the survey area there are several Globally Threatened Species or Near-Threatened Species. Most globally threatened species are found in Amanos Mountains and Yeşilce, such as the migration route of many migrant species of Turkey pass through from Amanos Mountains and *Emberiza cineracea* is breeding in Yeşilce IBA. However there are two species of raptors that use a broader breeding territory and might visit the construction site during feeding. The Black Kite is found near Nurdağı and between Gaziantep is widely found breeding and wintering season. In addition to regular transect routes, those birds will be surveyed at their known breeding areas, colonies and nests sites. Since no breeding is likely to be occurring during the survey window, it is assumed that suitable breeding habitat along the route will be noted with a recommendation to revisit during the breeding season in 2022.

2.3 Data Analyses

Estimated density of species will be calculated from the transect data according to the following equation derived from Bibby et al. 1985 (see also Buckland et al. 1993) for each transect.

$$D = \text{Log}_e (t/n) * (t/mlb)$$

where D = the density per m²; t = total number of birds detected, n = the number of birds outside the pre-selected cut-off point (= b, in this case 100 m); m = the number of transects; and l = the transect length. It is important to note that for a density estimate to be calculated, at least one bird must be recorded inside the 100 m transect distance and one bird recorded outside in any series of transects. Only adult birds will be used in this analysis to avoid introducing bias into those transects counted at a later point in the breeding season.

Additionally, the following data will be presented:

- List of important species (Globally Threatened Species) recorded in surveys to be conducted during the wintering and breeding season.
- Bird habitat communities and regional variations at each biome and habitat.
- Implications for railway, such as re-routing (Monitoring studies will be recommended).

2.4 Project Timeline

The surveys will start on October 14, 2021, and continue until October 16, 2021 (Additional monitoring studies will be recommended). After completion of site surveys, the revisions on the ESIA report will be completed on October 30, 2021.

