



## RARITIES BIRD SPECIES IN THE LOWER MEADOW OF SIRET RIVER SPA (ROMANIA)

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### SYNOPSIS

#### Key words:

bird rarities,  
breeding,  
migration,  
conservation

We present the situation of the rarities bird species recorded on the southern territory of the Special Protected Area (SPA) “Lower Meadow of Siret River” (Romanian Nature 2000 Network). Between the recorded 137 bird species, 111 bird species are used like criteria to identify Important Bird Areas (IBA) and 37 bird species are included in the Annex 1 of the Birds’ Directive. We notice, too, the presence of 25 bird species included in the Romanian Red Book of Vertebrates, like breeding species (*Ardea alba*, *Egretta garzetta*, *Platalea leucorodia*, *Aythya nyroca*, *Falco naumanni*, *Himantopus himantopus* or *Chlidonias leucopterus*), vagrant species in the area (*Numenius tenuirostris* or *Glareola pratincta*), while others use this area like feeding territory during the migration time (*Pelecanus onocrotalus*, *Tadorna tadorna* or *Recurvirostra avosetta*).

### INTRODUCTION

Today, everywhere the specialists regard the birds like important bio-indicators to assess the human impact on the biodiversity, but also, like key-species when they elaborate and implement strategies for sustainable development of different regions. In Romania, the program “Important Bird Areas (IBA)” initiated and developed by the Romanian Ornithological Society (SOR/BirdLife Romania) during the last 20 years represented the started point to create the Romanian Nature 2000 Network (Papp & Fantana, 2008). In fact, this program released by BirdLife International use the birds’ occurrence and their population’ trends in order to identify the best territories where we can ensure conservation measures in order to preserve the suitable habitats and increase the rate of birds’ survival and reproduction in their distribution area,

creating a international network of protected areas to preserve nor only the birds, but the biodiversity, too.

The IBA criteria are qualitative and quantitative ones, representing important pillars to assess the level of the anthropogenic impact in a region and to develop environmental strategies and politics for the local community welfare's increasing in a sustainable economy way. The presence of some bird species is very important, but the birds' effectives during the breeding season, migration and wintering time, too. There were defined different types of criteria, but the most important are: A1 – globally threatened bird species, that need special conservation measures in the whole distribution area in order to protect from extinction risk; A3 – bird species of restrictive biome; A4/B1 – bird species forming great agglomerations in different period of the year (breeding season, migration, wintering time), with global (A1) or regional importance (B1); B2 – species concentrated and with unfavourable conservation status in Europe; B3 – species concentrated and with favourable conservation status in Europe. Only the specialists can collect all this information from the field, creating one data base that can present an actual image of the bird fauna at international or regional level.

The Siret River valley represents one of the most important birds' flyways in Romania and held some natural lakes and marshes in the lower sector – Potcoava, Lozova and Talabasca, covering more than 450 hectares with open water, reed and bulrush beds, but also, large surfaces covered by meadow forests, dry and flooding meadows. All the wetlands have natural origin – Potcoava is an elbow lake, Lozova is a river edge formation while Talabasca is a meadow lake, but in the all sites, there some technical arrangements were done in order to control the flooding risk and to increase their economic potential like fisheries.

The access is very easy through the national road DN 25 and by train, too, between the cities Galati and Tecuci: first two wetlands are situated in the vicinity of Branistea village and the third, near Tudor Vladimirescu village.

The climate is temperate with strong continental influence; after a long period of dryness, during the last years, the weather became very freaky and unstable, with obvious increasing of temperatures, but also great differences of temperature from one day to other, alternation of very dry periods and huge level of rainfalls during a short time.

In this area, there was done just one partial study in the early '90s (Gache, 1994), so, starting from the 2004' summer we began a regular monitoring focused on the bird fauna' s evolution. Like results of our efforts, these wetlands were included in the Romanian Nature 2000 Network like the Special Protection Area (SPA) "Lower Meadow of Siret River" (ROSPA0071, in HG 1284/2007).

## PERIOD AND METHODS OF STUDY

We present results of our studies beginning from the 2004' summer on going, focused on the wetland bird fauna, especially, from the southern sector of the special protected area "Lower Meadow of Siret River". We established some transects and fixed points for each site in order to obtain completely data on the bird fauna diversity, breeding birds' population and their trends, effectives during the migration and wintering times. Usual, we identified the birds through direct observation by binocular or telescope, but for some species, we used the songs, too.

