
**REPUBLIC OF SERBIA
INSTITUTE FOR NATURE CONSERVATION OF SERBIA**

RAMSAR CONVENTION BUREAU
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Subject: **THE NOMINATION OF THE "GORNJE PODUNAVLJE"
AREA FOR A RAMSAR SITE**

APPENDIX I

A REVIEW OF IMPORTANT BIRD SPECIES OF GORNJE PODUNAVLJE

The review includes waterfowl in scope of the following families: Gaviidae, Podicipedidae, Ardeidae, Threskiornithidae, Ciconidae, Anatidae, Accipitridae, Pandionidae, Rallidae, Gruidae, Haematopodidae, Recurvirostridae, Charadriidae, Scolopacidae, Laridae, Sternidae.

Explanation of the symbols:

Data on bird population abundance in the area:

- I - The number of nesting pairs
- II - The number of individuals during wintering period
- III - The number of individuals during the spring migration
- IV - The number of individuals during the autumn migration

In the provided table containing data on birds (Appendix I), the maximum number of birds recorded in one day during the research in the current period (1991-2006) is given for each species. The maximum number of individuals during the spring and autumn migration, as well as during wintering, is presented as the number of recorded birds, while the nesting number is given as the number of pairs. The total number of birds that visited this area during the entire period of migration or wintering is manifold greater, but this number is not presented in the table due to the insufficiently precise field data.

Species	I	II	III	IV	1% level
<i>Gavia stellata</i>	-	3	-	-	1
<i>Tachybaptus ruficollis</i>	160	80	300	900	4,000
<i>Podiceps cristatus</i>	70-90	20	180	190	7,250
<i>Podiceps griseigena</i>	-	-	1	1	740
<i>Podiceps nigricollis</i>	-	-	-	20	2,200
<i>Phalacrocorax carbo</i>	-	5,200	3,500	2,000	4,000
<i>Phalacrocorax pygmeus</i>	-	5	20	150	700
<i>Botaurus stellaris</i>	10-15	100	?	?	900
<i>Nycticorax nycticorax</i>	170	-	400	800	1,200
<i>Ardeola ralloides</i>	10-15	-	300	600	600
<i>Egretta garzetta</i>	120	-	300	650	580
<i>Casmerodius albus</i>	20-30	320	350	800	470
<i>Ardea cinerea</i>	20-40	600	900	1,100	2,200
<i>Ardea purpurea</i>	80	-	?	?	2,200
<i>Ciconia nigra</i>	30-40	-	250	450	250
<i>Ciconia ciconia</i>	36*	-	200	500	4,000
<i>Platalea leucorodia</i>	-	30	400	550	120
<i>Cygnus olor</i>	10-13	330	280	100	450
<i>Cygnus cygnus</i>	-	-	5	-	170
<i>Anser fabalis</i>	-	1,000	-	?	6,000
<i>Anser albifrons</i>	-	2,500	-	-	5,300
<i>Anser anser</i>	50-60	1,000	650	400	850
<i>Netta rufina</i>	-	-	2	-	320
<i>Anas penelope</i>	-	180	220	100	3,000
<i>Anas strepera</i>	-	15	80	120	1,100
<i>Anas crecca</i>	-	400	1,500	300	10,600
<i>Anas platyrhynchos</i>	150-300	25,000	11,500	13,500	20,000
<i>Anas acuta</i>	-	60	40	10	7,500
<i>Anas querquedula</i>	?	-	1,600	3,000	20,000
<i>Anas clypeata</i>	-	5	160	120	4,500
<i>Aythya ferina</i>	60-80	1,200	1,400	1,600	10,000
<i>Aythya nyroca</i>	20-40	5	240	550	450
<i>Aythya fuligula</i>	-	270	50	100	7,000
<i>Bucephala clangula</i>	-	920	1,100	-	2,000
<i>Mergellus albellus</i>	-	230	60	-	350
<i>Mergus merganser</i>	-	15	-	-	1
<i>Milvus migrans</i>	10-20	-	?	?	
<i>Haliaeetus albicilla</i>	12-16	90	45	84	
<i>Circus aeruginosus</i>	20-24	2	150	300	
<i>Pandion haliaetus</i>	-	-	20	30	
<i>Fulica atra</i>	300	1,400	1,200	4,300	20,000
<i>Himant. himantopus</i>	-	-	5	130-150	500
<i>Recurvirostra avosetta</i>	-	-	40	50	470
<i>Vanellus vanellus</i>	50-70	-	35	250	20,000
<i>Larus ridibundus</i>	-	600	1,200	1,100	13,000
<i>Chlidonias hybrida</i>	-	-	360	590	1,000
<i>Chlidonias niger</i>	-	-	50	100	7,500

