

Waterbird surveys and studies on Lake Prespa

MACEDONIAN ECOLOGICAL SOCIETY, NORTH MACEDONIA

1. Great Cormorants diet study

1.1 Introduction

1.2 Study methodology

1.3 Data and results

Table x. Greta Cormorant diet dataset

	2021			2022			2023		
Number of tree with GC nests	Sum of Number of regurgitates	Sum of Weight of regurgitates (g)	Sum of Length of body (cm)	Sum of Number of regurgitates	Sum of Weight of regurgitates (g)	Sum of Length of body (cm)	Sum of Number of regurgitates	Sum of Weight of regurgitates (g)	Sum of Length of body (cm)
0	7537	214.6	257.2	17451	325.2	415	12133	183	210.2
23							3962	61	64.5
33	7175	166.6	114.6						
35				783	35.8	31			
45				792	99	35			
64	735	112.5	100.7						
71							2769	61	46.8
81	10213	123.4	121.9						
88	5980	92.7	84.7				9503	100	144.4
94							4410	95	76.9
118	2698	60	41.8						
171	7810	191.4	337.3						
174							4500	76	73.4
212	6995	57.9	78.8						
251	3879	128.5	73.5						
259				2020	80.4	82.5			
260							9567	158	173.7
262	6210	45.5	68.1						
263				1110	28.9	29.5			
266	685	138.9	20						
274							9243	148	169.7
283				982	33.2	38.9			
292				243	425.4	30.6			
294							4983	41	82.6
300	10795	268.5	184.7						
313	1785	280.3	308.9						
323	96	20.5	23.8						

324	165	46.6	49.4						
336	2414	66.8	0						
365							7488	105	116.5
368							10907	299	247.4
370	3513	18.5	0						
377				16197	489.2	484.5			
383	7735	116.6	0	2285	44.1	77.1			
396	2310	177.2	191	1281	59.1	61.4			
404	7085	368.5	431.9						
407	300	189.8	211.3	8268	135.8	188.2			
409	6625	23.1	58.5						
414	4089	53.9	51.4						
444				4350	50.9	108.8			
445				515	271	39.4			
452	5228	34.2	59.5						
453				248	168.3	19.5			
456	1355	48.8	24.2						
466				2142	90.6	94.1			
476	7338	82.7	0						
478	5180	124.3	81.6						
485							6600	92	120.9
486				1540	114.6	86.9			
491				259	81.1	15.6			

1.4 Analysis and conclusion

1.5 Recommendations for development of the study in future

2. Colonial breeding species

2.1 Introduction

2.2 Species description and survey methodology

2.3 Data and results

Table x. Overview of data gathered for colonial breeding birds on Mk side of Lake Prespa in the project period

reedbelt	Ezerani reedbeds					Ezerani reedbeds Total	Nakolec-Shtrbovo reedbed					Nakolec-Shtrbovo reedbed Total	Grand Total
species/year	2019	2020	2021	2022	2023		2019	2020	2021	2022	2023		
Acrocephalus arundinaceus	46	42	27	7		122	30	39		72		141	263
Acrocephalus palustris?						0						0	0
Acrocephalus schoenobaenus	3					3	3					3	6
Acrocephalus scirpaceus	1	13				14						0	14
Actitis hypoleucos		55	5		16	76				7		7	83
Aegithalos caudatus	7					7	1					1	8

reedbelt	Ezerani reedbeds					Ezerani reedbeds Total	Nakolec-Shtrbovo reedbed					Nakolec- Shtrbovo reedbed Total	Grand Total
species/year	2019	2020	2021	2022	2023		2019	2020	2021	2022	2023		
Alcedo atthis	1	4				5				2		2	7
Anas crecca		10			71	81						0	81
Anas platyrhynchos	5	678	125	170	235	1213	1	13		207		221	1434
Anas querquedula		46	2			48						0	48
Anas sp.		12				12						0	12
Anas strepera					50	50						0	50
Anthus pratensis						0			3			3	3
Apus apus			8			8						0	8
Apus melba	86	20		5		111						0	111
Ardea alba	27	82	15	28	10	162	1		1	27	2	31	193
Ardea cinerea		67	38	9	5	119		15		27	5	47	166
Ardea purpurea					2	2						0	2
Ardeola ralloides	7	3	3		1	14	3			1	1	5	19
Asio otus						0						0	0

