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PRELIMINARY STUDY ON NEWLY DETECTED YAYLIYAKA MARSHES IN THE LAKE VAN BASIN, TURKEY

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ABSTRACT

Yaylıyaka Marshes (38°, 49´ N; 043°, 23´ E) is located between Yaylıyaka and Kumluca Villages in the southeast shore of Lake Van. The area did not grab attention of researches because of its distance from the high way. Its length is 8.5 km and has 10-12 km^2 surface area approximately. Review of the ornithological and ecological studies carried out in previous years revealed that no information related to this area exists. As many as 137 bird species belonging to 39 families (2 of them are subspecies) were identified in the study area. Of these, 67 (48.9%) are migrant species (summer migrant), 50 (36.5%) are resident, 19 (13.87%) are winter visitors and 1 (0.73%) is transit migratory These species belong to different IUCN Red List Categories including; 2 (1.46%) species are critically endangered, 4 (2.9%) are endangered, 17 (12.4%) are vulnerable, 16 (11.68%) are near threatened, 88 (64.23%) are least concern, 3 (2.19%) are data deficient and 7 (5.1%) are not evaluated. According to Red Data Book List of Turkey, birds can be categorized as; A.1.2. 12 (8.76%), A.2. 22 (16.05%), A.3. 38 (27.74%), A.3.1. 21 (15.33%), A.4. 14 (10.22%), A.5. 20 (14.6%), B.3. 3 (2.2%), B.3.1. 1 (0.73%), B.4. 3 (2.2%) and B.5. 3 (2.2%). The most convenient protection method in such big basins is to protect the sections where living things live extensively. Therefore, the detection of Yaylıyaka Marshes will provide a significant contribution to basin protection plan.

Key Words: Lake Van, Wetlands, Yaylıyaka Marshes, Birds, Marshes

INTRODUCTION

Wetlands are the most significant and complex living and productive ecosystems that support biodiversity in the present degraded environmental conditions. The wetlands are habitat of many living species especially water birds which are being destroyed rapidly. This destruction has generally anthropogenic reason. As many as 844 species have become endangered during the last 500 years with the effect of human activities (Demirsoy, 1991; Kuru, 1994; Kiziroğlu, 2001; Anonymous 2008).

The most efficient way for conservation of the living creatures is to protect and develop their habitats. The reasons such as pollution, water loss, usage problems also cause the continuous loss of wetlands in The Lake Van Basin, in the same way as every place of the world (Adızel *et al*. 2004; Adızel and Durmuş 2007; Adızel, *et al*. 2009). Each degraded area drags its living species in natural balance to annihilation together with itself. Presently, more than 60% of the bird species inhabiting the Lake Van Basin are included in red lists (Adızel and Durmuş 2005; Kiziroğlu, 2008, 2009). In this process, discovery of a new wetland is of capital importance in terms of protection of nature.

The Lake Van Basin is one of the most important areas that can protect its natural structure in Eastern Anatolia. It provides breeding, feeding and wintering grounds to many bird species due to diversity of habitats as well as its distinctive climate (Adızel 1998; Adızel and Durmuş 2009; Durmuş 2008).

Some sections of the Lake Van Basin are used by water birds and other species extensively. Although the animal species can be seen all over the basin, these sections are important reproduction-sheltering centres for birds and other animals. In addition, they are the points to be protected and most complying one with the definitions of wetland. One of the marshes grabbing attention recently except for the formerly detected points is the section remaining between Yaylıyaka and Kumluca Villages in southeast shore of Lake Van. This section has been given the name Yaylıyaka Marshes by us. When the ornithological and ecological studies carried out in previous years were reviewed, no information could not be found related to this area (Adızel 1998; Anonymous 2005; Anonymous 2006). The present study was therefore designed to examine the Yaylıyaka Marshes scientifically and uncover its importance as water birds habitat.

MATERIALS AND METHODS

The study was conducted at Yaylıyaka Marshes located in the Lake Van Basin. The study was carried out between February 2007 and July 2009. The existence of area was firstly discerned by us in summer 2007. The

area was visited regularly for two years from February 2007 to the end of November 2009 and records were taken. Observations were fulfilled once a month in a way to fall in the middle of month in general. Observations was started with dawn and continued till dusk.

The line transect and point observation techniques were used for determination of population density (Bibby and Burgess 1992; Dobinson 1976). Nicon brand (10x25) binoculars, Konuspot (100 mm) brand telescope, Samsung pro-815 model digital camera and Magellan explorist 210 model GPS was used in field data collection. Mapsend lite 2.0 packaged software was used for transferring data to computer and its analysis In addition, one motor zodiac boat was used.