APPENDIX II: The diversity of the fish fauna in Gornje Podunavlje

SPECIES	VERNACULAR NAME
ACIPENSERIDAE	
<i>Acipenser ruthenus</i>	sterlet
<i>Acipenser nudiventris</i>	ship sturgeon
ESOCIDAE	
<i>Esox lucius</i>	pike
CYPRINIDAE	
<i>Rutilus rutilus</i>	roach
<i>Rutilus pigus virgo</i>	Danube roach
<i>Leuciscus leuciscus</i>	dace
<i>Leuciscus cephalus</i>	chub
<i>Leuciscus idus</i>	orfe
<i>Scardinius erythrophthalmus</i>	rudd
<i>Ctenopharyngodon idella</i>	grass carp
<i>Aspius aspius</i>	asp
<i>Leucaspis delineatus</i>	belica
<i>Tinca tinca</i>	tench
<i>Alburnus alburnus</i>	bleak
<i>Alburnoides bipunctatus</i>	schneider
<i>Blicca bjoerkna</i>	white bream
<i>Abramis brama</i>	bream
<i>Abramis sapa</i>	whiteye bream
<i>Abramis ballerus</i>	blue bream
<i>Vimba vimba</i>	vimba
<i>Pelecus cultratus</i>	chekhon
<i>Chondrostoma nasus</i>	nase
<i>Rhodeus sericeus amarus</i>	bitterling
<i>Gobio gobio</i>	gudgeon
<i>Gobio uranoscopus</i>	Danube gudgeon
<i>Gobio albipinnatus</i>	whitefin gudgeon
<i>Gobio kessleri</i>	Kessler's gudgeon
<i>Pseudorasbora parva</i>	topmouth gudgeon
<i>Barbus barbus</i>	barbel
<i>Cyprinus carpio</i>	carp
<i>Carassius carassius</i>	crucian carp
<i>Carassius auratus gibelio</i>	goldfish

SPECIES	VERNACULAR NAME
<i>Hypophthalmichthys molitrix</i>	silver carp
<i>Aristichthys nobilis</i>	bighead carp
COBITIDAE	
<i>Orthrus barbatulus</i>	stone loach
<i>Cobitis taenia</i>	spined loach
BALITORIDAE	
<i>Misgurnus fossilis</i>	weather loach
SILURIDAE	
<i>Silurus glanis</i>	wels catfish
ICTALURIDAE	
<i>Ictalurus nebulosus</i>	brown bullhead
ANGUILLIDAE	
<i>Anguilla anguilla</i>	eel
GADIDAE	
<i>Lota lota</i>	burbot
CENTRARCHIDAE	
<i>Lepomis gibbosus</i>	pumpkinseed
<i>Micropterus salmoides</i>	largemouth bass
PERCIDAE	
<i>Perca fluviatilis</i>	perch
<i>Gymnocephalus cernua</i>	ruffe
<i>Gymnocephalus schraetser</i>	striped ruffe
<i>Gymnocephalus baloni</i>	Balon's ruffe
<i>Sander lucioperca</i>	pikeperch
<i>Sander volgensis</i>	Volga pikeperch
<i>Zingel streber</i>	streber
<i>Zingel zingel</i>	zingel
GOBIIDAE	
<i>Neogobius fluviatilis</i>	sand goby
<i>Neogobius kessleri</i>	bighead goby
<i>Neogobius gymnotrachelus</i>	racer goby
<i>Proterorhinus marmoratus</i>	tubenose goby
COTTIDAE	
<i>Cottus gobio</i>	bullhead

APPENDIX III

A systematic review of plant communities:

I Classis: LEMNETEA MINORIS Koch et Tx. 1955.