## RESULTS AND DISCUSSIONS

The wetlands from the southern sector of the Lower Siret River basin offer very suitable habitats for birds' breeding, refuge, rest and feeding, being visited by birds during the all period of the year. Our bird fauna's list includes 137 species, as we can see in the table 1. From these, 96 bird species are breeding in the investigated area, another 8 being irregular or probably breeding species.

**Table 1 - List of the bird species recorded in the southern part territory of SPA "Lower Meadow of the Siret River".**

**Legend: Effectives: 1? – probably or possibly breeding effectives in the area; x – uncertainly data. IBA Criteria: A1 – globally threatened species; A3 – species of restrictive biome; A4/B1 – bird species forming great agglomerations in different period of the year (breeding season, migration, wintering time); B2 – species with unfavourable conservation status in Europe; B3 – species with favourable conservation status in Europe; Romanian Red Book of Vertebrates: V – vulnerable species; T – threatened species; CT – critically threatened species; Law no. 407/2006: Annex 1 – bird species with hunting permission status; Annex 2 – bird species with prohibit hunting status; Annex 2\* - bird species that were included in the list of the species with hunting permission status in the Law no. 197/2007.**

No.	Species	Presences & effectives			IBA Criteria	Birds' Directive Annex 1	Romanian Red Book of Vertebrates	Law no. 407/2006
		Breeding (pairs)	Migration (individuals)	Wintering (individuals)				
1.	<i>Podiceps cristatus</i>	14 – 32	80 - 160	-	A4/B1	-	-	Annex 2
2.	<i>Podiceps grisegena</i>	2 – 4	8 – 14	-	A4/B1	-	-	Annex 2
3.	<i>Podiceps nigricollis</i>	1 – 3	10 – 12	-	A4/B1	-	-	Annex 2
4.	<i>Tachybaptus ruficollis</i>	10 – 18	40 – 60	14 - 20	A4/B1	-	-	Annex 2
5.	<i>Pelecanus onocrotalus</i>	-	110 - 175	-	A4/B1, B2	+	V	Annex 2

Gache & Arcan: RARITIES BIRD SPECIES IN THE LOWER MEADOW. . .

6.	<i>Phalacrocorax carbo</i>	-	120 – 310	-	A4/B1	-	-	Annex 1
7.	<i>Phalacrocorax pygmeus</i>	-	40 – 150	-	A1, A4/B1, B2	+	V	Annex 2
8.	<i>Botaurus stellaris</i>	5 – 7	x	-	B2	+	-	Annex 2
9.	<i>Ixobrychus minutus</i>	16 – 25	30 – 40	-	B2	+	-	Annex 2
10.	<i>Nycticorax nycticorax</i>	14 - 18	28 – 60	-	A4/B1, B2	+	V	Annex 2
11.	<i>Ardeola ralloides</i>	12 – 16	32 - 48	-	A4/B1, B2	+	V	Annex 2
12.	<i>Egretta garzetta</i>	22 – 32	120 – 200	-	A4/B1	+	T	Annex 2
13.	<i>Ardea alba/ Casmerodius albus</i>	10 – 18	60 – 180	-	A4/B1	+	T	Annex 2
14.	<i>Ardea purpurea</i>	6 – 10	30 – 50	-	B2	+	T	Annex 2
15.	<i>Ardea cinerea</i>	15 – 28	140 – 230	-	A4/B1	-	-	Annex 2
16.	<i>Plegadis falcinellus</i>	1 – 3?	20 – 32	-	A4/B1, B2	+	V	Annex 2
17.	<i>Platalea leucorodia</i>	4 - 10	40 - 92	-	A4/B1, B2	+	T	Annex 2
18.	<i>Ciconia ciconia</i>	4	120 – 200	-	A4/B1, B2	+	V	Annex 2
19.	<i>Ciconia nigra</i>	1?	5 – 12	-	A4/B1, B2	+	V	Annex 2
20.	<i>Cygnus olor</i>	6 - 12	40 – 128	20 - 80	A4/B1	-	-	Annex 2
21.	<i>Cygnus cygnus</i>	-	4 – 12	-	A4/B1, B3	+	-	Annex 2
22.	<i>Anser anser</i>	4 – 20	560 – 820	120 – 300	A4/B1	-	-	Annex 1
23.	<i>Anas platyrhynchos</i>	26 – 54	700 – 1600	160 – 420	A4/B1	-	-	Annex 1
24.	<i>Anas strepera</i>	6 - 10	30 – 120	-	A4/B1, B2	-	-	Annex 2*
25.	<i>Anas penelope</i>	-	75 – 270	18 – 32	A4/B1	-	-	Annex 1
26.	<i>Anas acuta</i>	-	14 – 42	2 – 6	A4/B1, B2	-	-	Annex 1
27.	<i>Anas crecca</i>	-	140 - 380	65 – 190	A4/B1	-	-	Annex 1
28.	<i>Anas querquedula</i>	12 – 18	60 - 280	-	A4/B1, B2	-	-	Annex 1
29.	<i>Anas clypeata</i>	-	16 – 34	8 – 24	A4/B1	-	-	Annex 1
30.	<i>Tadorna tadorna</i>	1 – 4?	12 – 18	-	A4/B1	-	V	Annex 2
31.	<i>Netta rufina</i>	1?	2 – 4	-	A4/B1, B2	-	T	Annex 2

