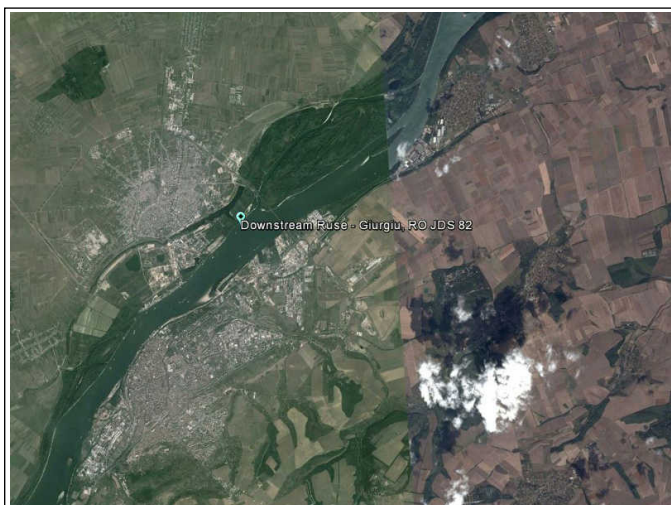


**Danube**

**Downstream Ruse - Giurgiu, RO JDS 82 (RO JDS 82 ), 18.September 2013**

FDA\_ID 238



Pic. 1: Map of monitoring site / ÖK 1:50.000

**Description of monitoring site**

- no data -

**Assessment****Estimated assessment of the ecological status class (FÖZ)**

Biological quality element fish	None
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**Ecological status class, current survey, 18.September 2013**

Biological quality element fish	FIA 5.00	Class 5	Bad
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**Former classifications**

None				
None				
None				

## Information about and sampling conditions and location

Table 1: Key data and information on sampling, monitoring site Downstream Ruse - Giurgiu, RO JDS 82

Watercourse name	<b>Danube</b>	Federal state	<b>not available</b>
Monitoring site	<b>Downstream Ruse - Giurgiu, RO JDS 82</b>	District	
Monitoring site number	<b>RO JDS 82</b>	Community	
Turnus number		Longitude (WGS 84, decimal) O	<b>25.99253</b>
sampling number		Latitude (WGS 84, decimal) N	<b>43.88781</b>
Survey-ID (FDA)	<b>238</b>	Route-ID	
Date	<b>9/18/2013</b>	River-km [monitoring site]	
Contracting authority	<b>ICPDR</b>	Number of planing area	
Contractor	<b>BAW-IGF</b>	Detail waterbody	
Project manager	<b>Vinzenz Bammer</b>		
Reason of survey	<b>JDS 3</b>		
Fishing category			
Bioregion		Waters ordinal number	
Fish bioregion	<b>Western Pomtic Danube (943-375,5) (8)</b>	Huet-zonation	<b>bream zone</b>
Biocenotic Region	<b>Metapotamon</b>	Adapt. Reference	<b>121</b>
River km from	<b>485.0</b>	Altitude [m.a.s]	<b>12</b>
River km to	<b>495.0</b>	Ø catchment basin [km²]	<b>670,000</b>
Section length [m]	<b>10,000</b>	Catchment-class	<b>more than 10.000km²</b>
Ø channel width [m]	<b>850</b>	Slope [‰]	<b>0.04</b>
Original stream character	<b>lowland stream -river</b>	Discharge regime	
Actual site character			
Actual impact		Reference watergauge (name, number)	
Flow [semiquant.]		Distance from source [km]	<b>2,355.0</b>
Average water depth [m]		Lake above	<b>No</b>
Maximum water depth [m]		Distance lake upstream [km]	
Geology	<b>calcareous</b>	Lake below	
Influence of sediment transport	<b>slightly affected</b>	Distance lake downstream [km]	
Ø wetted width [m]	<b>850</b>	Flow condition	
pH-value		Visible depth	
SBV		Fishing conditions	
Water temperature [°C] (F117)		Average annual air temperature [°C]	
Conductance, 25°C [µS/cm] (F118)			
Methods used and effort			
		Number of runs	<b>1</b>
Fished length [m]	<b>0</b>	E-devices output [kW]	
Fished area [m²]	<b>0</b>	Output voltage	
		Number of anodes	
		Number of strips/sections	<b>0</b>
and additional methods	<b>Fished area [m²]</b>	additional methods	<b>Effort [UE]</b>
E-Fishing by night	<b>6,110</b>	gillnet	<b>9</b>
beach seining	<b>1,500</b>		