Ordo: *Lemnetalia minoris* Koch et Tx. 1955

1. Alliance: *Lemnion minoris* Koch et Tx. 1955

Ass.-gr.: *Spirodeletum polyrrhizae* Koch 1954

1. Ass.: *Lemno minoris* – *Spirodeletum polyrrhizae* Koch 1954

Lemno-Spirodeletum polyrrhizae typicum Müller et. Görs 1960

Lemno-Spirodeletum polyrrhizae lemnetosum trisulcae Müller et
Görs

Ass.-gr.: *Lemnetum gibbae* Miyawaki et J. Tx. 1960

2. Ass.: *Lemnetum minori- gibbae* (Miyawaki et J.Tx) Pass. 1996

2. Alliance: *Lemnion trisulcae* Den Hartog et Segal 1964

Suball.: *Lemnenion trisulcae* Pass. 1996

Ass.– gr.: *Lemnetum trisulcae* Den Hartog 1963

3. Ass.: *Lemnetum minori- trisulcae* (Den Hartog 1963) Pass. 1996

Suball.: *Lemno* – *Riccienion* Pass. 1996

Ass.– gr.: *Riccietum fluitantis* Slavnić 1956

4. Ass.: *Lemno minoris* - *Riccietum fluitantis* (Slavnić 1956) Pass. 1996

Lemno minoris-Riccietum fluitantis lemnetosum trisulcae Müller et
Görs 1960

Lemno minoris-Riccietum fluitantis ricciocarpetosum natantis Tx.
1974

Ass.–gr.: *Ricciocarpetum natantis* Tx. 1974

5. Ass.: *Lemno minoris* – *Ricciocarpetum natantis* Segal 1966

Lemno minoris – *Ricciocarpetum natantis typicum* Tx. 1974

3. Alliance: *Lemno* - *Salvinion* Slavnić 1956 em. Schwabe-B. et Tx. 1981

Suball.: *Lemno* – *Salvinion typicum*

Ass.–gr.: *Salvinietum natantis* Koch 1954

6. Ass.: *Spirodelo* – *Salvinietum natantis* Slavnić 1956

Suball.: *Lemn-* *Azollenion* Pass. 1996

Ass.-gr.: *Azolletum filiculoides* Br.-Bl. 1952

7. Ass.: *Lemno minoris* – *Azolletum filiculoides* Br.-Bl. 1952

II Classis: *UTRICULARIETEA INTERMEDIO-MINORIS* den Hartog et Segal 1964 em.
Pietsch 1965

1. Ordo: *Lemno-Utricularietalia vulgaris* Pass.1978

1. Alliance : *Utricularion vulgaris* Pass. 1964

Ass.-gr.: *Utricularietum vulgaris* (Soó 1928) Pass. 1962

8. Ass.: *Lemno minoris* – *Utricularietum vulgaris* Soó (1928) ex. Pass. 1964

III Classis: *CERATOPHYLLETEA* Den Hartog et Segal 1964

1. Ordo: *Ceratophylletalia* Den Hartog et Segal 1964

1. Alliance : *Ceratophyllion demersi* Den Hartog et Segal 1964

Suball.: *Ceratophyllenion demersi* Pass. 1996

9. Ass.: *Potamogetono – Ceratophylletum demersi* (Hild et Rehnelt 1965)
Pass. 1995

10. Ass.: *Potamogetono – Ceratophylletum submersi* Pop 1962

2. Ordo: *Hydrocharitetalia* Rübél 1933 em Pass. 1978

1. Alliance : *Hydrocharition morsus-ranae* Rübél 1933

Ass.-gr.: *Hydrocharitetum morsus-ranae* van Langendonck 1935 em.

