

# Information Sheet on Ramsar Wetlands (RIS) – 2009-2014 version

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*Categories approved by Recommendation 4.7 (1990), as amended by Resolution VIII.13 of the 8<sup>th</sup> Conference of the Contracting Parties (2002) and Resolutions IX.1 Annex B, IX.6, IX.21 and IX.22 of the 9<sup>th</sup> Conference of the Contracting Parties (2005).*

## Notes for compilers:

1. The RIS should be completed in accordance with the attached *Explanatory Notes and Guidelines for completing the Information Sheet on Ramsar Wetlands*. Compilers are strongly advised to read this guidance before filling in the RIS.
2. Further information and guidance in support of Ramsar site designations are provided in the *Strategic Framework and guidelines for the future development of the List of Wetlands of International Importance* (Ramsar Wise Use Handbook 17, 4th edition).
3. Once completed, the RIS (and accompanying map(s)) should be submitted to the Ramsar Secretariat. Compilers should provide an electronic (MS Word) copy of the RIS and, where possible, digital copies of all maps.

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### 1. Name and address of the compiler of this form:

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FOR OFFICE USE ONLY.

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Designation date

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Site Reference Number

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### 2. Date this sheet was completed/updated:

13 March 2013

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### 3. Country:

TURKEY

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### 4. Name of the Ramsar site:

The precise name of the designated site in one of the three official languages (English, French or Spanish) of the Convention. Alternative names, including in local language(s), should be given in parentheses after the precise name.

NEMRUT CALDERA (NEMRUT KALDERASI)

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### 5. Designation of new Ramsar site or update of existing site:

This RIS is for (tick one box only):

a) Designation of a new Ramsar site;  or

b) Updated information on an existing Ramsar site

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6. For RIS updates only, changes to the site since its designation or earlier update:

a) Site boundary and area

The Ramsar site boundary and site area are unchanged:

or

If the site boundary has changed:

- i) the boundary has been delineated more accurately ; or
- ii) the boundary has been extended ; or
- iii) the boundary has been restricted\*\*

and/or

If the site area has changed:

- i) the area has been measured more accurately ; or
- ii) the area has been extended ; or
- iii) the area has been reduced\*\*

\*\* **Important note:** If the boundary and/or area of the designated site is being restricted/reduced, the Contracting Party should have followed the procedures established by the Conference of the Parties in the Annex to COP9 Resolution IX.6 and provided a report in line with paragraph 28 of that Annex, prior to the submission of an updated RIS.

b) Describe briefly any major changes to the ecological character of the Ramsar site, including in the application of the Criteria, since the previous RIS for the site:

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7. Map of site:

Refer to Annex III of the *Explanatory Note and Guidelines*, for detailed guidance on provision of suitable maps, including digital maps.

a) A map of the site, with clearly delineated boundaries, is included as:

- i) a hard copy (required for inclusion of site in the Ramsar List): ;
- ii) an electronic format (e.g. a JPEG or ArcView image) ;
- iii) a GIS file providing geo-referenced site boundary vectors and attribute tables .

b) Describe briefly the type of boundary delineation applied:

e.g. the boundary is the same as an existing protected area (nature reserve, national park, etc.), or follows a catchment boundary, or follows a geopolitical boundary such as a local government jurisdiction, follows physical boundaries such as roads, follows the shoreline of a waterbody, etc.

The Ramsar Boundary is the same as an existing Natural Monument protected area.

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8. Geographical coordinates (latitude/longitude, in degrees and minutes):

Provide the coordinates of the approximate centre of the site and/or the limits of the site. If the site is composed of more than one separate area, provide coordinates for each of these areas.

38°37'10"N 42°13'54"E

### 9. General location:

Include in which part of the country and which large administrative region(s) the site lies and the location of the nearest large town.

The Nemrut Caldera is located western shore of the Lake Van in the Eastern part of Turkey (Eastern Anatolia). It is the one of the most important wetlands of Bitlis province, which far away approximately 25.0 km north of Bitlis city centre, and 15 km west of Tatvan district. The population in Bitlis Province is 65.670 in 2011. The population of Tatvan which is one of the biggest district of Bitlis is 83.790.

### 10. Elevation: (in metres: average and/or maximum & minimum)

2247 m. average

### 11. Area: (in hectares)

4.589 ha

### 12. General overview of the site:

Provide a short paragraph giving a summary description of the principal ecological characteristics and importance of the wetland.