## Comments on survey:

Nur Nachtstreifen wegen zu starken Windes bei Tag

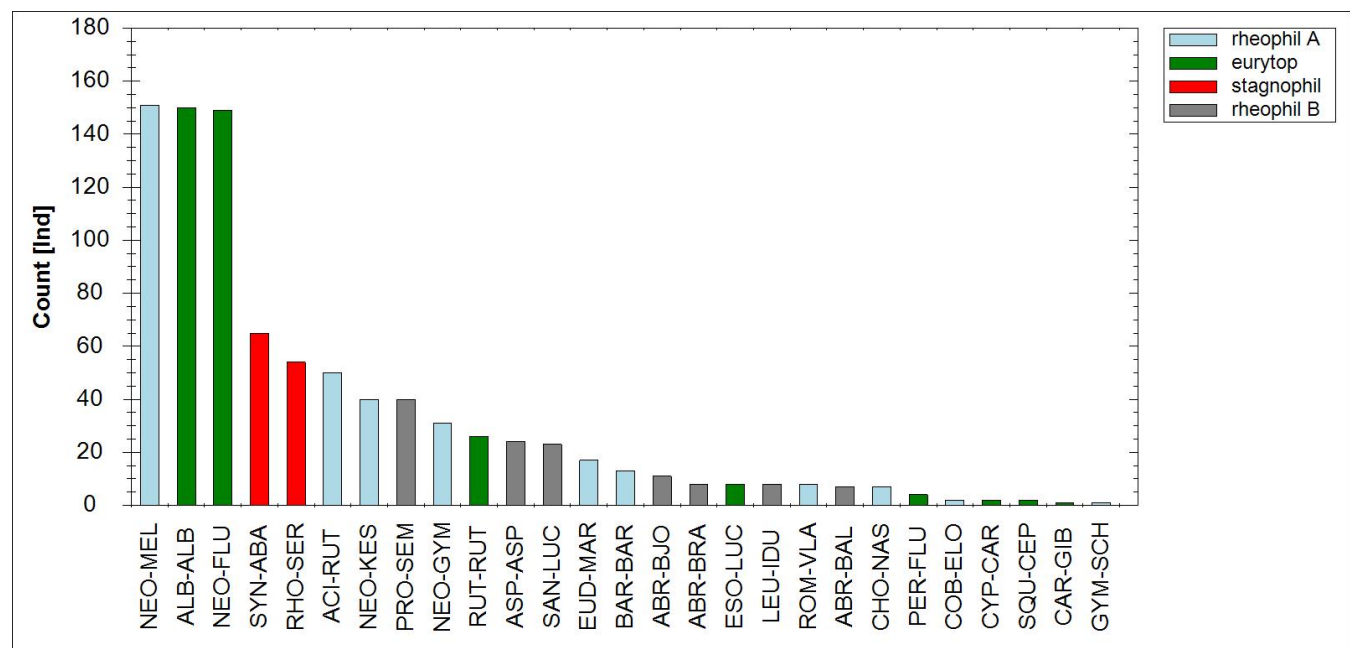
Table 2: Sampling effort at the monitoring site Downstream Ruse - Giurgiu, RO JDS 82, September 2013

Habitat	Str. no	DG	Length [m]	Width [m]	UE	Method
rip-rap	2	1	200	3		E-fishing night
rock	6	1	500	2		E-fishing night
rock	7	1	50	30		beach seining
rock	8	1	500	2		E-fishing night
rock	9	1	200	2	8.50	gillnet
sand/mud bar	1	1	320	3		E-fishing night
sand/mud bar	4	1	200	3		E-fishing night
sand/mud bar	5	1	400	3		E-fishing night
gravel bar	3	1	250	3		E-fishing night

Table 3: Habitat weighting used at the monitoring site Downstream Ruse - Giurgiu, RO JDS 82

Habitat	%
gravel bar	10
rip-rap	10
rock	0
sand/mud bar	80

### Catch result, fish assemblage and threatening status



Pic. 2: Species ranking diagramm of catch results Danube, Downstream Ruse - Giurgiu, RO JDS 82