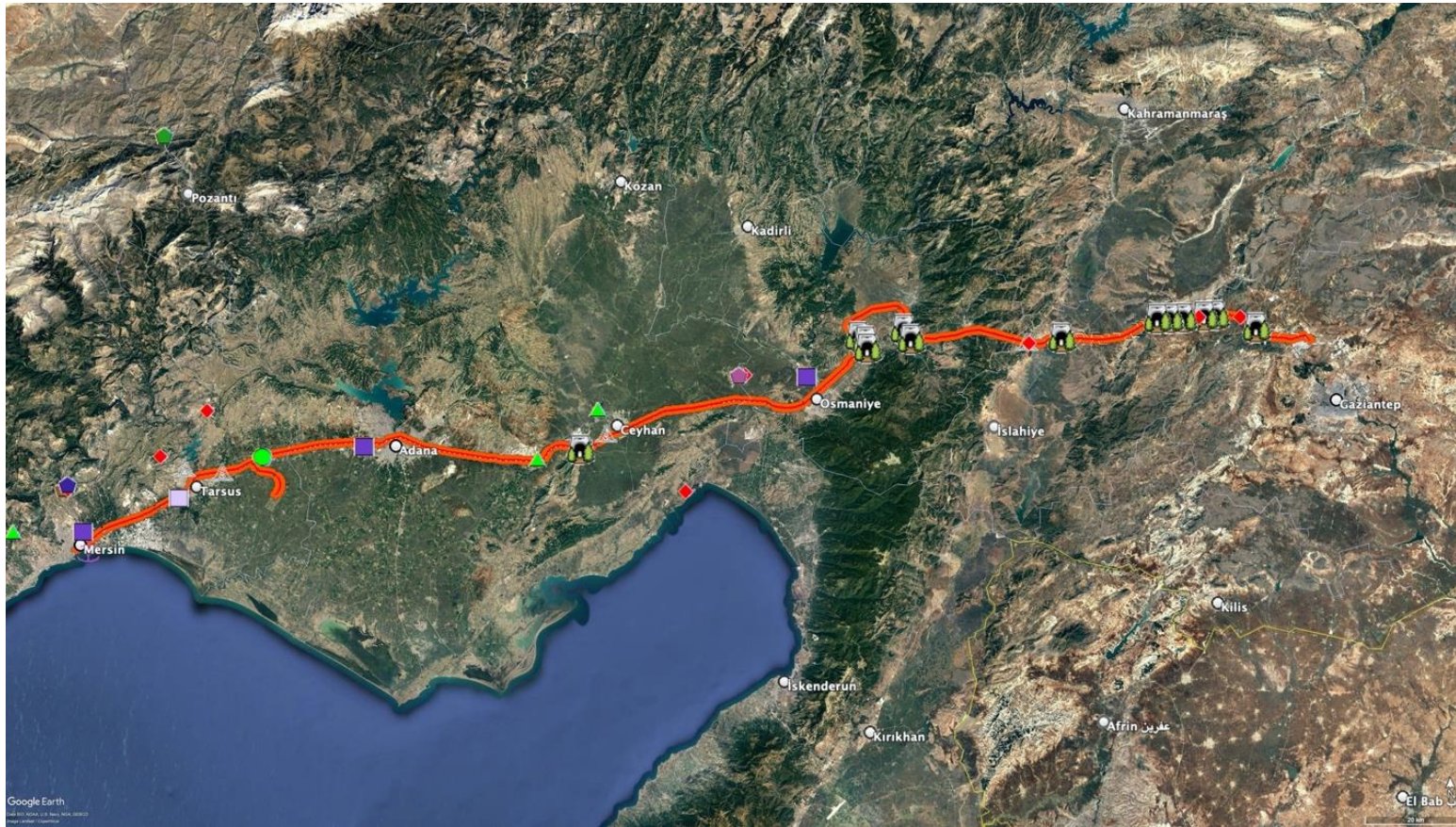
2.5 Expert

The survey team will be composed of ornithologist Assit. Prof. Şafak Bulut. The CV of the ornithologist is given in Appendix 2.

3 References

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Appendix 1 Map of Ips



Appendix 2

CV of Ornithologist

CURRICULUM VITAE AND LIST OF WORKS: ŞAFAK BULUT

Education Status:

Degree	Department / Program	University	Year
PhD	Biology (Zoology)	Hacettepe University	2010-2016
Master's Degree	Biology (Zoology)	Ankara University	2004-2007
Bachelor Degree	Biology	Ankara University	2000-2004

Tasks:

Position	Position Place	Year
Ass. Prof.	Biological Diversity Application and Research Center, HiTÜ	2018-
Ass. Prof.	Molecular Biology and Genetics, Hitit University	2018-
Ass. Prof.	Molecular Biology and Genetics, Hitit University	2017-2018
PhD. Res. Ass.	Biology, Hitit University	2016-2017
Res. Ass.	Biology, Hacettepe University	2010-2016
Res. Ass.	Biology, Hitit University	2008-2010

Administrative Tasks:

Position	Position Place	Year
Head Office	Hitit University, Biological Diversity Application and Research Center	2018-
Deputy Head of Department	Molecular Biology and Genetics, Hitit University	2017-

STUDIES

A. Articles Published in SCI:

- A1.** Yiğit, N., Gharkheloo, M. M., Çolak, E., Özkurt, Ş., Bulut, Ş., Kankılıç, T. and Çolak R. The Karyotypes of Some Rodent Species (Mammalia: Rodentia) from Eastern Turkey and Northern Iran with a New Record, *Microtus schidlovskii* Argyropulo, 1933, from Eastern Turkey. Tr. J. of Zool. 30: 459-464. 2006.
- A2.** Yiğit N., Bulut Ş., Karataş A., Çam P., Saygılı F. and Çolak, E. Contribution to distribution, morphological peculiarities and karyology of the Greater noctule *Nyctalus lasiopterus* (Chiroptera: Vespertilionidae) in Southwestern Turkey. Tr. J. of Zool. 32: 53-58. 2007.
- A3.** Saygılı, F., Yiğit, N. and Bulut, Ş. The spatial and temporal distributions of waterbirds in Lakes Akşehir-Eber and Lake Köyceğiz in western Anatolia, Turkey – a comparative analysis. Turk J Zool. 35 (4): 467-480, 2011.
- A4.** Yiğit, N., Çolak, E., Kandemir, İ., Kankılıç, T., Çolak, R., Bulut, Ş., Çam, P., Saygılı, F., Sözen, M., Özkurt, Ş. Allozyme Variations with taxonomic remarks in *Rattus rattus* (Rodentia: Muridae) in Turkey. Zool. In the Middle East. 45: 19-28, 2008.
- A5.** Kart Gür M., Bulut Ş., Gür H. and Refinetti R. Body temperature patterns and use of torpor in an alpine glirid species, woolly dormouse. Acta Theriologica DOI 10.1007/s13364-013-0154-9, 2013.
- A6.** Avcı E., Bulut S., Bircan FS., Ozluk A., Coskun Cevher S. The Effect of Hibernation on oxidative and antioxidant events under the laboratory conditions in Anatolian ground Squirrel, *Spermophilus xanthoprymnus* (Bennett, 1835) (Mammalia: Scuridae) from Central Anatolia. Pak. J. Zool., vol. 46(1), pp. 177-183, 2014.