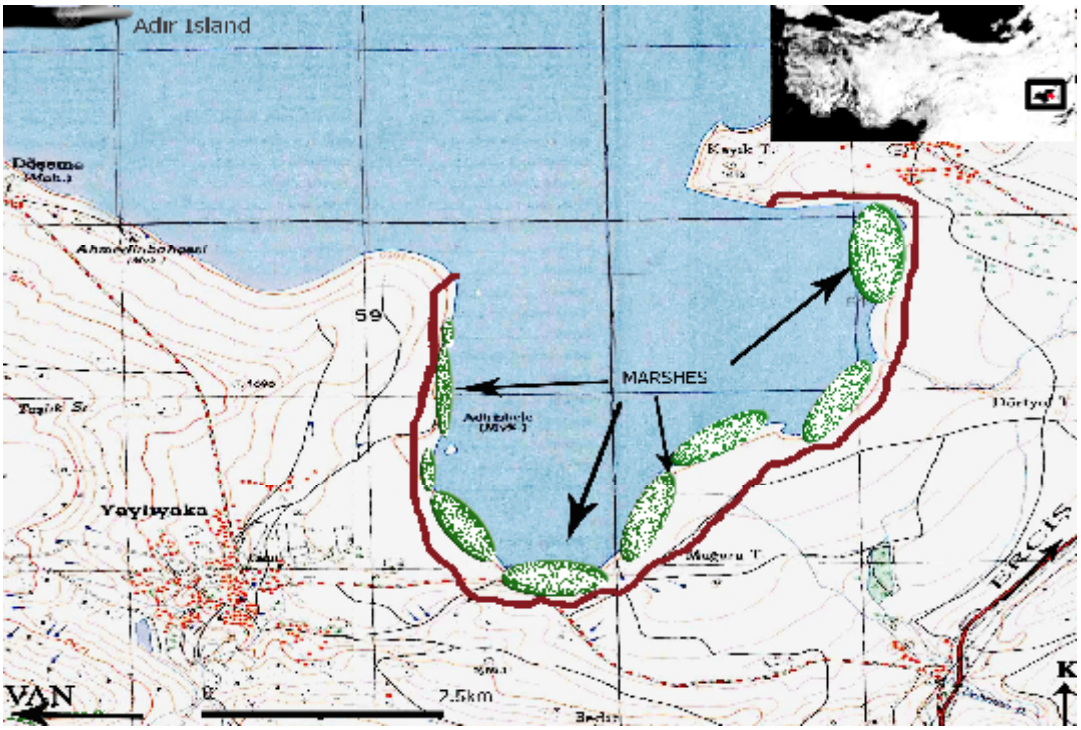

Figure 1: Location of study area at Yaylıyaka Marshes

RESULTS AND DISCUSSION

Geographical location: Yaylıyaka Marshes is positioned in the coordinates of 38°, 49′ North; 043°, 23′ East in southeast shore of Lake Van. The altitude measured is 1659 NN, shore length is around 8,5 km. The marshes are located in 47th km of Van-Erciş highway, northwest of the road. It is 2 km inner of the road approximately. It is not discerned easily due to the hillock and its distance.

Sheer slopes and the hills that their heights change between 1690-1800 meter rise in its East and West shores. Marshy meadows have formed because of spring waters found in its South and at the same time feeds with marshes. Agricultural area is found in upper section of meadows.

The settlement units around the marshes are aligned like this: Kumluca Village and Dörtyol Hill at its east, Kayık Tepe at its northeast, the Lake Van at its North, Yaylıyaka Village at its West, Mağara Hill and Van-Erciş highway in its South.

The shore line where the marshes are located has formed because of making indent towards land by the Lake Van. Marshes plants are mostly in the manner of thin line in shore line. Fine dune from marshes toward land and mud places in some places attracts the attention. The around of marshes is covered with agricultural land and meadows. There is no important water resource feeding the marshes except for a few small water resource and rainfall areas.

Ornithological Importance and Other Elements:

Bird diversity: The study area has different habitat characteristics including; marshes, dunes, mud planes, swamp environments, rocky places and wide agricultural lands. Closeness to Adır Island being an isolated reproduction area provides the possibility with regard to sheltering of many animal species.

Wolf, fox, hedgehog, rabbit, jerboa and mice were the mammals most frequently seen in the marshes. *Bufo viridis*, *Rana ridibunda*, *Natrix natrix*, *Natrix tesellata*, *Laudakia caucasica*, *Ophisops elegans*, *Lacerta bendimahiensis*, *Mauremys caspica* and *Testudo* graeca are the other animal species observed in the study area.

Table 1. Seasonal variation in the number of birds of each species observed at Yaylıyaka marshland in Turkey during 2007-2008.