Table 4: Reference fish assemblage, allochthonous species and threat status

Family	English name	Scient. name of species	Reference fish assemblage	FHH	Red List	IUCN	Count
Syngnathidae	Black-striped pipefish	<i>Syngnathus abaster</i>	s	-			65
Petromyzontidae	Ukrainian lamprey	<i>Eudontomyzon mariae</i>	s	II	VU	DD	17
Cyprinidae	Asp	<i>Aspius aspius</i>	b	II	EN	DD	24
	Barbel	<i>Barbus barbus</i>	b	V	NT	LC	13
	Bitterling	<i>Rhodeus amarus</i>	b	II	VU	LC	54
	Bleak	<i>Alburnus alburnus</i>	I	-	LC	LC	150
	Blue bream	<i>Abramis ballerus</i>	b	-	EN		7
	Bream	<i>Abramis brama</i>	I	-	LC		8
	Carp	<i>Cyprinus carpio</i>	b	-	EN	DD	2
	Chub	<i>Squalius cephalus</i>	s	-	LC	LC	2
	Crucian carp	<i>Carassius carassius</i>	s	-	EN	LC	
	Dace	<i>Leuciscus leuciscus</i>	s	-	NT	LC	
	Danube bleak	<i>Alburnus mento</i>	s	II	LC	DD	
	Danubian gudgeon	<i>Romanogobio uranoscopus</i>	s	II	CR	DD	
	Gudgeon	<i>Gobio gobio</i>	s	-	LC	LC	
	Ide	<i>Leuciscus idus</i>	b	-	EN	LC	8
	Kessler's gudgeon	<i>Romanogobio kesslerii</i>	s	II	EN	DD	
	Nase	<i>Chondrostoma nasus</i>	s	-	NT	LC	7
	Prussian carp	<i>Carassius gibelio</i>	b	-	LC		1
	Roach	<i>Rutilus rutilus</i>	I	-	LC	LC	26
	Rudd	<i>Scardinius erythrophthalmus</i>	s	-	LC	LC	
	Sabre carp	<i>Pelecus cultratus</i>	b	II; V	NT	DD	
	Sunbleak	<i>Leucaspis delineatus</i>	s	-	EN	LC	
	Tench	<i>Tinca tinca</i>	s	-	VU	LC	
	Vimba bream	<i>Vimba vimba</i>	b	-	VU	LC	
	White bream	<i>Blicca bjoerkna</i>	I	-	LC	LC	11
	White-finned gudgeon	<i>Romanogobio vladykovi</i>	I	II	LC	DD	8
Esocidae	Pike	<i>Esox lucius</i>	b	-	NT		8
Gadidae	Burbot	<i>Lota lota</i>	s	-	VU		
Percidae	Danube ruffe	<i>Gymnocephalus baloni</i>	s	II; IV	VU	DD	
	Perch	<i>Perca fluviatilis</i>	b	-	LC	LC	4
	Pikeperch	<i>Sander lucioperca</i>	b	-	NT	LC	23
	Ruffe	<i>Gymnocephalus cernuus</i>	s	-	LC	LC	
	Schraetser	<i>Gymnocephalus schraetser</i>	b	II; V	VU	VU	1
	Streber	<i>Zingel streber</i>	s	II	EN	VU	
	Volga pikeperch	<i>Sander volgensis</i>	s	-	EN	DD	
	Zingel	<i>Zingel zingel</i>	b	II; V	VU	VU	
Siluridae	Wels catfish	<i>Silurus glanis</i>	b	-	VU	LC	
Gobiidae	Bighead goby	<i>Neogobius kessleri</i>	s	-	NE	DD	40
	Monkey goby	<i>Neogobius fluviatilis</i>	I	-	NE	DD	149
	Racer goby	<i>Neogobius gymnotrachelus</i>	s	-	NE	DD	31
	Round goby	<i>Neogobius melanostomus</i>	s	-	NE	DD	151
	Tubenose goby	<i>Proterorhinus semilunaris</i>	b	-	EN	LC	40
Cobitidae	Balkan loach	<i>Sabanejewia balcanica</i>	s	II	EN	DD	
	Bulgarian golden loach	<i>Sabanejewia bulgarica</i>	s				

Family	English name	Scient. name of species	Reference fish assemblage	FFH	Red List	IUCN	Count
	Danubian spined loach	<i>Cobitis elongatoides</i>	b	-			2
	Weatherfish	<i>Misgurnus fossilis</i>	s	II	CR	NT	
Balitoridae	Danube bream	<i>Abramis sapo</i>	I	-	EN		
Acipenseridae	Danube sturgeon	<i>Acipenser gueldenstaedtii</i>	s	V	RE	EN	
	Fringebarbel sturgeon	<i>Acipenser nudiiventris</i>	s	V	RE	EN	
	Giant sturgeon	<i>Huso huso</i>	s	V	RE	EN	
	Starry sturgeon	<i>Acipenser stellatus</i>	s	V	RE	EN	
	Sterlet	<i>Acipenser ruthenus</i>	s	V	CR	VU	50
Clupeidae	Azov shad	<i>Alosa tanaica</i>	s				
	European mud-minnow	<i>Umbra krameri</i>	s	II	CR	VU	
	Pontic shad	<i>Alosa immaculata</i>	s	-			

Observed:: reference fish assemblage 27Taxa :: 56Taxa

Taxa complete 27

Count species of reference fish assemblage 902

Total count 902

Fish ecological reference fish assemblage (Haunschmid et al., 2006)

- I Dominant species
- b Subdominant species
- s Rare species
- a! Allochthon
- N! Neozoa

FFH...Fauna-Flora-Habitat-Directive (Council Directive 92/43/EEC of 21.Mai 1992)

- II Species listed in Annex II of the FFH- Directive (nature reserves have to be set out for this species)
- IV Species listed in Annex IV of the FFH- Directive (strict protection of animals and plants)
- V Species listed in Annex V of the FFH- Directive (species whose collection and use is subject to administrative control)
- RE Regionally extinct
- CR Critically endangered
- EN Endangered
- VU Vulnerable
- NT Near threatened
- LR Lower risk
- LC Least concern
- DD Available data is not sufficient for classification (data deficient)
- NE Not evaluated, usually widespread and replicating alien species