B. SCI Dışında Diğer Uluslararası Dergilerde Yayınlanan Makaleler

- B1.** Bulut, Ş., Yiğit, N. Allozyme Variations on Subspecies of *Meriones tristrami* (Rodentia: Gerbillinae) in Western Anatolia. Hacettepe Journal of Biology and Chemistry. 39:1-51, 2011.
- B2.** Bulut, Ş., Akbaba, B. and Ayaş., Z. Analysis of Mammal Remains From Owl Pellets (*Asio Otus*), In A Suburban Area In Beytepe, Ankara. Hacettepe Journal of Biology and Chemistry. 2012.
- B3.** Bulut Ş., Akbaba B., Karataş A. Contributions to the Knowledge of Mammals in Çorum Province, Turkey. Hitite Eng. Sci. 2017.
- B4.** Karataş, A., Bulut, Ş. Karataş, A. New Distribution Records of Bohemian Waxwing *Bombycilla garrulus* (Linnaeus, 1758) from Turkey. Biharean Biologist. Accepted paper-until proofing.

C. Articles Published in National Journals

- C1.** Karataş A., Karataş Ay., Bulut Ş., Doğan M. Arıkuşları (CORACIIFORMES: MEROPIDAE), Bee-eaters (CORACIIFORMES: MEROPIDAE), 2017. Tabiat ve İnsan, Yıl:51 197: 4-16.

C2. Şahin, M. K., Akbaba, B., **Bulut, Ş.** Urban Faunal Dynamics Of Beytepe Campus, Ankara: Three Case Studies for Vertebrate Animals, 2018. Commun. Fac. Sci. Univ. Ank. Series C. 27(1): 45-60.

D. Papers presented in international scientific meetings and published in the proceedings:

D1. Avcı E., Ozluk A., Bircan F.S., **Bulut Ş.**, Goney G., Cevher S.C., The Effect of hibernation on oxidative events in Anatolian ground squirrel, *Spermophilus xanthoprymnus* (Bennet,1835) (Mammalia: Scuridae) from Central Anotolia under the laboratory conditions. The FEBS Journal Volume: 278 (1) 390, 2011. (36th FEBS Congress– İTALYA).

D2. **Bulut Ş.**, Yigit, N., Colak, E., Colak, R., Cam, P. and Saygılı F. Allozymic Variations in the Genus *Dryomys* (Rodentia: Gliridae) Distributed in Turkey. 34th FEBS Congress, Prague, Czech Republic, July 4 - 9, 2009.

D3. **Bulut Ş.**, Yiğit, N. Allozyme Variations on Subspecies of *Meriones tristrami* (Rodentia: Gerbillinae) in Western Anatolia. 35th FEBS Congress Göteborg Sweden, June 26 - July 1, 2010.

D4. **Bulut Ş.**, Ayaş Z., Habitat Selection of Small Mammals in Soğuksu National Park (Ankara) in Turkey. The 3rd International Symposium on EuroAsian Biodiversity (SEAB-2017) Minsk, BELARUS, July 05-08, 2017.