Natura Montenegrina 9(3)

32.	<i>Aythya ferina</i>	18 - 32	350 - 1200	130 - 350	A4/B1, B3	-	-	Annex 1
33.	<i>Aythya fuligula</i>	-	38 - 82	18 - 42	A4/B1	-	-	Annex 1
34.	<i>Aythya nyroca</i>	5 - 8	80 - 220	-	A1, A4/B1, B2	+	V	Annex 2
35.	<i>Buteo buteo</i>	-	10 - 16	4 - 8	A4/B1	-	-	Annex 2
36.	<i>Pernis apivorus</i>	-	5 - 10	-	A4/B1, B3	+	V	Annex 2
37.	<i>Milvus migrans</i>	-	1 - 2	-	A4/B1, B2	+	CT	Annex 2
38.	<i>Circus aeruginosus</i>	3 - 5	10 - 14	-	A4/B1	+	-	Annex 2
39.	<i>Accipiter nisus</i>	-	9 - 16	2 - 4	A4/B1	-	-	Annex 2
40.	<i>Falco tinnunculus</i>	4 - 6	16 - 30	-	A4/B1, B2	-	-	Annex 2
41.	<i>Falco subbuteo</i>	2 - 5	18 - 24	-	A4/B1	-	-	Annex 2
42.	<i>Falco naumanni</i>	1	x	-	A1, A4/B1, B2	+	V	Annex 2
43.	<i>Phasianus colchicus</i>	x	x	x	-	-	-	Annex 1
44.	<i>Coturnix coturnix</i>	12 - 18	x	-	B2	-	-	Annex 1
45.	<i>Perdix perdix</i>	14 - 20	x	x	B2	-	-	Annex 1
46.	<i>Rallus aquaticus</i>	2 - 4	x	-	-	-	-	Annex 2
47.	<i>Porzana porzana</i>	1 - 2?	x	-	A4/B1, B3	+	-	Annex 2
48.	<i>Gallinula chloropus</i>	10 - 16	30 - 42	-	A4/B1	-	-	Annex 1
49.	<i>Fulica atra</i>	30 - 52	320 - 1000	-	A4/B1	-	-	Annex 1
50.	<i>Vanellus vanellus</i>	16 - 26	600 - 850	-	A4/B1	-	-	Annex 2
51.	<i>Charadrius dubius</i>	1 - 4	14 - 20	-	A4/B1	-	-	Annex 2
52.	<i>Calidris minuta</i>	-	40 - 120	-	A3, A4/B1	-	-	Annex 2
53.	<i>Limicola falcinellus</i>	-	18 - 32	-	A4/B1, B2	-	-	Annex 2
54.	<i>Numenius arquata</i>	-	280 - 520	-	A4/B1, B2	-	-	Annex 2
55.	<i>Numenius tenuirostris</i>	-	0 - 1	-	A1, A4/B1, B2	+	CT	Annex 2
56.	<i>Limosa limosa</i>	-	450 - 820	-	A4/B1, B2	-	-	Annex 1