## Abundance and biomass

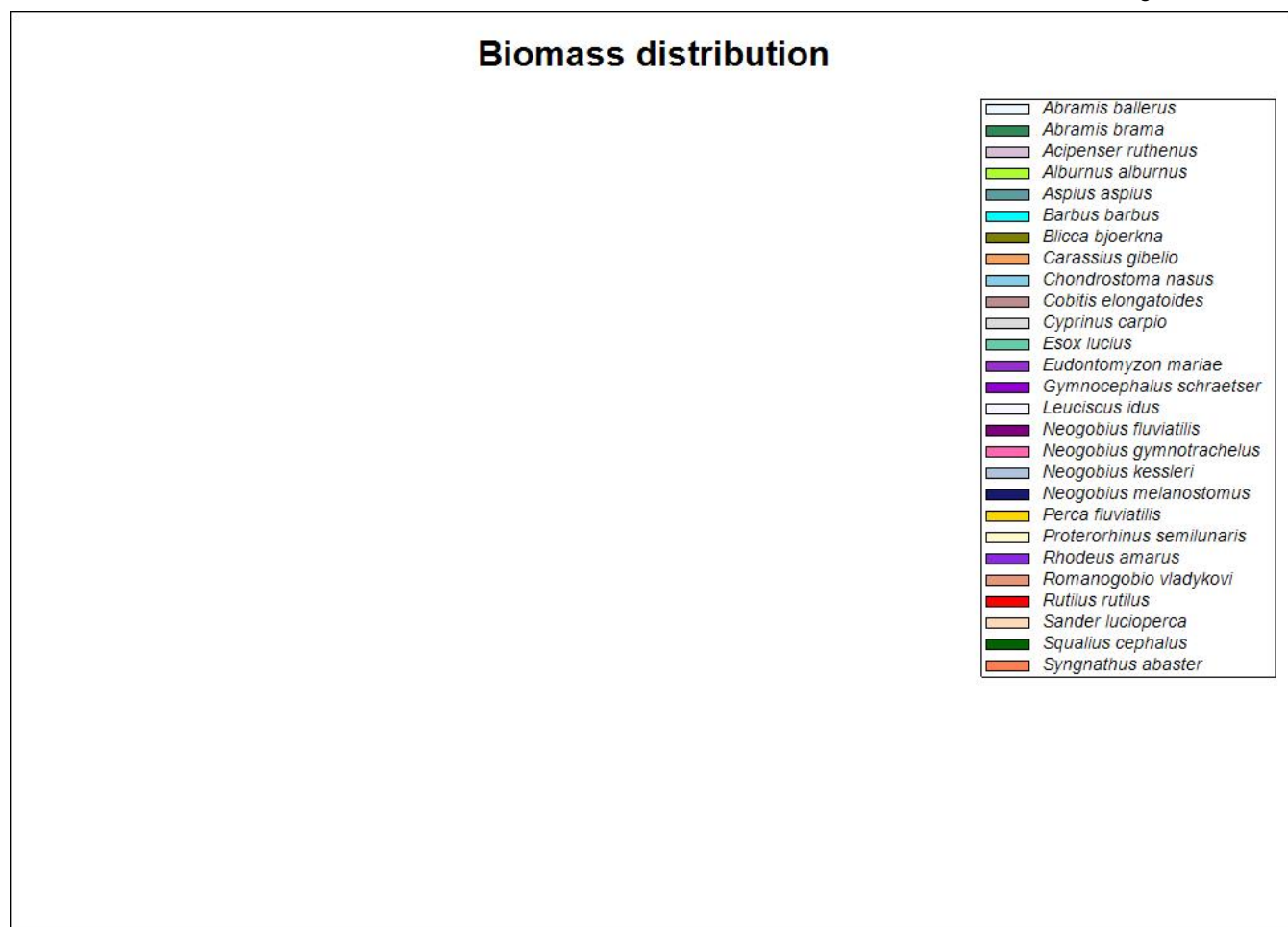
Table 5: abundance and biomass (e-fishings) Danube, Downstream Ruse - Giurgiu, RO JDS 82, 9/18/2013

English name	Species Code	Count	Abu [Ind/ha]	95% Konfid.	Biom [kg/ha]	95% Konfid.	Weight [g] median allover	Mean Weight [g] total	Population structure	Reference fish assemblage
Asp	ASP-ASP	24	0.0		0.0	0.0	19.1	0.0	2	b
Barbel	BAR-BAR	13	0.0		0.0	0.0	5.8	0.0	4	b
Bighead goby	NEO-KES	40	0.0		0.0	0.0	7.2	0.0	1	s
Bitterling	RHO-SER	54	0.0		0.0	0.0	4.1	0.0	1	b
Black-striped pipefish	SYN-ABA	65	0.0		0.0	0.0	10.2	0.0	2	s
Bleak	ALB-ALB	150	0.0		0.0	0.0	7.1	0.0	2	I
Blue bream	ABR-BAL	7	0.0		0.0	0.0	5.1	0.0	4	b
Bream	ABR-BRA	8	0.0		0.0	0.0	7.2	0.0	3	I
Carp	CYP-CAR	2	0.0		0.0	0.0	7.0	0.0	4	b