D5. Karataş A., Özkurt Ş., Karataş AY., **Bulut Ş.** Two Examples of the Human Impact on the Shaping of Zoogeography From Turkey: Invasion and Drainage. **The 3rd International Symposium on EuroAsian Biodiversity (SEAB-2017) Minsk, BELARUS, July 05-08, 2017.**

D6. **Bulut Ş.**, Akbaba B., Karataş A. Contributions to the Knowledge of Mammals in Çorum Province, Turkey. **The 3rd International Symposium on EuroAsian Biodiversity (SEAB-2017) Minsk, BELARUS, July 05-08, 2017.**

D7. **Bulut Ş.**, Karataş A., Yiğit N. Morphometric and Karyological Analyses of Three Subspecies of *Meriones tristrami* (Muridae: Gerbillinae) Distributed in Anatolia, Turkey. **The 3rd International Symposium on EuroAsian Biodiversity (SEAB-2017) Minsk, BELARUS, July 05-08, 2017.**

D8. Doğan M., **Bulut Ş.**, Akbaba B., Karataş A. The Most Comprehensive Study on Mammal Biodiversity in Karabük Province (Turkey). **The 3rd International Symposium on EuroAsian Biodiversity (SEAB-2017) Minsk, BELARUS, July 05-08, 2017.**

D9. Karataş A., **Bulut Ş.**, Doğan M. Brandt's bat (*Myotis brandtii*) - Species Action Plan with New Some Ecological and Locality Records. **The 3rd International Symposium on EuroAsian Biodiversity (SEAB-2017) Minsk, BELARUS, July 05-08, 2017.**

E. Papers presented in scientific meetings and published in proceedings:

E1. Saygılı, F., Yiğit, N. and **Bulut, Ş.** Ornitofauna of Aksehir and Eber Lakes. 23 – 28 June 2008, 19. National Biology Congress, Turkey.

E2. Çam, P., **Bulut, Ş.** and Yiğit, N. Chromosomal Arrangements in Hybrid Individuals of *Mesocricetus brandti* (Nehring, 1898) (Mammalia: Rodentia). 23-28 June. Karadeniz Technical University - Trabzon.

E3. Akbaba B., **Bulut Ş.**, Ayaş Z., Daily Activity Patterns of Medium and Large Mammal Species Determined by Camera Trap in Soguksu National Park (Kizilcahamam-Ankara), Ecology 2015 Symposium, 06-09 May 2015, Sinop, Proceedings Book, 526 p.

E4. **Bulut Ş.**, Akbaba B., Ayaş Z., Investigation of Nutritional Behavior of Variegated Owl (*Strix aluco*) Population, Ekoloji 2015 Sempozyumu, Ecology 2015 Symposium, 06-09 May 2015, Sinop, Proceedings Book, 526 p.

E5. Ürker, O., İlemin, Y., **Bulut Ş.** and Ada, E. A Current Evaluation of the Biodiversity of the Anatolian Sweetgum Forests and the Wildlife Characteristics in These Forests. 14-17 September 2015. XII. National Ecology and Environment Congress.

E6. Akbaba B., Özkan A., Öztapak A.C., Bulut Ş., Ayaş Z., Comparison of Field Usages and Daily Activity Patterns of Stray Domestic Dogs and Red Foxes in a Semi-Urban Area, 1st National Zoology Congress, 28-31 August 2013, Nevşehir, 120 p.

E7. Akbaba B., **Bulut Ş.**, Tereshenko E.T., Ayaş Z., Terrestrial Vertebrate Fauna of the Hacettepe University Beytepe Campus. 1st National Zoology Congress, 28-31 August 2013, Nevşehir. 120 p. (Poster presentation)

E8. Akbaba B., **Bulut Ş.**, Ayaş Z. Can Activity Patterns of Small Mammalian Species Be Determined Using Camera Trap? Examples of Hedgehog (*Erinaceus concolor*) and Squirrel (*Sciurus anomalus*). 21st National Biology Congress (International Participation), 03-07 September 2012, Izmir, Proceedings Book, Palme Publication, Ankara (Editor: Yusuf Vardar), 1454 p.

E9. Yiğit, N., Saygılı, F. and **Bulut Ş.** Akşehir -Eber Lakes Hunting Water Birds, Hunting Problems and Solution Suggestions. 17 – 20 April 2008, 1. Turkey hunting and Wildlife Symposium and Exhibition Industry.