Family	No. Species	Number of birds observed				Statue of Turkey	IUCN List	Red Data Book List of Turkey
		Winter	Spring	Summer	Autumn			
1.PODICIPEDIDAE	1.*Tachybaptus ruficollis (Little Grebe)*	76 (13.02.2007)*	170 (15.04.2008)**	150	83	R	LC	A.3.1
	2.Podiceps cristatus (Great Crested Grebe)	8	12 (15.05.2007)**	6	2 (15.11.2008)*	R	LC	A.5
	3.*Podiceps grisegena (Red-Necked Grebe)*	5	12	73 (12.06.2007)**	2 (12.10.2007)*	M	VU	A.3
	4.*Podiceps nigricollis (Black-Necked Grebe)*	67 (15.12.2008)*	700 (15.05.2007)**	610	500	R	NT	A.4
2. ARDEIDAE	5.*Nycticorax nycticorax (Black-crowned Night Heron)*	-	10	12 (15.06.2007)**	4 (15.11.2008)*	M	LC	A.3.1
	6.*Ardeola ralloides (Squacco Heron)*	-	4 (15.05.2008)**	3	2 (13.09.2007)*	M	VU	A.3
	7. *Bubulcus ibis (Cattle Egret)*	-	8 (15.05.2008)**	3	1 (17.10.2007)*	M	LC	A.2
	8. *Egretta garzetta (Little Egret)*	-	48 (13.05.2007)**		2 (12.10.2008)*	M	NT	A.3.1
	9. *Ardea cinerea (Grey Heron)*	-	15	23 (15.07.2008)**	1 (15.11.2008)*	M	LC	A.3.1
	10.*Ardea purpurea (Purple Heron)*	-	2	3 (12.08.2007)**	1 (12.10.2008)*	M	VU	A.2
3. CICONIDAE	11.*Ciconia ciconia (White Stork)*	1 (17.01.2007)*	6 (15.05.2008)**	5	2	M	LC	A.3.1
4.THRESKIORNITHIDAE	12.*Plegadis falcinellus (Gossy Ibis)*	1 (12.02.2009)*	3 (17.04.2007)**	-	2	M	LC	A.3.1
5. PHOENICOPTERIDAE	13.*Phoenicopterus ruber (Greater Flamingo)*	2 (17.02.2008)*	120	240	357 (13.09.2008)**	TM	EN	A.3.1
6. ANATIDAE	14. *Cygnus cygnus (Wooper Swan)*	80 (17.02.2007)**	6 (17.04.2008)*	-	16	WV	LC	A.3
	15. *Anser fabalis (Bean Goose)*	-	12 (17.03.2008)**	2 (15.06.2007)*	-	WV	LC	B.3
	16. *Anser albifrons (Whitefronted Goose)*	6	23 (17.04.2008)**	2 (17.06.2009)*	13	WV	NE	B.5
	17. *Anser anser (Graylag Goose)*	19 (17.02.2007)**	2 (17.04.2007)*	-	15	WV	VU	A.4
	18. *Tadorna ferruginea (Ruddy Shelduck)*	230	1223	1350 (12.08.2008)*	45 (15.11.2007)**	R	LC	A.4
	19. *Tadorna tadorna (Common Shelduck)*	12	89	125 (12.08.2008)*	20 (15.11.2007)**	R	VU	A.3.1
	20. *Anas crecca (Common Teal)*	2750 (17.02.2007)**	63 (15.05.2009)*	-	350	WV	NT	A.5
	21.*Anas platyrhynchos (Mallard)*	34	1450 (15.05.2008)**	1300	55 (17.10.2007)*	R	LC	A.5
	22. *Anas acuta (Northern Pintail)*	16 (17.02.2007)**	3 (15.05.2007)*	-	4	WV	VU	A.5
	23. *Anas querquedula (Garganey)*	27 (15.01.2009)**	2 (15.05.2008)*	-	8	WV	NT	A.4