English name	Species Code	Count	Abu [Ind/ha]	95% Konfid.	Biom [kg/ha]	95% Konfid.	Weight [g] median allover	Mean Weight [g] total	Population structure	Reference fish assemblage
Chub	SQU-CEP	2	0.0		0.0	0.0	12.5	0.0	4	s
Danubian spined loach	COB-ELO	2	0.0		0.0	0.0	7.6	0.0	4	b
Ide	LEU-IDU	8	0.0		0.0	0.0	11.2	0.0	3	b
Monkey goby	NEO-FLU	149	0.0		0.0	0.0	7.1	0.0	1	l
Nase	CHO-NAS	7	0.0		0.0	0.0	23.9	0.0	2	s
Perch	PER-FLU	4	0.0		0.0	0.0	7.4	0.0	4	b
Pike	ESO-LUC	8	0.0		0.0	0.0	30.2	0.0	3	b
Pikeperch	SAN-LUC	23	0.0		0.0	0.0	16.3	0.0	3	b
Prussian carp	CAR-GIB	1	0.0		0.0	0.0	16.0	0.0	4	b
Racer goby	NEO-GYM	31	0.0		0.0	0.0	6.7	0.0	1	s
Roach	RUT-RUT	26	0.0		0.0	0.0	7.0	0.0	2	l
Round goby	NEO-MEL	151	0.0		0.0	0.0	7.0	0.0	1	s
Schraetser	GYM-SCH	1	0.0		0.0	0.0	13.0	0.0	4	b
Sterlet	ACI-RUT	50	0.0		0.0	0.0	40.0	0.0	4	s
Tubenose goby	PRO-SEM	40	0.0		0.0	0.0	4.3	0.0	1	b
Ukrainian lamprey	EUD-MAR	17	0.0		0.0	0.0	13.8	0.0	3	s
White bream	ABR-BJO	11	0.0		0.0	0.0	5.2	0.0	4	l
White-finned gudgeon	ROM-VLA	8	0.0		0.0	0.0	10.8	0.0	2	l
27 species of 56	Total	902	0.0		0.0	0.0				

## Dominance

	<i>Abramis ballerus</i>
	<i>Abramis brama</i>
	<i>Acipenser ruthenus</i>
	<i>Alburnus alburnus</i>
	<i>Aspius aspius</i>
	<i>Barbus barbus</i>
	<i>Blicca bjoerkna</i>
	<i>Carassius gibelio</i>
	<i>Chondrostoma nasus</i>
	<i>Cobitis elongatoides</i>
	<i>Cyprinus carpio</i>
	<i>Esox lucius</i>
	<i>Eudontomyzon mariae</i>
	<i>Gymnocephalus schraetser</i>
	<i>Leuciscus idus</i>
	<i>Neogobius fluviatilis</i>
	<i>Neogobius gymnotrachelus</i>
	<i>Neogobius kessleri</i>
	<i>Neogobius melanostomus</i>
	<i>Perca fluviatilis</i>
	<i>Proterorhinus semilunaris</i>
	<i>Rhodeus amarus</i>
	<i>Romanogobio vladykovi</i>
	<i>Rutilus rutilus</i>
	<i>Sander lucioperca</i>
	<i>Squalius cephalus</i>
	<i>Syngnathus abaster</i>



Pic. 3: Dominance und Biomass distribution

Shannon-Index: 2.610

Equitability: 0.792

**Biometrics and catch rate**

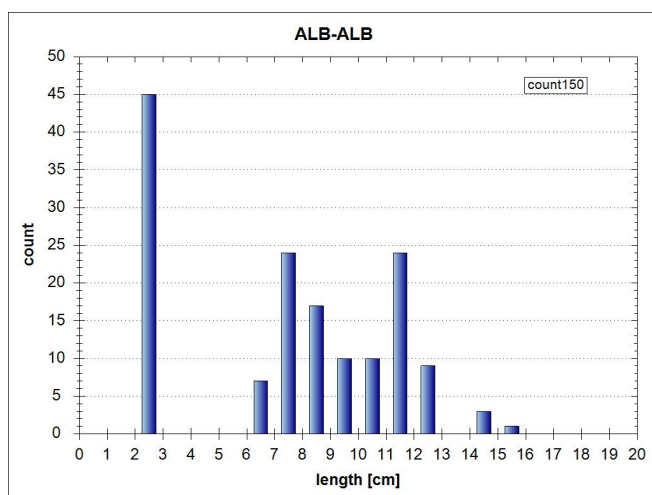
Table 6: biometrics of each species and catch specific parameters