E10. Saygılı, F., Yiğit, N. and **Bulut Ş.** The importance of Lake Köyceğiz for Birds. 10 – 13 September 2007, VII. National Ecology and Environment Congress.

F. Duties in Projects:

F1. Biometric analysis and phylogenetic relationships of the species *Meriones* Illiger 1811 distributed in Turkey (Mammalia: Rodentia). 2007-2010. (Scholar) Tubitak No: 107T324.

F2. Alloenzyme Variations of *Dryomys nitedula* (Palas, 1779) and *Dryomys laniger* Felten and Storch, 1968 (Mammalia: Rodentia) distributed in Turkey. 2005 - 2008 Ankara University, Scientific research projects. No: 2005 070 51 02. Assistant researcher.

F3. Behavioral Ecology and Communication in two Species of Hamsters. 2005 - 2008. Tübitak Joint Project, TBAG U/129. Assistant researcher.

F4. Taxonomic and Phylogenetic studies on *Microtus* species (Mammalia: Rodentia) distributed in Trace (Turkey) and Bulgaria. 2005 - 2007. Tübitak Joint Project, TBAG-U/113. Assistant researcher.

F5. Determination of Mammal Fauna in Beytepe Region (Ankara). 2011 – 2012. Ankara University, Scientific research projects. Assistant researcher.

F6. Determination of Medium and Large Mammalian Species of Soguksu National Park (Kizilcahamam-Ankara). 2010 – 2011. Scientific research projects. Assistant researcher.

F7. Investigation of Habitat Use Behavior of Eurasian Lynx (*Lynx lynx* L. 1758) distributed in Soguksu National Park (Kizilcahamam-Ankara). 2010 – 2011. (013D03601004), Scientific research projects. Assistant researcher.

F8. Project for the Investigation, Monitoring and Conservation of Sea Turtles (*Caretta caretta* and *Chelonia mydas*) and Nile Turtle (*Trionyx triunguis*) Populations in the Belek Beach Area, T.C. Ministry of Environment and Urbanization, General Directorate of Conservation of Natural Assets, Ankara, 2014. Assistant Researcher.

F9. Determination of Small Mammal (Eulipotyphl and Rodentia Orders) Fauna distributed in Soguksu National Park (Kizilcahamam-Ankara). Hacettepe University Scientific research projects. Assistant researcher. (013D11601004), Ankara, 2014.

F10. Investigation of Nutritional Behavior of Barn Owl (*Strix aluco*) Populations in Soguksu National Park (Kizilcahamam-Ankara). Assistant researcher. (013D11601004), Ankara, 2014.

G. Book and / or Book Department Writing

G.1. Applicability of the EU Natura 2000 Concept in Turkey Forests, Foresters Association of Turkey. 2018. Birds and Mammals fauna of Eğriova and Kavaklı Forests. Author of Ornithology Section.

G.2. Naturel Life of Çanakkale, Republic of Turkey Ministry of Environment and Urbanization. 2018. ISBN: 978-605-5294-93-9. Author of Mammal Section.

H. Counseling (Ornithology)

H.1. Nabucco Pipeline Environmental Monitoring, Golder Environmental Engineering, Bird Expert, 2012.

H.2. TANAP Pipeline Environmental Monitoring, Çınar Environmental Engineering, Bird Expert, 2013.

H.3. Kıyıköy Res - Pre-Activity Ornithological Monitoring Study, Project Coordinator, Adalı Holding (Ministry of Forestry and Water Affairs), 2014.