	24. *Anas cylpeata (Nortern Shoveler)*	1360 (17.01.2008) **	25 (15.05.2008)*	-	879	WV	EN	A.4
	25.*Marmaronetta angustirostris (Marbled Teal)*	3	3	9 (12.08.2008)**	2 (12.10.2008)*	R	EN	A.3
	26. *Aythya ferina (Common Pochard)*	14	16 (15.05.2007)**	2 (13.07.2008)*	6	M	LC	A.5
	27. *Aythya fuligula (Tufted Duck)*	23	74 (13.07.2008)**	2 (15.06.2008)*	66	M	NT	A.5
	28.*Oxyura leucocephala (White-headed Duck)*	-	4	6 (12.08.2008)**	2 (12.10.2007)*	M	EN	A.2
7. ACCIPITRIDAE	29. *Milvus migrans (Black Kite)*	-	-	2 (13.07.2007)**	1 (12.10.2007)*	M	LC	A.3
	30. *Gypaetos barbatus (Bearded Vulture)*	-	-	2 (12.08.2008)**	1 (12.10.2007)*	R	VU	A.1.2
	31. *Neopron percnopterus (Egyptian Vulture)*	-	-	3 (13.07.2008)**	1 (12.10.2007)*	M	VU	A.3
	32. *Aegypius monachus (Black Vulture)*	-	1 (15.12.2007)*	-	2 (15.09.2008)**	R	NT	A.2
	33. *Circus aeroginosus (Western Marsh Harrier)*	-	8 (15.05.2007)**	2	1 (13.09.2007)*	R	NT	A.3
	34. *Circus cyaneus (Northern Harrier)*	-	-	-	1 (12.09.2007)**	WV	DD	A.1.2
	35. *Accipiter gentilis (Northern goshawk)*	-	2	6 (12.08.2007)**	1 (13.09.2008)*	R	NT	A.1.2
	36.*Accipiter nisus (Eurasien Sparrowhawk)*	-	2	4 (12.08.2007)**	1 (15.10.2007)*	R	NT	A.3
7. ACCIPITRIDAE	37. *Buteo buteo (Common Buzzard)*	-	1 (17.04.2009)*	6 (13.07.2008)**	4	M	LC	A.3
	38. *Buteo rufinus (Long-legged Buzzard)*	-	4	6 (12.08.2007)**	1 (12.10.2008)*	M	NT	A.3
	39.*Aquila nipalensis (Steppe Eagle)*	2 (12.12.2008)**	1 (17.03.2009)*	-	-	WV	LC	A.1.2
	40. *Hieraaetus pennatus (Booted Eagle)*	1 (12.12.2008)*	-	-	3 (12.09.2008)**	WV	LC	A.3
8. FALCONIDAE	41.*Aquila chrysaetos (Golden Eagle)*	-	3	8 (13.07.2009)**	2 (15.11.2008)*	R	LC	A.1.2
	42.*Falco naumanni (Lesser Kestrel)*	-	8	13 (12.08.2007)**	3 (13.09.2008)*	M	VU	A.2
	43.*Falco tinnunculus (Common Kestrel)*	-	3	7 (12.08.2008)**	2 (15.11.2008)*	R	LC	A.2
	44. *Falco subbuteo (Eurasien Hobby)*	-	-	3 (12.08.2007)**	1 (12.10.2008)*	M	LC	A.3.1
	45. *Falco cherrug (Saker Falcon)*	-	-	3 (12.08.2008)**	1 (12.10.2008)*	R	CR	A.1.2
9. PHASIANIDAE	46. *Alectoris chukar (Chukar Partridge)*	8 (15.12.2007)*	19	25	32 (15.11.2007)**	R	VU	A.2
	47. *Coturnix coturnix (Common Quail)*	12 (15.12.2008)*	53	72	76 (12.10.2008)**	M	VU	A.3
10. RALLIDAE	48. *Rallus aquaticus (Water Rail)*	1	2 (17.04.2007)**	1 (15.06.2008)*	-	R	LC	A.3