The Nemrut Caldera is an active stratovolcano, which has a unique structural morphology in Turkey. The dimension of the caldera is like an elliptic summit caldera with approximately 8.5×7.0 km in diameter. The eastern half of the caldera is filled by pyroclastic deposits related to maar-like explosion craters, lava domes and flows. The western half is filled by a freshwater lake covering a surface area of 5.3 km x 3km and a small lake with hot springs. The fumarole activity is also present over a dome situated at the northern part of the caldera

*Melanitta fusca* is used to breed in the lake (max. 20 pairs) accordingly to Eken, G., Bozdoğan, M., İsfendiyaroğlu, S., Kılıç, D.T. ve Lise, Y. (Editors) in 2006. Türkiye'nin Önemli Doğa Alanları. Doğa Derneği, Ankara, Türkiye). However, the current status of this specie is not known.

### 13. Ramsar Criteria:

Tick the box under each Criterion applied to the designation of the Ramsar site. See Annex II of the *Explanatory Notes and Guidelines* for the Criteria and guidelines for their application (adopted by Resolution VII.11). All Criteria which apply should be ticked.

1 • 2 • 3 • 4 • 5 • 6 • 7 • 8 • 9

### 14. Justification for the application of each Criterion listed in 13 above:

Provide justification for each Criterion in turn, clearly identifying to which Criterion the justification applies (see Annex II for guidance on acceptable forms of justification).

**Criterion 1:** The Nemrut Caldera is an active stratovolcano, which has a unique structural morphology in Turkey. The Eastern part of the caldera is filled with the Quaternary age volcanic rocks and the western half of the caldera is filled by a fresh water lake (Büyük Göl), covering a surface area of 12.4 km<sup>2</sup> with a maximum depth and elevation as 176.0 m and 2247.0 m, respectively. The temperature, total dissolved solids and pH of the Büyük Göl reported as 12.05 °C, 0.295 g/l and 8.18, respectively. Besides, there are six small lakes and one of them is called as "Ilık Göl" with hot springs having a maximum depth of 11 m, temperature of 8 °C, total dissolved solids of 0.897 g/l and pH of 7.91. The lakes in Nemrut Caldera are temporal lake except for Büyük Göl and Ilık Göl. The temperature of the hot spring around Ilık Göl is changed between 45.0 °C and 60.0 °C in the year. Büyük Göl doesn't freeze in winter, while Ilık Göl partially freezes in winter because of its small size and depth.

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**15. Biogeography** (required when Criteria 1 and/or 3 and /or certain applications of Criterion 2 are applied to the designation): Name the relevant biogeographic region that includes the Ramsar site, and identify the biogeographic regionalisation system that has been applied.

**a) biogeographic region:**

Anatolian

**b) biogeographic regionalisation scheme** (include reference citation):

The European Environment Agency (2012)

<http://www.eea.europa.eu/data-and-maps/figures/biogeographical-regions-in-europe-1>

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**16. Physical features of the site:**

Describe, as appropriate, the geology, geomorphology; origins - natural or artificial; hydrology; soil type; water quality; water depth, water permanence; fluctuations in water level; tidal variations; downstream area; general climate, etc.

West half part of Nemrut Caldera is covered by lake. On the top of the Caldera there are 5 lakes, two of them are permanent the rest are temporal. The biggest of these lakes is Lake Nemrut which has a half moon shape. The average depth of this lake is 100 meter. It is identified that the water of the lake is colorless, odorless, and drinkable.

Lake Ilıca was split from Lake Nemrut by an ancient lava flow. It has a larger inflow of hot springs and a higher temperature. Most important of them is located in the northern east. In the summer, it sometimes reaches 60 °C, and in the winter it reaches 40°C and nevertheless, it partly freezes in winter because of the small size and depth

Inside of the Caldera there are a lot of lava out points, lava cones, warm water springs and 6 caves. The altitude of the lake is 2247 meter from sea level and 600 meter from Lake Van. In the west part of the caldera there is Lake Nemrut. Volcanic material consists of obsidian, flux, and pumice stone.

The climate of the caldera is unique for the region. It is the only place in the region where deciduous trees grow at high altitudes, owing to the high temperature and humidity and the protection from winds by the caldera walls.

### 17. Physical features of the catchment area:

Describe the surface area, general geology and geomorphological features, general soil types, and climate (including climate type).

Inside of the Caldera there are a lot of lava out points, lava cones, warm water springs and 6 caves. The altitude of the lake is 2247 meter from sea level and 600 meter from Lake Van. In the west part of the caldera there is Lake Nemrut. Volcanic material consists of obsidien, flux, and pumice stone. Volcanic evolution and interrelations of volcanic units of Nemrut volcano have been a subject of debate. Atasoy et al. (unpublished) divided the volcanic evolution into four stages, namely pre-cone, cone building, caldera-forming and post-caldera stages, whereas Yılmaz et al. 1998) proposed pre-cone, cone building, climactic, post-caldera and late phases. On the other hand, Aydar et al. (2003) suggested precaldera and post-caldera stages separated by a paroxysmal eruption leading to the caldera collapse. Conversely, Karaoğlu et al. (2005) and Özdemir et al. (2006) proposed pre-caldera, post-caldera and late stages. In this study, the volcanological evolution of Nemrut volcanism has been investigated under pre-caldera and post-caldera stages. Pre-caldera stage is comprised of building of the volcano and peripheral eruption centers followed by the paroxysmal caldera forming ignimbrite eruptions. Post-caldera stage includes the intracaldera activity and the bimodal rift volcanism on the northern flank of the volcano.