reedbelt	Ezerani reedbeds					Ezerani reedbeds Total	Nakolec-Shtrbovo reedbed					Nakolec- Shtrbovo reedbed Total	Grand Total
species/year	2019	2020	2021	2022	2023		2019	2020	2021	2022	2023		
Avocetta recurvirostra		8				8						0	8
Aythya ferina	18			4	25	47				3		3	50
Aythya fuligula?	4					4						0	4
Aythya nyroca		2	1			3	12					12	15
Aythya sp.						0		8				8	8
Buteo buteo	3		2	3		8		1				1	9
Caprimulgus europaeus		1				1	2					2	3
Carduelis carduelis	24	14				38		10				10	48
Cercopis daurica						0	110					110	110
Cettia cetti	12	4	11		3	30	6	9				15	45
Charadrius dubius			5		6	11						0	11
Chlidonias niger		14				14						0	14
Chlidonias sp.		15				15						0	15

reedbelt	Ezerani reedbeds					Ezerani reedbeds Total	Nakolec-Shtrbovo reedbed					Nakolec-Shtrbovo reedbed Total	Grand Total
species/year	2019	2020	2021	2022	2023		2019	2020	2021	2022	2023		
Chlidonias/Sterna sp.					1	1						0	1
Chloris chloris	5	3				8				1		1	9
Chroicocephalus ridibundus	1253	3597	468	911	1225	7454	221	804	245	1768		3038	10492
Ciconia ciconia	4	7	8	4	1	24						0	24
Circaetus gallicus	1	1				2						0	2
Circus aeroginosus	5	5	4		2	16	3			1		4	20
Circus aeruginosus						0				3		3	3
Circus pygargus	5	1	3	1		10						0	10
Columba livia	1					1						0	1
Columba palumbus	1					1		3				3	4
Corvus corone cornix	15		16			31						0	31
Cuculus canorus		2	7	1		10		2		1		3	13

reedbelt	Ezerani reedbeds					Ezerani reedbeds Total	Nakolec-Shtrbovo reedbed					Nakolec- Shtrbovo reedbed Total	Grand Total
species/year	2019	2020	2021	2022	2023		2019	2020	2021	2022	2023		
Curruca communis	2	1				3		3				3	6
Curruca curruca	2					2	3			3		6	8
Cyanistes caeruleus	2	5	4			11						0	11
Cygnus olor				11	5	16		2				2	18
Delichon urbica	50	15	45		30	140	18	10				28	168
Dendrocopos major		1				1	1					1	2
Dendrocopos syriacus						0		2				2	2
Egretta garzetta	73	198	46	13	12	342	2	125	2	15	10	154	496
Egretta/Ardea sp.						0						0	0
Emberiza calandra			2	1		3		3				3	6
Emberiza schoeniculus		10				10						0	10
Erithacus rubecula			4		2	6			2			2	8

reedbelt	Ezerani reedbeds					Ezerani reedbeds Total	Nakolec-Shtrbovo reedbed					Nakolec- Shtrbovo reedbed Total	Grand Total
species/year	2019	2020	2021	2022	2023		2019	2020	2021	2022	2023		
Falco subbuteo			2		1	3						0	3
FELIS SILVESTRIS				1		1						0	1
Ficedula alba						0			3		1	4	4
Fringilla coelebs	10					10						0	10
Fulica atra	132	4395	100	5	150	4782	171	166	7	26		370	5152
Galerida cristata	1					1						0	1
Gallinago gallinago					6	6						0	6
Gallinula chloropus			2			2		6				6	8
Garrulus glandarius	1		5	3	1	10	1	4				5	15
Himantopus himantopus		6			7	13				7		7	20
Hippolais olivetorum?						0		2				2	2
Hirundo daurica	10					10	11					11	21
Hirundo rustica	229	310	50	51		640	45	10	12	19		86	726