Fish species	Lt [cm]			n	Statist. Method	Catch- Probability [%]	Catch-effectivity		
	Min		Max				Min	MW	Max
Asp	9.0	19.1	56.5	24			0.40	0.52	0.60
Barbel	4.5	5.8	21.0	13			0.60	0.69	0.70
Bighead goby	4.0	7.2	12.0	40			0.50	0.54	0.70
Bitterling	3.0	4.1	6.8	54			0.50	0.70	0.70
Black-striped pipefish	8.0	10.2	13.0	65			0.70	0.70	0.70
Bleak	2.0	7.1	15.0	150			0.40	0.59	0.70
Blue bream	4.0	5.1	6.0	7			0.70	0.70	0.70
Bream	4.0	7.2	13.0	8			0.40	0.64	0.70
Carp	7.0	7.0	7.0	2			0.70	0.70	0.70
Chub	11.0	12.5	14.0	2			0.60	0.60	0.60
Danubian spined loach	7.0	7.6	8.1	2			0.70	0.70	0.70
Ide	8.0	11.2	16.0	8			0.40	0.53	0.60
Monkey goby	3.0	7.1	14.0	149			0.40	0.51	0.70
Nase	9.5	23.9	31.0	7			0.50	0.59	0.60
Perch	7.0	7.4	7.8	4			0.50	0.58	0.70
Pike	24.0	30.2	42.0	8			0.40	0.50	0.60

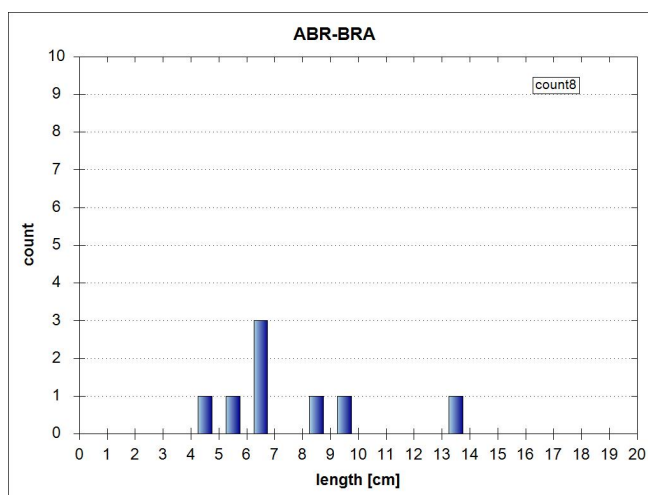


Fish species	Lt [cm]			n	Statist.	Catch-	Catch-effectivity		
	Min		Max		Method	Probability [%]	Min	MW	Max
Pikeperch	10.5	16.3	26.0	23			0.40	0.53	0.60
Prussian carp	16.0	16.0	16.0	1			0.60	0.60	0.60
Racer goby	4.0	6.7	10.0	31			0.50	0.59	0.70
Roach	4.0	7.0	16.0	26			0.40	0.62	0.70
Round goby	3.5	7.0	13.0	151			0.50	0.53	0.70
Schraetser	13.0	13.0	13.0	1			0.60	0.60	0.60
Sterlet	40.0	40.0	40.0	50			0.70	0.70	0.70
Tube-nose goby	3.5	4.3	5.9	40			0.50	0.51	0.70
Ukrainian lamprey	9.0	13.8	17.0	17			0.40	0.40	0.40
White bream	5.2	5.2	5.2	11			0.70	0.70	0.70
White-finned gudgeon	7.0	10.8	13.0	8			0.60	0.60	0.60
27 species			Sum	902					

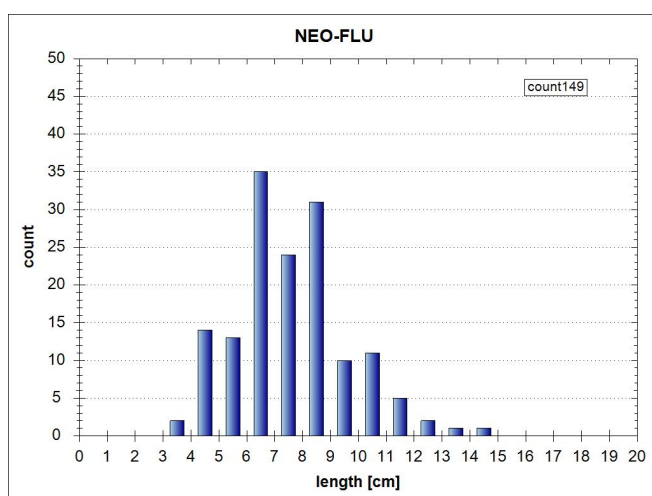
### Population structure of dominant species and subdominant species (total catch)