### 18. Hydrological values:

Describe the functions and values of the wetland in groundwater recharge, flood control, sediment trapping, shoreline stabilization, etc.

No information available.

### 19. Wetland Types

#### a) presence:

Circle or underline the applicable codes for the wetland types of the Ramsar "Classification System for Wetland Type" present in the Ramsar site. Descriptions of each wetland type code are provided in Annex I of the *Explanatory Notes & Guidelines*.

**Marine/coastal:** A • B • C • D • E • F • G • H • I • J • K • Zk(a)

**Inland:** L • M • N • O • P • Q • R • Sp • Ss • Tp • Ts • U • Va • Vt • W • Xf • Xp • Y • Zg • Zk(b)

**Human-made:** 1 • 2 • 3 • 4 • 5 • 6 • 7 • 8 • 9 • Zk(c)

#### b) dominance:

List the wetland types identified in a) above in order of their dominance (by area) in the Ramsar site, starting with the wetland type with the largest area.

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**20. General ecological features:** Provide further description, as appropriate, of the main habitats, vegetation types, plant and animal communities present in the Ramsar site, and the ecosystem services of the site and the benefits derived from them.

Small reed communities are located in the northern east part of the lake Nemrut an east of Lake Ilık. Because of its special characterization, there are rich plant communities in the Caldera.

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### 21. Noteworthy flora:

Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in 14. Justification for the application of the Criteria) indicating, e.g., which species/communities are unique, rare, endangered or biogeographically important, etc. *Do not include here taxonomic lists of species present – these may be supplied as supplementary information to the RIS.*

There are rich plant communities in the Caldera. There are many tree, bush and shrub species, mostly near two lakes such as asp (*Populus tremula*), Dwarf Juniper (*Juniperus communis subsp. nana*) Norway maple (*Acer platanoides*), Rowan (*Sorbus umbellata*, *Sorbus torminalis*, *Sorbus tamaschjanae*, *Sorbus aria*), Buckthorn (*Rhamnus frangula*), Oak (*Quercus pinnatifida*), Common Oak (*Quercus robur subsp. Pedunculiflora*), Rock Cotoneaster (*Cotoneaster nummularia*), Plum (*Prunus divaricata*), White Willow (*Salix alba*), Willow (*Salix pedicellata*, *Salix cinerea*), Greek Juniper (*Juniperus excelsa*), Alder Dogwood (*Frangula alnus*) ve Cherry Tree (*Cerasus mahaleb*). There are also step species which are inside the Caldera, such as Geven (*Astragalus*), prickly thrift (*Acantho limon*), trefoil (*Onobrychis megataphros*), patience (*Rumex acetosella*), thyme (*Thymus kotchyannus*), Sheep's Fescue (*Festuca ovina*), (*Salvia sp.*) Crowflower (*Ranunculus crateris*), (*Silene arguta*), Rabbitfoot clover (*Trifolium arvense*), anise (*Pimpinella kotschyana*), Veronica (*Artemisia fragans*), Squarrose Knapweed (*Centaurea triumphetti*)

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### 22. Noteworthy fauna:

Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in 14. Justification for the application of the Criteria) indicating, e.g., which species/communities are unique, rare, endangered or biogeographically important, etc., including count data. *Do not include here taxonomic lists of species present – these may be supplied as supplementary information to the RIS.*

Velvet Scoter (*Melanitta fusca*) EN (Breeding, 1989)

Golden Eagle (*Aquila chrysaetos*) LC

Griffon Vulture (*Gyps fulvus*) LC (Breeding)

Except these species there are no detailed studies about waterbirds. These species were mentioned in The status of species is indicated in accordance with IUCN Red List of Threatened Species. Version 2012.2. <[www.iucnredlist.org](http://www.iucnredlist.org)>. The following abbreviations are used above: NT – near threatened; VU – vulnerable; EN – endangered; CR – critically endangered; LC – least concerned.

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### 23. Social and cultural values:

**a)** Describe if the site has any general social and/or cultural values e.g., fisheries production, forestry, religious importance, archaeological sites, social relations with the wetland, etc. Distinguish between historical/archaeological/religious significance and current socio-economic values:

Livestock is the main human facility in the area. The animals are grazing and drinking water from the lakes. There is a Winter Sports and Ski Centre in the south of the Nemrut Caldera Natural Monument.

b) Is the site considered of international importance for holding, in addition to relevant ecological values, examples of significant cultural values, whether material or non-material, linked to its origin, conservation and/or ecological functioning?