reedbelt	Ezerani reedbeds					Ezerani reedbeds Total	Nakolec-Shtrebrovo reedbed					Nakolec- Shtrebrovo reedbed Total	Grand Total
species/year	2019	2020	2021	2022	2023		2019	2020	2021	2022	2023		
Iduna palida						0		3				3	3
Ixobrychus minutus	3	1				4	1					1	5
Lanius collurio	12	8	11	2		33	11	2	3	1		17	50
Lanius excubitor					1	1						0	1
Lanius minor	1					1	3					3	4
Lanius senator			1			1	1	2				3	4
Larus michahellis	24	797	32	4	224	1081	26	304	40	33		403	1484
Lullula arborea			2			2						0	2
Luscinia megarhynchos	6		10	1		17		5				5	22
Mergus merganser		45	6	8	25	84		2		30	7	39	123
Merops apiaster	50	27	11	6	8	102	8	15				23	125
Microcarbo pygmaeus	153	538	127	253	94	1165	40	392	11	131		574	1739
Motacilla alba	12	67	5	3	1	88						0	88
Motacilla cinerea		35				35						0	35

reedbelt	Ezerani reedbeds					Ezerani reedbeds Total	Nakolec-Shtrbovo reedbed					Nakolec- Shtrbovo reedbed Total	Grand Total
species/year	2019	2020	2021	2022	2023		2019	2020	2021	2022	2023		
Motacilla flava	3		7			10				1		1	11
Netta rufina?		9				9						0	9
Nycticorax nycticorax	1	20				21				1		1	22
Oenanthe hispanica						0						0	0
Oenanthe oenanthe	4		2			6			6			6	12
Oriolus oriolus	27	13	4			44	5	9				14	58
Panurus biarmicus	35	162	34		5	236	3	6				9	245
Parus major						0						0	0
Passer domesticus	20					20						0	20
Passer hispaniolensis	15					15						0	15
Passer montanus	3			6		9						0	9
Pelecanus crispus	19	634	183	165	90	1091	12	148	540	71		771	1862

reedbelt	Ezerani reedbeds					Ezerani reedbeds Total	Nakolec-Shtrbovo reedbed					Nakolec-Shtrbovo reedbed Total	Grand Total
species/year	2019	2020	2021	2022	2023		2019	2020	2021	2022	2023		
Pelecanus mixed flock		240				240						0	240
Pelecanus onocrotalus	2	100	18	8		128	4	10	40	14		68	196
Perdix perdix			3	2		5						0	5
Phalacrocorax carbo	19	412	11	63	105	610	12	282	68	82		444	1054
Philomachus pugnax		2				2						0	2
Phoenicurus roseus		5				5						0	5
Phylloscopus collybita			2		2	4		4				4	8
Pica pica	4					4	1					1	5
Picus vidiris	1					1	1					1	2
Picus viridis		4				4		2				2	6
Platalea leucordia					1	1						0	1

reedbelt	Ezerani reedbeds					Ezerani reedbeds Total	Nakolec-Shtrbovo reedbed					Nakolec-Shtrbovo reedbed Total	Grand Total
species/year	2019	2020	2021	2022	2023		2019	2020	2021	2022	2023		
Plegadis falcinellus		27	17		11	55					6	6	61
Podiceps cristatus	261	2652	205	29	15	3162	1051	475	168	62		1756	4918
Podiceps nigricollis	24	32				56		37	11		1	49	105
Poecile lugubris						0	1					1	1
Prunella modularis					1	1						0	1
Rallus aquaticus					1	1						0	1
Remiz pendulinus	10				5	15	17				2	19	34
Riparia riparia	110	445	100	86	5	746	33			25	85	143	889
Saxicola rubetra			2		3	5						0	5
Saxicola rubicola				1		1						0	1
Sterna hirundo		98	1			99						0	99
Streptopelia decaocto	7					7		4				4	11