11. Ass.: *Ceratophyllo -Hydrocharitetum morsus-ranae* Pop 1962

IV Classis: *POTAMOGETONETEA* Klika ap. Nowak et Klika 1941

1. Ordo: *Potamogetonetalia pectinati* Koch 1926

1. Alliance: *Najadion* Pass. 1978

Ass.-gr.: *Najadetum marinae* Fukarek 1961

12. Ass.: *Potamogetono-Najadetum marinae* Horvatić et Micev. 1960 in
Horvatić 1963 corr.

2. Alliance: *Magnopotamogetonion lucentis* (Vollmar 1947) Den Hartog et Segal 1964

13. Ass.: *Myriophyllo –Potametum* Soó 1934

3. Alliance: *Ranunculion aquatilis* Pass. 1964

Ass.-gr. *Hottonietum palustris* Tx. 1937

14. Ass.: *Hottonietum palustris* Tx. 1937 ex Roll 1940

V Classis: *NYMPHAEETEA* Klika 1944 em. Pass. 1992

1. Ordo: *Nymphaeetalia albo-tetragonae* Pass. 1978

1. Alliance: *Nymphoidion peltatae* Pass 1992.

Ass.-gr.: *Nymphoidetum peltatae* (Allorge 1922) Bellot 1951

15. Ass.: *Hydrochari-Nymphoidetum peltatae* Slavnić 1956

Ass.-gr.: *Trapetum natantis* Müller et Görs (1969) 1962

16. Ass.: *Ceratophyllo-Trapetum natantis* Müller et Görs (1962) ex. Pass.
1992.

Ass. –gr.: *Hippuridetum vulgaris* Pass. 1955

17. Ass.: *Nymphoideto – Hippuridetum* Antić et al. 1969

2. Alliance: *Nymphaeion albae* Oberd 1957

Suballiance: *Myriophyllo-Nupharenion* Pass. 1992

18. Ass.: *Nymphaeo-Numpharetum luteae* Nowinski 1928

VI Classis: *PHRAGMITETEA* Tx. et Prsg. 1942

1. Ordo: *Phragmitetetalia* Koch 1926

1. Alliance: *Pragmition* Koch 1926

19. Ass.: *Scirpetum lacustris* Schmale 1939

20. Ass.: *Typhetum angustifoliae* Pign. 1953

21. Ass.: *Typhetum latifoliae* G. Lang 1973

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22. Ass.: *Glycerietum maximae* Hueck 1931
 23. Ass.: *Phragmitetum communis* Schmale 1939
 24. Ass.: *Oenantho-Roripetum* Lohmeyer 1950
 2. Alliance: *Magnocaricion* Koch 1926
 25. Ass.: *Caricetum elatae* Koch 1926
 26. Ass.: *Caricetum rostratae* Rübél 1912
 27. Ass.: *Caricetum ripariae* Knapp et Stoffers 1962
 28. Ass.: *Caricetum vesicariae* Br.-Bl. et Denis 1926
 29. Ass.: *Caricetum gracilis* (Graebn. et Hueck 1931) Tx. 1937
 30. Ass.: *Eleocharidetum palustris* Schennikov 1919
 31. Ass.: *Phalaridetum arundinaceae* (Koch 1926 n.n.) Libbert 1931
 32. Ass.: *Glycerietum fluitantis* Wilzek 1935

VII Classis: *ISOETO - NANOJUNCETEA* Br. - Bl. et Tx. 43

1. Ordo: *Nanocyperetalia* Klika 35

1. Alliance: *Nanocyperion flavescens* W.Koch 26
 33. Ass.: *Dichostylio – Gnaphalietum uliginosi* Babić 71

VIII Classis: *BIDENTETEA TRIPARTITAE* Tx., Lohm. et Prsg. 50

1. Ordo: *Bidentetalia tripartitae* Br. - Bl. et Tx. 43

1. Alliance: *Bidention tripartitae* Nordh. 40
 34. Ass.: *Polygono - Bidentetum* (W.Koch 26) Lohm 50
 35. Ass.: *Ranunculetum scelerati* Tx. 50
 36. Ass.: *Alopecuretum aequalis* Burrichter 50