Family	No. Species	Number of birds observed				Statue of Turkey	IUCN List	Red Data Book List of Turkey
		Winter	Spring	Summer	Autumn			
	49. *Gallinula chloropus (Common Moorhen)*	-	3 (12.05.2008)**	1 (15.07.2007)*	-	R	LC	A.3.1
	50. *Fulica atra (Common Coot)*	200 (12.01.2008)*	1500	1750 (12.08.2008)**	1600	R	LC	A.5
11. GRUİDAE	51. *Grus grus(Common Crane)*	-	3	4 (12.08.2007)**	1 (12.10.2008)*	M	LC	A.3
12. HAEMATOPODIDAE	52. *Haematopus ostralegus (Eurasien Oystercatcher)*	-	4 (17.04.2007)*		16 (15.09.2008)**	M	NT	A.3
13.RECURVIROSTRIDAE	53.*Himantopus himantopus (Black-winged Stilt)*	4	43 (15.05.2008)**	39	4 (15.11.2008)*	M	LC	A.3
	54. *Recurvirostra avosetta (Pied Avocet)*	4 (12.02.2008)*	60	65	74 (13.09.2007)**	M	VU	A.4
14. BURHINIDAE	55. *Burhinus oedicnemus (Eurasien Thic-Knee)*	-	4 (13.05.2008)**	3	1 (12.10.2008)*	M	VU	A.2
15. CHARADRIIDAE	56. *Charadrius dubius (Little Ringed Plover)*	-	18	32 (12.08.2007)**	1 (13.09.2008)*	M	NT	A.3
	57. *Vanellus vanellus (Northern Lapwing)*	-	130 (17.04.2007)**	125	107 (15.11.2007)*	M	LC	A.5
	58. *Calidris minuta (Little Stint)*	10 (17.02.2008) **	2	-	4 (12.10.2007)*	WV	NE	B.5
	59. *Calidris temmincki (Temminck's Stint)*	-	13 (15.05.2007)**	5	2 (12.10.2008)*	M	NE	B.3
	60. *Calidris alpina (Dunlin)*	4	23 (17.03.2009)**	18	2 (12.10.2008)*	M	NE	B.5
	61. *Philomachus pugnax (Ruff)*	-	410 (17.04.2008)**	60 (13.07.2009)*	-	M	NE	B.4
16. SCOLOPACIDAE	62. *Gallinago gallinago (Common Snipe)*	2	130 (17.04.2008)**	-	33 (15.09.2009)*	WV	CR	B.3.1
	63. *Limosa limosa (Black Tailed Godwit)*	21 (15.02.2007)**	-	-	2 (15.06.2008)*	WV	NE	B.4
	64. *Tringa erythropus (Spotted Redshank)*	7 (17.02.2008)**	3	1 (12.08.2008)*	5	WV	NE	B.4
	65. *Tringa totanus (Common Redshank)*	3	170	175 (12.08.2008)**	45 (12.10.2007)*	M	NT	A.4
	66. *Actitis hypoleucos (Common sandpiper)*	-	14 (17.05.2008)**	8 (12.08.2008)*	12	M	VU	A.3
17. LARIDAE	67. *Larus ridibundus (Common Blackheaded Gull)*	140	340 (17.04.2008)**	12 (15.06.2009)*	80	R	LC	A.5
	68. *Larus michahellis (Van Gull)*	3500	3630 (15.05.2009)**	120 (12.08.2008)*	2700	R	LC	A.4
	69. *Hydroprogne caspia (Caspian Tern)*	-	5 (15.05.2007)**	1 (15.08.2009)*	3	M	VU	A.2
18. STERNIDAE	70. *Sterna hirundo (Common Tern)*	8 (12.02.2007)**	4	-	1 (12.10.2008)*	WV	LC	A.3
	71. *Sterna albifrons (Little Tern)*	4	10	16 (15.06.2008)**	2 (12.10.2008)*	M	NT	A.3.1
	72. *Chlidonias leucopterus (White-winged Tern)*	436	740 (17.04.2007)**	553	55 (13.09.2007)*	M	NT	A.4