reedbelt	Ezerani reedbeds					Ezerani reedbeds Total	Nakolec-Shtrbovo reedbed					Nakolec-Shtrbovo reedbed Total	Grand Total
species/year	2019	2020	2021	2022	2023		2019	2020	2021	2022	2023		
Streptopelia turtur	22	8	7	2		39	16	5	2	11		34	73
Sturnus roseus		25				25						0	25
Sturnus vulgaris	836	150	2	20		1008	126	25	15			166	1174
Sylvia atricapilla			2			2						0	2
Sylvia cantillans			4			4						0	4
Sylvia nisoria			4			4						0	4
Tachybaptus ruficollis	154	148	4	48	12	366	112	77	17	18	2	226	592
Tringa glareola		2	1			3						0	3
Tringa nebularia		5	2		3	10				1		1	11
Tringa ochropus		1	2		3	6						0	6
Tringa sp.				11		11						0	11
Tringa stagnatillis				1		1						0	1
Tringa totanus		6				6						0	6
Troglodytes troglodytes					1	1						0	1

reedbelt	Ezerani reedbeds					Ezerani reedbeds Total	Nakolec-Shtrbovo reedbed					Nakolec-Shtrbovo reedbed Total	Grand Total
species/year	2019	2020	2021	2022	2023		2019	2020	2021	2022	2023		
Turdus merula	19	13	8	1		41	5	10	3			18	59
Upupa epops		5	1		2	8		2	3			5	13
Vanellus vanellus			4			4						0	4
Grand Total	3903	16383	1843	1948	2485	26562	2134	3058	1202	2671	122	9187	35749

2.4 Analysis and conclusion

2.5 Future survey recommendations

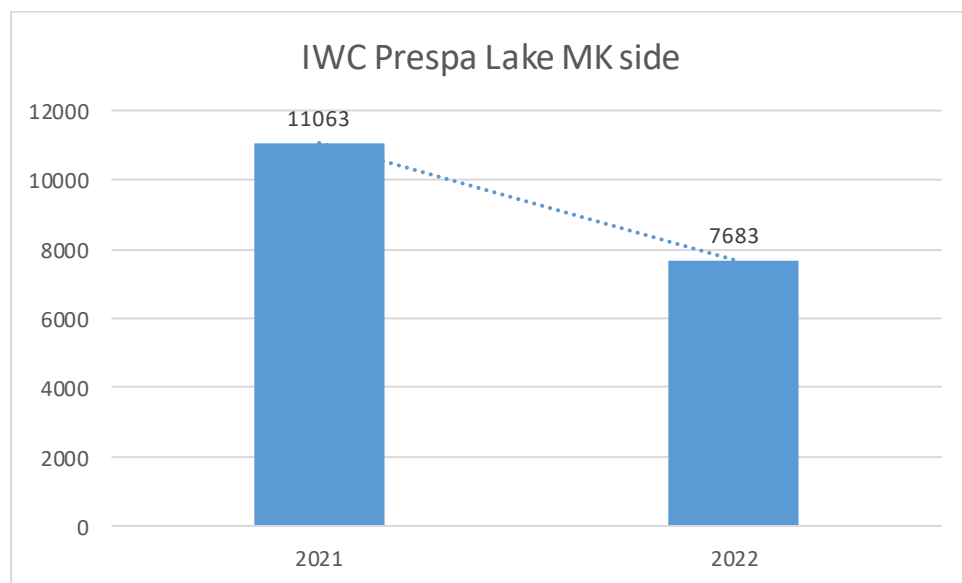
3. Pre/post IWC – with IWC – transboundary