IX Classis: *CHENOPODIETEA* Br. - Bl. 51

1. Ordo: *Sisymbrietalia* J. Tx. 61

1. Alliance: *Sisymbrium* Tx., Lohm., Prsg. 40
 37. Ass.: *Descurainietum sophiae* Krek 35
 38. Ass.: *Hordetum murini* Libbert 32

2. Ordo : *Onopordetalia acanthi* Br. Bl. et Tx 43

2. Alliance: *Onopordion acanthi* Br. - Bl. 26
 39. Ass.: *Echio - Melilotetum* Tx. 42

X Classis: *PLANTAGINETEA MAJORIS* Tx. et Prsg. 50

1. Ordo: *Plantaginetalia majoris* Tx. (47) 50

1. Alliance: *Polygonion avicularis* Br. - Bl. 31
 40. Ass.: *Lolio - Plantaginetum* (Lincola 21) Beger 30
 41. Ass.: *Sclerochloo - Polygonetum avicularis* (Gams 27) Soó 40

XI Classis: *ARTEMISIETEA* Lohm., Prsg. Et Tx. 50

1. Alliance: *Arction lappae* Tx. 37 em. Siss. 46
 42. Ass.: *Tanaceto – Artemisietum* Br. – Bl. 47
 43. Ass.: *Sambucetum ebuli* Felföldy 42
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XII Classis: *MOLINIO - ARRHENATHERETEA* Tx. 37

1. Ordo: *Arrhenatheretalia* Pawl. 28

1. Alliance: *Arrhenatherion elatioris* Br. - Bl. 25

44. Ass.: *Arrhenatheretum elatioris* Br. - Bl. 19

XIII Classis: *FESTUCO – PUCCINELLIETALIA* Soó 68

1. Ordo: *Puccinellietalia* Soó 40

1. Alliance: *Puccinellion limosae* (Klika 37) Wendelbg 43

XIV Classis: *SALICETEA PURPUREAE* Moor (58) 60

1. Ordo: *Salicetalia purpureae* Moor (58) 60

1. Alliance: *Salicion triandrae* Malc. 29, Mull. *Et Gors 58 (Br. – Bl. 56)*

45. Ass.: *Salicetum triandrae* Malc. 29

46. Ass.: *Salicetum purpureae* Wend. - Zel. 52

2. Alliance: *Salicion albae* Soó 71

47. Ass.: *Salicetum albae pannonicum* Parabućski (65) 72

48. Ass. *Salici - Populetum nigrae* (Tx. 31) Meijer - Drees 36

XV Classis: *ALNETEA GLUTINOSAE* Br. – Bl. Et Tx 43

1. Ordo: *Alnetalia glutinosae* Tx. 37

1. Alliance: *Alnion glutinosae* (Mald. 29) Meier, Dr. 36

49. Ass.: Ass.: *Leucoio - Fraxinetum angustifoliae* Glav. 59

2. Alliance: *Salicion cinereae* Mull. Et Gors 58

50. Ass.: *Salicetum cinereae* Jov. 53

XVI Classis: *QUERCO - FAGETEA* Br. Bl. et Vlieg. 37

1. Ordo: *Populetalia albae* Br. - Bl. 31

1. Alliance: *Alno – Quercion roboris* Ht 38

51. Ass.: *Populetum nigro - albae* Slav. 52

52. Ass.: *Crataego nigrae – Populetum albae* Parabućski (65)72

53. Ass.: *Genisto elatae - Quercetum roboris* Ht. 38

54. Ass.: *Frangulo – Alnetum glutinosae* Rauš 68

55. Ass.: *Fraxino – Ulmetum effusae* Slav. 52

2. Ordo: *Fagetalia sylvaticae* Pawl. 28

2. Alliance: *Carpinion betuli illyrico – moesiacum* Horvat 56

56. Ass.: *Carpino betuli – Quercetum roboris* (Anić 59) Rauš 69

3. Ordo: *Prunetalia spinosae* Tuxen 52

3. Alliance: *Prunion spinosae* Soo (30) 40, Klička 55

4. Alliance: *Berberidion vulgaris* Br. - Bl. 50

57. Ass.: *Corno - Ligustrietum croaticum* Ht. 59