- H.4.** Ecological based scientific research project of natural protected areas of Muğla province, Bird Expert, Sena Gayrimenkül (Ministry of Environment and Urbanization), 2014-2015.
- H.5.** Ecological based scientific research project of natural protected areas of Kayseri, Sivas, Malatya and Yozgat provinces, Bird Expert, MGS Eng. (Ministry of Environment and Urbanization), 2015-2016.
- H.6.** Ecological based scientific research project of natural sites of Sanliurfa, Adiyaman, Diyarbakir, Batman, Elazig and Mardin provinces, Bird Expert, MGS Eng. (Ministry of Environment and Urbanization), 2015-2016.
- H.7.** Ecological based scientific research project of natural sites of Eskişehir, Uşak, Afyon and Bilecik provinces, Bird Expert, Ekogen Çevre Müh. (Ministry of Environment and Urbanization), 2015-2016.
- H.8.** GökRes 2 WPP - Post-Operation Ornithological and Mammaligical Monitoring Studies, GAMA Holding, (Ministry of Forestry and Water Affairs), 2015-2016.
- H.9.** Saritepe-Demirciler WPP - Post-Operation Ornithological and Mammaligic Monitoring Studies, Zorlu Holding, (Ministry of Forestry and Water Affairs), 2015-2016.
- H.10.** Gökçedağ WPP - Post-Operation Ornithological and Mammaligic Monitoring Studies, Zorlu Holding, (Ministry of Forestry and Water Affairs), 2015-2017.
- H.11.** Karadağ WPP - Post-Operation Ornithological and Mammaligic Monitoring Studies, GAMA Holding, (Ministry of Forestry and Water Affairs), 2016-2017.
- H.12.** Kırkağaç WPP - Post-Operative Ornithological and Mammaligic Monitoring Studies, GAMA Holding, (Ministry of Forestry and Water Affairs), 2016-2017.
- H.13.** Sares WPP - Post-Operation Ornithological and Mammaligic Monitoring Studies, GAMA Holding, (Ministry of Forestry and Water Affairs), 2016-2017.
- E.14.** Şapdağ RES Ornithological Survey Studies as IFC Standarts (2017, April), 2u1k Çevre ve Müh.
- H.15.** Kirazlı WPP Ornithological Survey Studies as IFC Standarts (2017, April), 2u1k Env and Eng.
- H.16.** Biodiversity inventory of Malatya and Diyarbakır provinces, Ministry of Forestry and Water Affairs, 2016-2018, Ornithologist.
- H.17.** Terrestrial and Inland Water Ecosystems in Malatya, Biodiversity Inventory and Monitoring Ek Ministry of Forestry and Water Affairs, 2016-2018, Ornithologist.
- H.18.** Terrestrial and Inland Water Ecosystems Biodiversity Inventory and Monitoring in Diyarbakir Province Ek Ministry of Forestry and Water Affairs, 2016-2018, Ornithologist.
- H.19.** Evaluation of environmental impacts of Basra (Iraq) combined cycle plants according to IFC standards (2017), 2u1k Environment and Eng.
- H.20.** Terrestrial and Inland Water Ecosystems in Siirt Province Biodiversity Inventory and Monitoring Ministry of Forestry and Water Affairs, 2018-continue, Ornithologist.
- H.21.** Terrestrial and Inland Water Ecosystems in Şırnak Province Biodiversity Inventory and Monitoring Biy Ministry of Forestry and Water Affairs, 2018-continue, Ornithologist.
- H.22.** Terrestrial and Inland Water Ecosystems in Mardin Province Biodiversity Inventory and Monitoring olojik Ministry of Forestry and Water Affairs, 2018-continue, Ornithologist.

I. Gold Mining Project (IFC and/or EBRD)

- I.1.** Kışladağ Tüprag Biodiversity Monitoring Studies (2013-still)
- I.2.** İliç Anagold Madencilik Biodiversity Monitoring and additional baseline studies (2014-2015)
- I.3.** Lapseki Tümad Madencilik Biodiversity Monitoring Studies (2018-still)
- I.4.** İvrindi Tümad Madencilik Biodiversity Monitoring Studies (2018-still)
- I.5.** Gediktepe Polimetal Madencilik Baseline and Monitoring Studies (2013-still)
- I.6.** Şahinli ESAN Biodiversity Baseline and Monitoring Studies (2018-2020)
- I.7.** Balya ESAN, Biodiversity Monitoring Studies (2021-still)
- I.8.** Hanönü, Acacia Madencilik, Biodiversity Monitoring Studies (2021-still)
- I.9.** CVK Madencilik, Balıkesir, Biodiversity Baseline Studies (2019-2020)
- I.10.** HOD, Polimetal Madencilik, Biodiversity Management Plan (2020)
- I.11.** Çukuralan KOZA Madencilik, Biodiversity Monitoring Studies (2019-2020)
- I.12.** Terziler KOZA Madencilik, Biodiversity Baseline Studies (2020-2021)
- I.13.** HOD, Polimetal Madencilik, Biodiversity Monitoring Studies (2021-still)

Appendix 3

Filed Record Sheet

Observers:		Visit Date:				
Admin. Locality		Start Time				
Coordinates (targeted)		Finish Time				
Coordinates (real)		Weather	Cloud	Rain	Wind	Vis
Distance walked						

Distance categories:

0-100 metres from the transect line. More than 100 metres from the transect line.