No

If Yes, tick the box  and describe this importance under one or more of the following categories:

- i) sites which provide a model of wetland wise use, demonstrating the application of traditional knowledge and methods of management and use that maintain the ecological character of the wetland:
- ii) sites which have exceptional cultural traditions or records of former civilizations that have influenced the ecological character of the wetland:
- iii) sites where the ecological character of the wetland depends on the interaction with local communities or indigenous peoples:
- iv) sites where relevant non-material values such as sacred sites are present and their existence is strongly linked with the maintenance of the ecological character of the wetland:

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**24. Land tenure/ownership:**

a) within the Ramsar site:

State owned (% 100)

b) in the surrounding area:

There are cultivated private properties and also governmental steppes lands.

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**25. Current land (including water) use:**

a) within the Ramsar site:

The majority of the area is governmental. Governmental lands are not usable areas. But few grazing is made in the site.

b) in the surroundings/catchment:

In the surrounding within 2000 meters distance, the area is not usable. After this, land is mostly cultivated by wheat.

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**26. Factors (past, present or potential) adversely affecting the site's ecological character, including changes in land (including water) use and development projects:**

a) within the Ramsar site:

The main ecological threat to the site is overgrazing. The road, which is used to reach to the caldera is not very good. So the road will be reconstructed.

b) in the surrounding area:

The surrounding area of the site is available for winter sports. There is a ski centre near the Cekmece Village. But the centre is not use intensively.

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**27. Conservation measures taken:**

a) List national and/or international category and legal status of protected areas, including boundary relationships with the Ramsar site:

In particular, if the site is partly or wholly a World Heritage Site and/or a UNESCO Biosphere Reserve, please give the names of the site under these designations.

As it is mentioned article 7 (b) the site is a Nature Monument, and the boundaries of Ramsar Site follows this boundary

b) If appropriate, list the IUCN (1994) protected areas category/ies which apply to the site (tick the box or boxes as appropriate):

Ia ; Ib ; II ; III ; IV ; V ; VI

c) Does an officially approved management plan exist; and is it being implemented?:  
None

d) Describe any other current management practices:

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**28. Conservation measures proposed but not yet implemented:**

e.g. management plan in preparation; official proposal as a legally protected area, etc.  
None

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**29. Current scientific research and facilities:**

e.g., details of current research projects, including biodiversity monitoring; existence of a field research station, etc.  
Any plans for 2013. But if possible in 2014 there will be a scientific research.

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**30. Current communications, education and public awareness (CEPA) activities related to or benefiting the site:** e.g. visitors' centre, observation hides and nature trails, information booklets, facilities for school visits, etc.

None

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**31. Current recreation and tourism:** State if the wetland is used for recreation/tourism; indicate type(s) and their frequency/intensity.

The site is used for recreation.

Both local and foreign people visit the site only in summer time 2-3 months.

The road to the caldera is closed because of snow.

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**32. Jurisdiction:** Include territorial, e.g. state/region, and functional/sectoral, e.g. Dept of Agriculture/Dept. of Environment, etc.

Ministry Of Forest and Water Affairs



G.D. of Nature Conservation and National parks and its regional and provincial bodies are responsible from the site

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**33. Management authority:** Provide the name and address of the local office(s) of the agency(ies) or organisation(s) directly responsible for managing the wetland. Wherever possible provide also the title and/or name of the person or persons in this office with responsibility for the wetland.

Van Regional Directorate of Ministry of Forest and Water Affairs  
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Dr.B.Teoman MERİÇ  
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**34. Bibliographical references:** Scientific/technical references only. If biogeographic regionalisation scheme applied (see 15 above), list full reference citation for the scheme.

Karaoğlu, Ö., Özdemir, Y., Tolluoğlu, A.Ü., Karabıyıköğlu, M., Köse, O., Froger, J.-L., 2005. Stratigraphy of the volcanic products around Nemrut Caldera: implications for reconstruction of the caldera formation. *Turkish Journal of Earth Sciences* 14, 123–143.

Aydar, E., Gourgaud, A., Ulusoy, I., Digonnet, F., Labazuy, P., Sen, E., Bayhan, H., Kurttas, T., Tolluoğlu, A.Ü., 2003. Morphological analysis of active Mount Nemrut stratovolcano, eastern Turkey: evidences and possible impact areas of future eruption. *Journal of Volcanology and Geothermal Research* 123, 301–312.

Yılmaz, Y., Guner, Y., Şaroğlu, F., 1998. Geology of the Quaternary volcanic centres of the east Anatolia. *Journal of Volcanology and Geothermal Research* 85, 173–210.

<http://www.iucnredlist.org/>

<http://www.birdlife.org>

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