3.1 Introduction

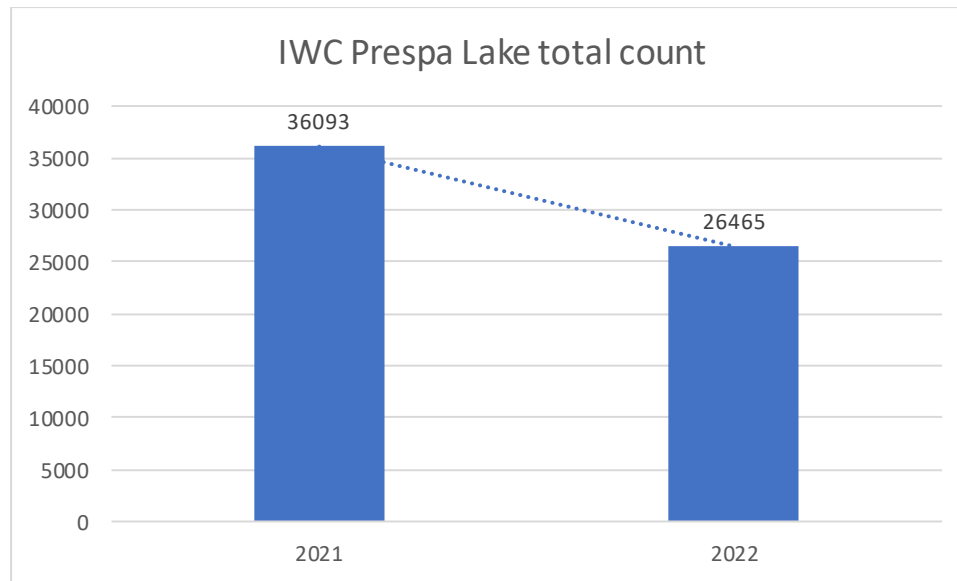
3.2 Census methodology and time frame

3.3 Transboundary summary results

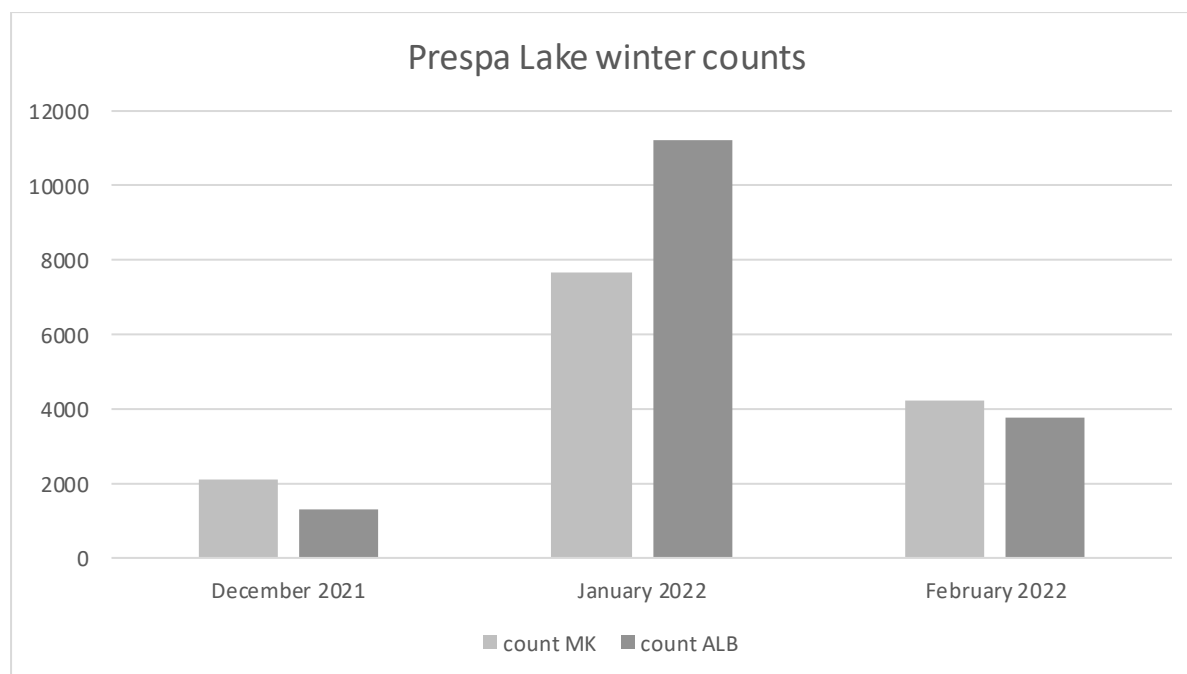
Graphic x. Overview of the IWC on MK side from Lake Prespa



Graphic x. Overview of the IWC from Lake Prespa



Graphic x. Overview of the pre- and post- IWC on MK and ALB side for Lake Prespa



[3.4 Summary results overview per lake \(Lake Prespa and Lake Ohrid\)](#)

[3.5 Comparison in results in the pre-IWC and post-IWC censuses](#)

[3.6 Analysis and conclusions](#)