57.	<i>Tringa ochropus</i>	-	32 – 60	-	A4/B1	-	-	Annex 2
58.	<i>Tringa glareola</i>	-	40 – 110	-	A4/B1, B2	+	-	Annex 2
59.	<i>Tringa nebularia</i>	-	18 – 32	-	A3, A4/B1	-	-	Annex 2
60.	<i>Tringa stagnatilis</i>	-	28 – 54	-	A4/B1	-	-	Annex 2
61.	<i>Tringa totanus</i>	-	180 – 320	-	A4/B1, B2	-	-	Annex 2
62.	<i>Tringa erythropus</i>	-	150 – 270	-	A3, A4/B1	-	-	Annex 2
63.	<i>Philomachus pugnax</i>	-	320 – 500	-	A4/B1, B3	+	-	Annex 2
64.	<i>Recurvirostra avosetta</i>	2 – 4?	10 – 14	-	A4/B1, B2, B3	+	V	Annex 2
65.	<i>Himantopus himantopus</i>	1 – 3	8 – 12	-	A4/B1	+	T	Annex 2
66.	<i>Glareola pratincola</i>	-	0 – 14	-	A4/B1, B2	+	V	Annex 2
67.	<i>Larus michahellis</i>	12 - 15	90 – 120	60 - 140	A4/B1	-	-	Annex 2
68.	<i>Larus cachinnans</i>	2 - 4?	110 – 140	60 – 80	A4/B1	-	-	Annex 2
69.	<i>Larus ridibundus</i>	46 – 60	650 - 1200	130 - 220	A4/B1	-	-	Annex 2
70.	<i>Larus minutus</i>	-	20 – 42	-	A4/B1, B2	+	-	Annex 2
71.	<i>Chlidonias hybridus</i>	28 - 42	60 – 140	-	A4/B1, B2	+	-	Annex 2
72.	<i>Chlidonias niger</i>	6 – 10	20 – 28	-	A4/B1, B2	+	-	Annex 2
73.	<i>Chlidonias leucopterus</i>	3 – 5	8 - 10	-	A4/B1	-	-	Annex 2
74.	<i>Gelochelidon nilotica</i>	-	1 - 2	-	A4/B1, B2	+	CT	Annex 2
75.	<i>Sterna hirundo</i>	14 - 20	50 – 110	-	A4/B1	+	-	Annex 2
76.	<i>Cuculus canorus</i>	x	x	-	-	-	-	Annex 2
77.	<i>Streptopelia turtur</i>	x	x	-	B2	-	V	Annex 1
78.	<i>Streptopelia decaocto</i>	x	x	x	-	-	-	Annex 1
79.	<i>Athene noctua</i>	x	x	x	B2	-	-	Annex 2
80.	<i>Alcedo atthis</i>	4 – 6	x	-	B2	+	-	Annex 2
81.	<i>Upupa epops</i>	x	x	-	-	-	V	Annex 2
82.	<i>Merops apiaster</i>	32 – 52	x	-	A4/B1, B2	-	-	Annex 2

Natura Montenegrina 9(3)