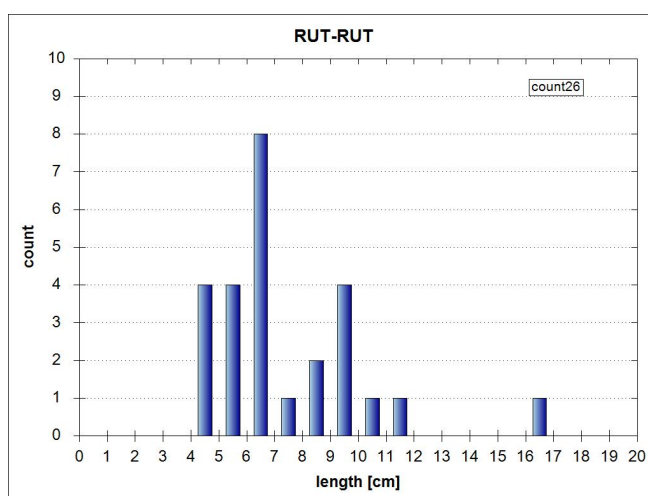
Bleak (*Alburnus alburnus*), 2



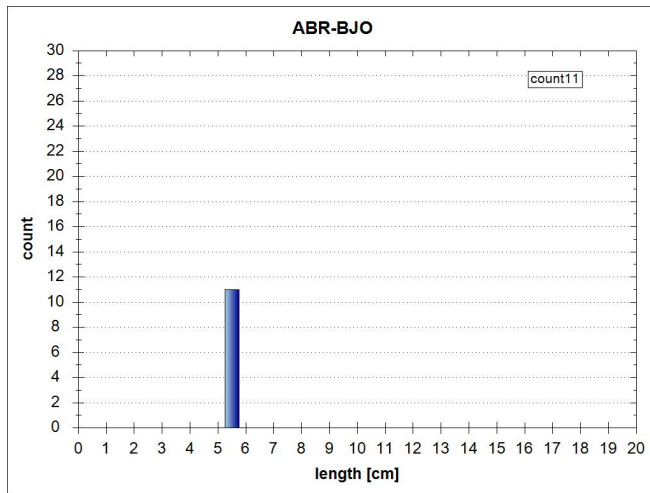
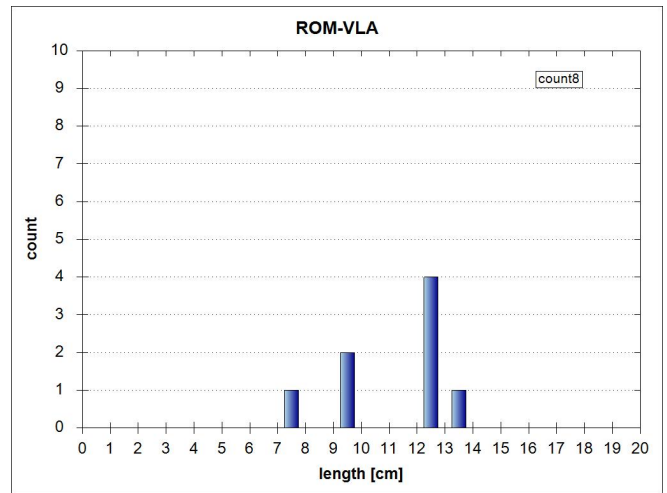
Bream (*Abramis brama*), 3



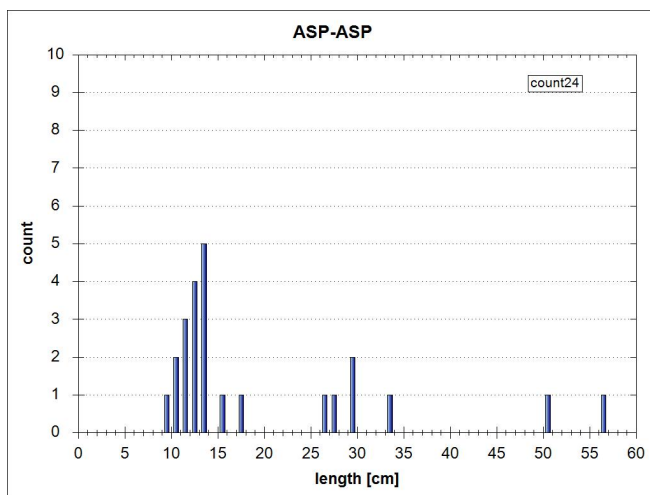
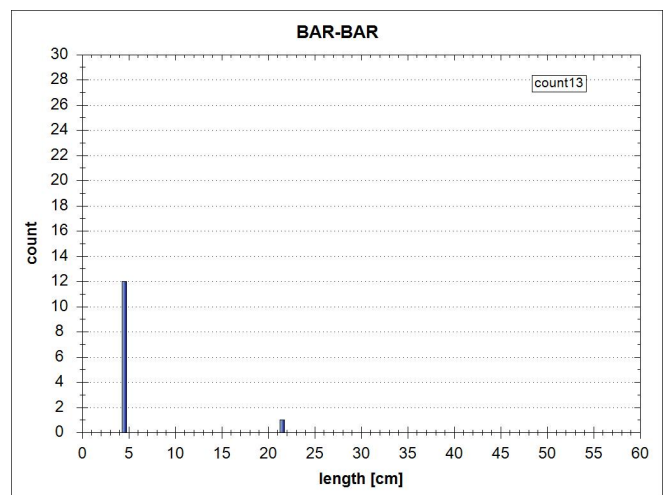
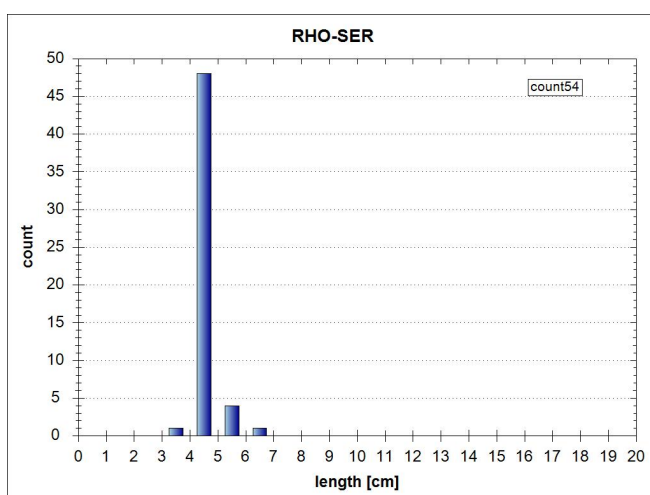
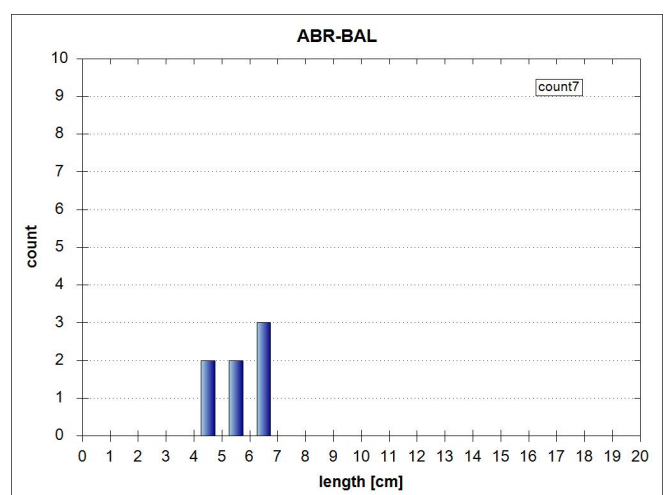
Monkey goby (*Neogobius fluviatilis*), 1