	73. *Columba livia (Rock Pigeon)*	6	4 (17.03.2009)*	510 (12.08.2007)**	120	R	LC	A.5
19. COLUMBIDAE	74. *Columba palumbus (Common Wood-Pigeon)*	-	2 (15.05.2009)*	13	14 (13.09.2008)**	R	NT	A.4
	75. *Streptopelia decaocta (Eurasien Collared Dove)*	1 (17.01.2009)*	3	3	4 (12.10.2008)**	R	LC	A.5
	76. *Streptopelia turtur (Eurasien Turtle Dove)*	1 (17.01.2009)*	3 (12.08.2007)**	2	-	M	LC	A.3.1
20. CUCULIDAE	77. *Cuculus canorus (Common Cuckoo)*	-	6	10 (12.08.2008)**	1 (13.10.2009)*	M	DD	A.2
	78. *Otus scopus* (Common Scops Owl)	-	1 (17.03.2007)*	1	2 (13.09.2008)**	R	LC	A.2
21. STRIGIDAE	79. *Bubo bubo (Eurasien Eagle Owl)*	1 (17.02.2009)*	2	2 (12.08.2007)**	-	R	LC	A.1.2
	80. *Athena noctua (Little Owl)*	-	1 (17.03.2008)*	16 (15.06.2007)**	9	R	LC	A.2
22. CAPRIMULGIDAE	81.*Caprimulgus europaeus (Eurasian Nightjar)*	-	-	1 (15.06.2008)**	-	M	LC	A.1.2
23. APODIDAE	82. *Apus apus (Common Swift)*	-	120 (15.05.2008)**	110	44 (12.10.2008)*	M	LC	A.3.1
	83. *Apus melba (Alpine Swift)*	-	40	58 (15.06.2009)**	6 (13.09.2008)*	M	DD	A.3.1
24. MEROPIDAE	84. *Merops apiaster (European Bee-eater)*	-	38 (17.04.2008)**	35	4 (12.10.2008)*	M	LC	A.3.1
25. CORACIIDAE	85. *Corracias garrulus (European Roller)*	-	19	19 (15.06.2008)**	2 (12.10.2008)*	M	LC	A.2
26. UPUPIDAE	86. *Upupo epops (Eurasien Hoopoe)*	-	16 (17.04.2008)**	12	2 (13.09.2007)*	M	LC	A.2
	87.*Melanocrypha calandra (Calandra Lark)*	7	260	300 (15.06.2008)**	4 (13.09.2008)*	R	LC	A.5
	88.*Melanocorypha bimaculata (Bimaculated Lark)*	-	380	400 (12.08.2008)**	4 (12.10.2008)*	M	LC	A.3
	89. *Calandrella rufescens (Lesser Short-toed Lark)*	-	13	30 (13.07.2007)**	2 (12.10.2008)*	M	LC	A.3
27. ALAUDIDAE	90. *Galerida cristata (Crested Lark)*	35 (17.02.2008)**	2 (15.05.2009)*	2	120	R	LC	A.3
	91. *Alauda arvensis (Eurasien Sky Lark)*	3	2 (15.05.2009)*	45 (13.07.2008)**	34	R	LC	A.4
	92. *Eremophila alpestris (Horned Lark)*	2	5 (15.05.2009)**	1 (15.06.2008)*	4	R	LC	A.3.1
	93. *Riparia riparia (Sandmartin)*	-	850	1000 (13.07.2009)**	60 (12.09.2007)*	M	VU	A.5
28. HIRUNDINIDAE	94. *Hirundo rustica (Barn Swallow)*	-	65	120 (15.06.2008)**	9 (12.10.2007)*	M	LC	A.5
	95. *Delichon urbicum (Northern HouseMartin)*	-	2 (17.03.2009)*	23	50 (12.10.2008)**	M	VU	A.3
29. MOTACILLIDAE	96. *Anthus campestris (Tawny Pipit)*	-	3 (17.04.2008)**	1 (17.06.2007)*	2	M	LC	A.2
	97. *Motacilla flava(Yellow Wagtail)*	-	200 (17.04.2008)**	170	10 (17.10.2007)*	M	LC	A.3.1