83.	<i>Coracias garrulus</i>	4 – 6	x	-	B2	+	-	Annex 2
84.	<i>Picus viridis</i>	x	x	x	B2	-	-	Annex 2
85.	<i>Dendrocopos major</i>	x	x	x	-	-	-	Annex 2
86.	<i>Dendrocopos syriacus</i>	x	x	x	B3	+	-	Annex 2
87.	<i>Jynx torquilla</i>	x	x	-	B2	-	T	Annex 2
88.	<i>Calandrella brachydactyla</i>	3 - 6	x	-	B2	+	-	Annex 2
89.	<i>Alauda arvensis</i>	x	x	10 – 18	B2	-	-	Annex 2*
90.	<i>Galerida cristata</i>	x	x	x	B2	-	-	Annex 2
91.	<i>Hirundo rustica</i>	x	x	-	B2	-	-	Annex 2
92.	<i>Delichon urbica</i>	x	x	-	-	-	-	Annex 2
93.	<i>Riparia riparia</i>	110 - 160	x	-	A4/B1/B2	-	-	Annex 2
94.	<i>Motacilla alba</i>	x	x	-	-	-	-	Annex 2
95.	<i>Motacilla flava</i>	x	x	-	-	-	-	Annex 2
96.	<i>Lanius collurio</i>	30 - 50	x	-	B2	+	-	Annex 2
97.	<i>Lanius minor</i>	28 – 42	x	-	B2	+	-	Annex 2
98.	<i>Oriolus oriolus</i>	x	x	-	-	-	-	Annex 2
99.	<i>Sturnus vulgaris</i>	x	x	-	-	-	-	Annex 1
100.	<i>Pica pica</i>	x	x	x	-	-	-	Annex 1
101.	<i>Corvus frugilegus</i>	x	x	x	-	-	-	Annex 1
102.	<i>Corvus monedula</i>	x	x	x	B3	-	-	Annex 1
103.	<i>Corvus corone cornix</i>	x	x	x	-	-	-	Annex 1
104.	<i>Troglodytes troglodytes</i>	x	x	x	-	-	-	Annex 2
105.	<i>Locustella luscinioides</i>	x	x	-	B3	-	-	Annex 2
106.	<i>Acrocephalus schoenobaenus</i>	x	x	-	B3	-	-	Annex 2
107.	<i>Acrocephalus scirpaceus</i>	x	x	-	B3	-	-	Annex 2
108.	<i>Acrocephalus arundinaceus</i>	x	x	-	-	-	-	Annex 2
109.	<i>Hippolais icterina</i>	x	x	-	B3	-	-	Annex 2
110.	<i>Sylvia communis</i>	x	x	-	B3	-	-	Annex 2
111.	<i>Sylvia borin</i>	x	x	-	B3	-	-	Annex 2
112.	<i>Sylvia atricapilla</i>	x	x	-	B3	-	-	Annex 2

113.	<i>Phylloscopus collybita</i>	x	x	-	-	-	-	Annex 2
114.	<i>Muscicapa striata</i>	x	x	-	B2	-	-	Annex 2
115.	<i>Saxicola torquata</i>	x	x	-	B2	-	-	Annex 2
116.	<i>Saxicola rubetra</i>	x	x	-	B3	-	-	Annex 2
117.	<i>Erithacus rubecula</i>	x	x	-	B3	-	-	Annex 2
118.	<i>Luscinia megarhynchos</i>	x	x	-	B3	-	-	Annex 2
119.	<i>Turdus merula</i>	x	x	-	B3	-	-	Annex 2
120.	<i>Turdus philomelos</i>	x	x	-	B3	-	-	Annex 1
121.	<i>Turdus pilaris</i>	x	x	60 – 180	B3	-	-	Annex 1
122.	<i>Parus palustris</i>	x	x	-	-	-	-	Annex 2
123.	<i>Parus major</i>	x	x	x	-	-	-	Annex 2
124.	<i>Parus coeruleus</i>	x	x	x	-	-	-	Annex 2
125.	<i>Remiz pendulinus</i>	x	x	-	-	-	-	Annex 2
126.	<i>Panurus biarmicus</i>	x	x	-	-	-	-	Annex 2
127.	<i>Passer domesticus</i>	x	x	x	-	-	-	Annex 2
128.	<i>Passer montanus</i>	x	x	x	-	-	-	Annex 2
129.	<i>Fringilla coelebs</i>	x	x	x	B3	-	-	Annex 2
130.	<i>Fringilla montifringilla</i>	x	x	140 – 180	A3	-	-	Annex 2
131.	<i>Coccothraustes coccothraustes</i>	x	x	x	-	-	-	Annex 2
132.	<i>Carduelis chloris</i>	x	x	-	B3	-	-	Annex 2
133.	<i>Carduelis carduelis</i>	x	x	x	-	-	-	Annex 2
134.	<i>Carduelis cannabina</i>	x	x	-	B3	-	-	Annex 2
135.	<i>Miliaria calandra</i>	x	x	-	B3	-	-	Annex 2
136.	<i>Emberiza citrinella</i>	x	x	x	B3	-	-	Annex 2
137.	<i>Emberiza schoeniclus</i>	x	x	x	-	-	-	Annex 2

In the southern part from the territory of the SPA Lower Meadow of Siret River, we recorded 111 bird species used like IBA criteria, ones of them representing more than one category of IBA criteria (for example, the Pygmy Cormorant - *Phalacrocorax pygmeus*, is a globally threatened bird species, gregarious during the breeding, migration and wintering time, concentrated with unfavourable conservation status in Europe).