F. Birds in flight only, at any distance (record on sheets using an arrow, e.g. BZ).

Please note:

Please record breeding colonies (Rooks, Sand Martins etc.) and estimate the number of nests.

Habitat

Map

Agricultural Cropland		
Grassland		
Grassland Plain Steppe		
Montane Steppe		
Subalpine Meadow		
Alpine Zone		
Scrub Scrub		
Maquis		
Juniper		
Rocky Hillside		
Oak		
Forest Black Pine		
Calabrian Pine		
Broad-leaved Woodland		
Mixed Forest		
Wetland Riparian		
Marsh		

Species	1-100	100+	Species	1-100	100+	Species	1-100	100+	Species	1-100	100+
Tac ruf			Cic nig			Neo per			Aqu pom		
Pod cri			Cic cic			Aeg mon			Aqu hel		
Pel cri			Ple fal			Cir gal			Aqu hel		
Bot ste			Pla leu			Cir aer			Aqu chr		
Ixo min			Tad fer			Cir pyg			Hie pen		
Nyc nyc			Ana pla			Acc gen			Fal nau		
Ard ral			Ayt nyr			Acc nis			Fal tin		
Egr gar			Per api			Acc bre			Fal sub		
Ard cin			Mil mig			But but			Fal che		
Ard pur			Gyp bar			But ruf			Fal per		

Species	1-100	100+	Species	1-100	100+	Species	1-100	100+	Species	1-100	100+
Ale chu			Pic vir			Mon sax			Sit neu		
Per per			Den maj			Mon sol			Cer bra		
Cot cot			Den syr			Mon sol			Rem pen		
Ral aqu			Den med			Tur mer			Ori ori		
Gal chl			Den leu			Tur phi			Lan col		
Gal chl			Den min			Tur vis			Lan min		
Ful atr			Mel cal			Cet cet			Lan sen		
Him him			Mel bim			Cet cet			Lan nub		
Bur oed			Cal bra			Loc lus			Gar gla		
Gla pra			Cal ruf			Acr mel			Pic pic		
Cha dub			Gal cri			Acr sch			Cor mon		
Van van			Lul arb			Acr sci			Cor fru		
Lar cac			Ala arv			Hip pal			Cor cor		
Chl hyb			Rip rip			Hip oli			Cor cor		
Pte ori			Hir rup			Syl can			Stu vul		
Col liv			Hir rus			Syl mel			Stu ros		
Col oen			Hir dau			Syl rue			Pas dom		
Col pal			Del urb			Syl hor			Pas his		
Str dec			Ant cam			Syl nis			Pas mon		
Str tur			Ant tri			Syl cur			Pet pet		
Cla gla			Mot fla			Syl com			Fri coe		
Cuc can			Mot cit			Syl atr			Ser ser		
Tyt alb			Mot cin			Phy bon			Car chl		
Otu sco			Mot alb			Phy col			Car car		
Bub bub			Cin cin			Reg reg			Car can		
Ath noc			Tro tro			Mus str			Lox cur		
Str alu			Ery gal			Fic par			Car ery		
Asi otu			Eri rub			Fic sem			Coc coc		
Aeg fun			Lus meg			Pan bia			Emb cit		
Cap eur			Ira gut			Aeg cau			Emb cir		
Apu apu			Pho pho			Par pal			Emb cia		
Tac mel			Sax rub			Par lug			Emb hor		
Mer api			Sax rub			Par ate			Emb cae		
Cor gar			Oen isa			Par cae			Emb mel		
Upu epo			Oen oen			Par maj			Mil cal		
Jyn tor			Oen his			Sit kru					
Pic can			Oen fin			Sit eur					