Family	No. Species	Number of birds observed				Statue of Turkey	IUCN List	Red Data Book List of Turkey
		Winter	Spring	Summer	Autumn			
	98.*Motacilla flava feldegg (Black-Headed Wagtail)*	-	350 (15.05.2008)**	273	4 (15.10.2009)*	R	LC	A.3
	99. *Motacilla cinerea (Gray Wagtail)*	-	33	35 (13.07.2008)**	1 (12.10.2008)*	R	LC	A.2
	100. *Motacilla alba (White Wagtail)*	-	120 (15.04.2007)**	80	3 (12.10.2008)*	R	LC	A.3.1
30. TROGLODYTIDAE	101.*Troglodytes troglodytes (Winter Wren)*	3	5 (15.05.2007)**	1 (13.07.2009)*	-	R	LC	A.1.2
	102. *Erithacus rubecula (EuropeanRobin)*	2	1 (15.05.2007)*	3 (12.08.2008)**	2	R	LC	A.3
	103. *Luscinia svecica (Bluethroat)*	-	1 (17.03.2008)*	5	6 (13.09.2008)**	M	LC	A.2
	104. *Phoenicorus ochrurus (Black Redstart)*	-	-	-	1 (13.09.2008)**	M	LC	A.2
	105.*Phoenicorus phoenicorus (Common Redstart)*	-	-	1 (13.07.2008)**	-	R	LC	A.3
	106. *Saxicola rubetra (Whinchat)*	-	4	8 (15.06.2009)**	2 (12.10.2007)*	R	LC	A.3
31. TURDIDAE	107. *Saxicola torquatus (Common Stonechat)*	-	1 (15.05.2009)*	4 (15.06.2009)**	2	R	LC	A.3
	108. *Oenanthe isabellina (İsabeline Wheather)*	-	3	3 (12.08.2007)**	1 (12.10.2008)*	M	LC	A.3
	109. *Oenanthe oenanthe (Northern Wheather)*	-	12	14 (12.08.2008)**	3 (12.10.2007)*	M	LC	A.3
	110. *Oenanthe hispanica (Black eared Wheather)*	-	2	3 (13.07.2008)**	1 (13.09.2008)*	M	LC	A.2
	111. *Monticola saxatilis (Rock Thrush)*	-	4	5 (15.06.2009)**	1 (13.09.2008)*	M	LC	A.1.2
	112. *Monticola solitarius (Blue Rock Thrush)*	-	-	2 (12.08.2008)**	1 (12.10.2007)*	M	LC	A.1.2
	113.*Acrocephalus palustris (Marsh Warbler)*	-	-	2 (13.07.2008)**	1 (12.10.2008)*	M	LC	A.3
	114.*Acrocephalus scirpaceus (Reed Warbler)*	-	10	15 (15.06.2008)**	1 (13.09.2007)*	M	LC	A.2
	115. *Hippolais pallida (Eastern Olivaceous Warbler)*	8	2 (17.04.2009)*	-	12 (12.09.2008)**	WV	LC	A.3
32.SYLVIIDAE	116. *Sylvia nisoria (Barred Warbler)*	-	1 (15.05.2009)*	-	9 (13.10.2008)**	WV	LC	A.2
	117.*Sylvia communis (Common White-throatWarbler)*	-	1 (17.04.2008)*	14 (15.06.2008)**	13	M	LC	A.3
	118. *Sylvia borin (Garden Warbler)*	-	1 (15.05.2009)*	2 (12.08.2008)**	-	M	LC	B.3
	119. *Sylvia atricapilla (Blackcap)*	-	-	1 (12.08.2008)**	-	M	LC	A.2
32.SYLVIIDAE	120. *Phylloscopus collybita (Common Chiff chat)*	-	1 (15.05.2007)*	3	6 (13.09.2008)**	M	LC	A.3.1
33. PARIDAE	121. *Parus major (Great Tit)*	-	2	3 (15.06.2007)**	1 (15.11.2008)*	R	LC	A.3.1
	122. *Lanius callurio (Red backed Shrike)*	-	1 (17.04.2009)*	3 (12.08.2008)**	-	M	LC	A.3
34. LANIIDAE	123. *Lanius minor (Lesser Gray Shrike)*	-	1 (17.04.2009)*	2 (12.08.2008)**	-	M	LC	A.3
	124. *Lanius excubitor (Great Grey Shrike)*	-	3 (15.05.2009)*	12 (13.09.2007)**	10	WV	LC	A.1.2
	125. *Pica pica (Black-billed Magpie)*	58 (17.01.2008)*	70 (15.05.2007)**	65	60	R	LC	A.5
35. CORVIDAE	126. *Corvus monedula (Eurasian Jackdaw)*	20 (17.02.2008)*	140	150 (15.06.2007)**	140	R	LC	A.5
	127. *Corvus frugilegus (Rook)*	15 (17.02.2009)*	467	500 (13.07.2007)**	489	R	LC	A.5
	128. *Corvus cornix (Hooded Crow)*	17	30 (17.04.2008)**	29	2 (15.11.2007)*	R	LC	A.5
36. STURNIDAE	129. *Sturnus vulgaris (European Starling)*	30	500 (17.04.2009)**	475	25 (15.11.2008)*	R	LC	A.5
	130. *Sturnus roseus (Rosy Starling)*	-	40	50 (15.06.2008)**	30 (13.09.2009)*	M	LC	A.4
37. PASSERIDAE	131. *Passer domesticus (House Sparrow)*	90 (17.01.2007)*	900	1000 (15.06.2009)**	950	R	LC	A.5
	132. *Petronia petronia (Rock Sparrow)*	-	30	45 (13.07.2008)**	2 (12.10.2007)*	R	LC	A.3
38. FRINGILLIDAE	133. *Carduelis carduelis (European Goldfinch)*	-	2 (17.03.2007)*	37 (12.08.2008)**	30	R	LC	A.3.1
	134. *Carduelis cannabina (Eurasien Linet)*	-	18	22 (12.08.2008)**	1 (13.09.2007)*	R	LC	A.3
	135. *Emberiza hortulana (Ortolan Bunting)*	-	20 (15.05.2009)**	1 (12.08.2008)*	-	M	LC	A.3
39. EMBERIZIDAE	136.*Emberiza melanocephala (Black headed Bunting)*	-	1 (15.05.2009)*	34(13.07.2007)**	30	M	LC	A.4
	137. *Miliaria calandra (Corn Bunting)*	1 (15.02.2009)*	5	60	75 (13.09.2008)**	R	LC	A.4