The most important group is that of the globally threatened bird species, due their sensibility to the environmental changes, presenting constantly negative trends

during the last decades; all these species need special and emergency conservation measures in order to increase their survival chances. As we can see in this table, four globally threatened bird species – *Phalacrocorax pygmeus*, *Aythya nyroca*, *Falco naumanni* and *Numenius tenuirostris* are present in the lower sector of Siret River basin. From these, the Ferruginous Duck is breeding on the all three investigated wetlands, while the Lesser Kestrel is breeding, at least, irregular in the Potcoava Marsh area (we found one occupied nest in a poplar, in the middle part of the marsh; in the early August 2009, one falconet was practice the fly inside the nest, while the male was surveying the area from the top of the tree and the female was hunting in one harvested cereal cultivated land, in the northern side of the marsh). The Pygmy cormorant could be a breeding species in the area, but we did not find nests or a breeding colony; the birds appear in flocks about tens individuals, especially, from second part of July. As regarding the Slender-billed Curlew, is a very rare species in Romania; this was the first recording in the Siret River basin – one adult that we could compare very well with the Curlew (*Numenius arquata*), which was present with five individuals at a distance of no more than 30 metres from the solitary and very calm exemplar of *Numenius tenuirostris*.

The group of restrictive biome species is represented by four species in the area: three wader species – *Calidris minuta*, *Tringa nebularia* and *Tringa erythropus* are passage birds, recorded in small flocks during the spring and autumn migration time, while *Fringilla montifringilla* is a wintering visitor in this territory.

The gregarious species that are forming great agglomerations as breeding colonies or feeding flocks during the migration and wintering period (A4/B1) are represented by 70 species in the investigated sites, mostly being aquatic and semi-aquatic bird species, typical for the wetlands. Numerous species are breeding in the area, but the pairs' number is not great. The most important breeding site is the Talabasca Marsh perimeter that is not very large (139 ha), but presents a natural reserve status from 1994 and includes a high diversity of habitats. We notice the breeding presence of some species that became rare in the eastern part of Romania, excepting the Danube Delta, like grebes (*Podiceps grisegena* and *Podiceps nigricollis*), herons and egrets (*Ardeola ralloides*, *Nycticorax nycticorax*, *Egretta garzetta*, *Ardea alba*, *Ardea cinerea*, *Ardea purpurea*) that are forming a mixed colony on the Talabasca Marsh, while some pairs were recorded on Lozova and Potcoava marshes, too. Between the waterfowls, the increasing breeding effectiveness of then Greylag Goose (*Anser anser*) is a proof of the low level of the anthropogenic influences in this perimeter. We mention, too, the probably breeding presence with one or two pairs of the Shelduck (*Tadorna tadorna*) near the Talabasca marsh area.

During the migration time, the waders, gulls and terns appear with large groups, some species being counted with flocks about hundreds individuals, while during the breeding period juts some species are present, with very small effectiveness.

The bird species concentrated in Europe, so, with conservation concern in the European perimeter, are represented by two categories in the study territory: 48 bird species with unfavourable conservation status (B2), respectively, 26 bird species with favourable conservation status (B3). From the first group, the pelicans (*Pelecanus onocrotalus*) are coming just to feed in the area. We cannot exclude the possibility that *Ciconia nigra* could build nests in old trees from the nearest meadow forest or the probability that *Plegadis falcinellus* can start to breed in the area, in the conditions of the extension of its distribution area in Romania. The second group is represented, especially, by typical passerine species for forest or reed beds.

The Birds' Directive represents one of the most important instruments in the European environmental strategies; the birds are regarded like sensitive indicators of the ecosystems' "health" and long-term monitoring programs permitted to collect important data to assess the impact of different human activities on the biodiversity through the bird fauna's dynamic and evolution in one area. Improve the general conditions necessary to the some bird species' survival become the best way to improve the general life conditions and for the sustainable development of the local community in one territory. The bird species listed in the first annex of this directive are representing important criteria in the biodiversity's conservation strategy of the European Union – these bird species shall be subject of special conservation measures concerning their habitats in order to ensure their survival and the reproduction in their area of distribution. For this reason, the bird species included in the Annex 1 became the most important indicator for the European Community Nature 2000 Network, their presence, populations and trends presenting key-factors to identify the Special Protected Areas (SPA).