CR: Critically Endangered, EN: Endangered, VU: Vulnerable, NT: Near Threatened, LC: Least Concern, DD: Data Deficient, NE: Not Evaluated, WV: Winter Visitor, M: Migrant (Summer Migrant), R: Resident, TM: Transit Migratory A.1.2 and B.1.2 = Species in the wild that face an extremely high risk of extinction (1-10 pairs = 1-20 individuals). A.2 and B.2 = Species in the wild that face a very high risk of extinction (11-25 pairs = 22-50 individuals). A.3 and B.3 = Species in the wild that face a high risk of extinction (26-500 pairs = 102-1000 individuals). A.4 and B.4= Species that do not face the risk now but are likely to qualify for a threatened category in the near future (501-5000 pairs = 1002-10000 individuals). A.5 and B.5 = Species that are widespread(> 5001 population number).

(*) Observed minimum number and date.

(**) Observed maximum number and date.

The diversity of invertebrates having important role in food chain is quite much as well.

The most attention grabbing living creatures at Yaylıyaka Marshes was birds, same as other wetlands. This marshes being a part of the ecosystem of the Lake Van Basin having crucial position on migration routes of birds, provides possibility for the sheltering of bird groups arriving at great numbers in the period when most of the lakes in Eastern Anatolia are freezes.

Furthermore, *Cygnus cygnus, Anser fabalis, Anser albifrons* coming from Siberia through Russia spend winter here and leave the area when temperature rises. Yaylıyaka Marshes provides breeding ground to many water birds primarily *Oxyura leucocephala* in summer months. It is also possible to see different bird species preferring different habitats in the fields in the surroundings, trees in villages, rocky and mountainous places.

Historical and Cultural Values: Adır Island located opposite to the marshes in the Lake is historical and protected area, having remnant of a monastery constructed in 1305. Island nearly subjects to the invasion of gulls in reproduction period. Thousands of gulls breed on the Islanad, making their at different places and try to remove people by attacking them. In addition, *Nycticorax nycticorax* and little egret nest in the trees found on the island. These birds frequently visit Yaylıyaka Marshes for feeding. A remnant of historical graveyard is also found in Kayık Tepe location of Kumluca Village.

Agriculture and Animal Breeding: Along the shore line of Yaylıyaka Marshes are a thin meadow line and then the agriculture fields cultivated with barley, wheat, watermelon, melon, tomato, clover and trefoil. The lands surrounding the marshes have title deed in general. Many signing birds take shelter especially in fine border lines among fields where agricultural machines do not enter.

Bovine and ovine animal breeding is carried out around the marshes. The cultivation of the fields in the area as from spring prevents the entry of animals in marshes and brings a great advantage for marshes. With the harvest of fields, the grazing pressure in the region increases. Poultry raising is also done in the villages including domestic geese and ducks which reach the marshes for feeding.

This area formed inside to land like as a harbor. At same time this situation creates a breakwater effect and has been an ideal shelter for fisher boats. The marshes are both a shelter for boats and haunt of fishers to catch endemic a fish species (*Chalcalburnus tarichi*) in Van Lake.

Haunting and Other Threats: Study area does has not possess legal protection. Its exposing to extensive haunting is understood easily from the cartridges on the ground. Early mowing of the meadows which surrounds the marshes in spring gives harm to incubation of some bird species. Overgrazing and human activities lead to various negativities. Cutting of marshes negatively affects all living animals in area.

Conclusions: A wetland where many living animal (reptiles,mammalies) as well as 137 bird species belonging to 39 families are inhabiting, has been detected through this research study. The name of Yaylıyaka Marshes has been given to this area. When the ornithological and ecological studies carried out in previous years in the Lake Van Basin are looked at, no data could be encountered related to this area. Ecological, geographical and biological information relating to

Yaylıyaka Marshes have revealed for the first time during this study.

Not knowing of Yaylıyaka Marshes so far can be due to its distance from highway. Having different habitats such as swampy, marshy, meadow, rocky ones of the area is the main reason of the animal and plant diversity which it shelters. Although total area of the marshes is 10-12 km^2, its location as a thin line along the shore increases its efficiency.

At the end of this research it has been uncovered how important Yaylıyaka Marshes and its surroundings are for biodiversity especially birds. *Anas platyrhynchos*, *Aythya ferina*, *Oxyura leucocephala* and *Fulica atra* incubate in this area. Cygnus cygnus, *Anser fabalis*, *Anser albifrons* and *Anas clypeata* come to the area to pass winter. Many endangered predacious species like *Gypaetus barbatus*, *Neophron percnopterus*, *Circus aeruginosus*, and *Aquila chrysaetos* use this area for feeding. In addition to this, *Plegadis falcinellus* and *Grus grus* at limited number stop by during migration. *Ciconia ciconia* also incubates in the nests it makes on electric poles around. Furthermore, *Lacerta bendimahiensis,* a reptile that was detected during the study, is an endemic species of the region.

The Lake Van Basin has one fifth of total wetland existence in Turkey. It is extremely hard to make wetland protection of such a big basins. The most suitable protection method in such big basins would be protect the sections where animals live extensively. Therefore, the detection of Yaylıyaka Marshes will provide a significant contribution to the plan of basin protection. Protection plan should include that education workshop to public, forbid marshes cutting in breeding season.

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