During our researches in the lower sector of the Siret River basin, we recorded 37 bird species included in this annex of the Birds' Directive. As we can see in the table 1, the majority of them are typically for the wetlands or can visit these ecosystems in different periods of the yearly biological rhythms. Some of these bird species are characteristic for the woodlands and their presence in the area can be related to the meadow forests (raptors, woodpeckers), while others are using the open lands and the clusters of bushes (larks, shrikes).

The Romanian Red Book of Vertebrates (Botnariuc & Tatole, 2005) is not a conservation legal instrument but the specialists done it in order to present the real situation of these species to the authorities, so they include these key-species in the environmental legislation and national strategy for the biodiversity conservation and management. In the southern part from the territory of the SPA Lower Meadow of Siret River, we met 25 species that appear in the birds section of this book. Three of these species have status of critically threatened species; all of them were recorded like accidental species in the area during the autumn migration time: *Milvus migrans* – one exemplar, 29.09.2006, *Numenius tenuirostris* – one solitary adult, 5.09.2008 and *Gelochelidon nilotica*, one adult, 24.09.2004. The threatened species group is

represented by seven species; from these, five are breeding species in the wetland areas (*Egretta garzetta*, *Ardea alba* (*Casmerodius albus*), *Ardea purpurea*, *Platalea leucorodia* and *Himantopus himantopus*), the biggest effectives and diversity being recorded on the Talabasca Marsh, while the Wryneck (*Jynx torquilla*) is breeding in the nearest meadow forests; the last species, Red-crested Pochard (*Netta rufina*) was recorded with one pair, on the 3rd May 2010, on Talabasca Marsh.

The largest group is that of the vulnerable bird species, including 15 species. Some of them are using the investigated wetlands like feeding territories, appearing in the middle part of the summer or during the autumn migration: *Pelecanus onocrotalus*, *Phalacrocorax pygmeus*, *Plegadis falcinellus*, *Ciconia nigra* or *Glareola pratincola*. Other species are certainly, irregular or probably breeding species in the area: *Nycticorax nycticorax*, *Ardeola ralloides*, *Ciconia ciconia* (in the northern limit of the village Tudor Vladimirescu, closed to the Talabasca Marsh, there exist one of the very few nests built in the top of one tree by the White Stork in the eastern Romania), *Tadorna tadorna*, *Aythya nyroca*, *Falco naumanni* or *Recurvirostra avosetta*. In the nearest meadow forest, there are breeding *Streptopelia turtur* and *Upupa epops*.

All the recorded bird species in the studied areas from the lower sector of Siret River basin appear in the Romanian Law for hunting protection and management (Law no. 407/2006, modified through Law no. 197/2007), most of them being prohibit for hunting (111 species). We have only some comments regarding the status' change of two species in the mentioned laws: *Anas strepera* and *Alauda arvensis* that were included in the game hunting species in the 2007's law. The Gadwall is not a frequent breeding duck species nor only in the inferior part of Siret River basin but in Romania, too and it breeding effectives present an obvious negative trend in our country. As regarding the Skylark, this species is not threatened in Romania, but is one important insectivorous passerine in the agricultural lands and steppe areas; in the same time, the hunting interest on this species of numerous abroad hunters visiting Romania, increase the risk for the other lark species present with small effectives in the southern part of the country, including for *Calandrella brachydactyla*, due the identification error in the field. For happiness, we can say that there is not a tradition for hunting games in the investigated areas.

## CONCLUSIONS AND RECOMMENDATIONS

The Lower Meadow of Siret River SPA shelters, inside the southern sector, relatively high diversity of birds (137 species), numerous being used like criteria or indicators to assess the biodiversity status in one territory.

There exist possibilities for the sustainable development in the area, using the natural resources, ecological tourism and traditional activities.

We recommend the control of the grazing activity, in order to avoid exceeding the vegetation capacity of regeneration but also the nests' destruction during the breeding periods of the waders that use the humid meadows.

There exists some interest to develop wind farms in the area. We recommend one previous impact study for each situation and development of this infrastructure type completely outside of this important birds' flyway perimeter.

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Original research article

Received: 29 July 2010.