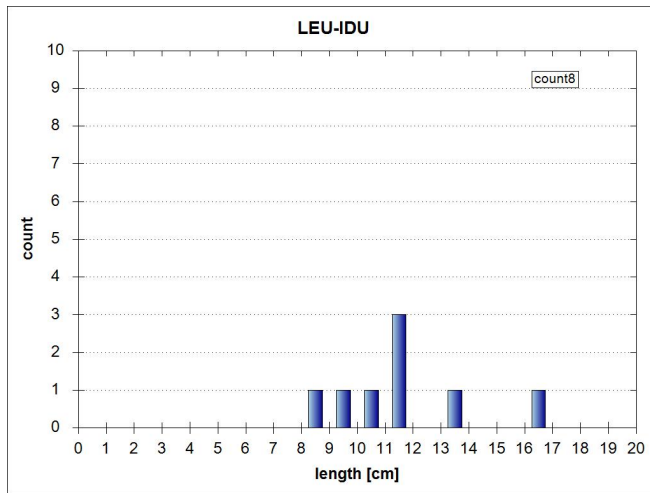
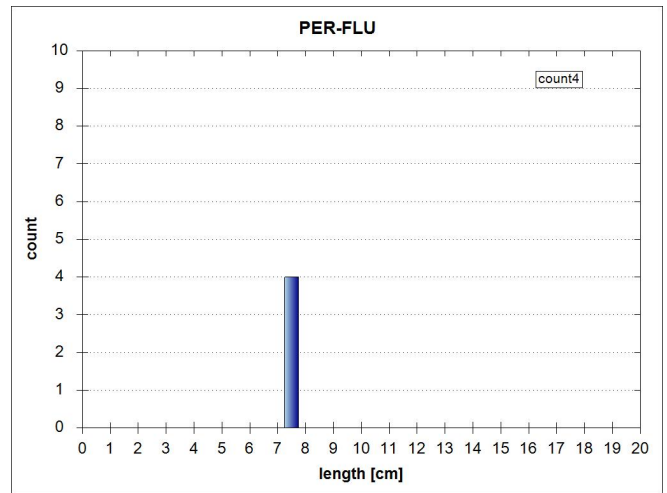
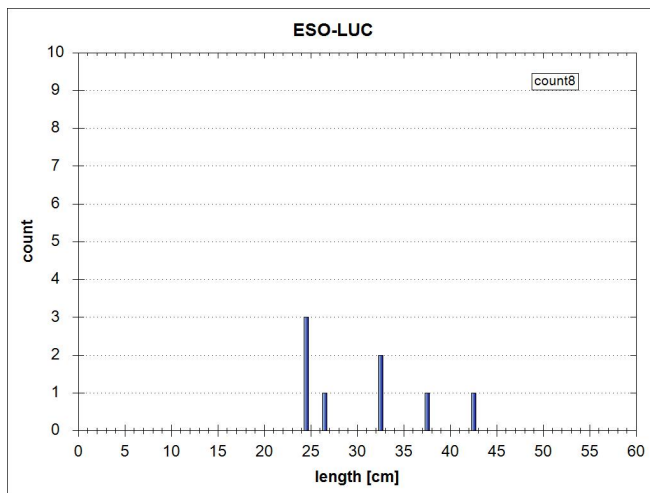
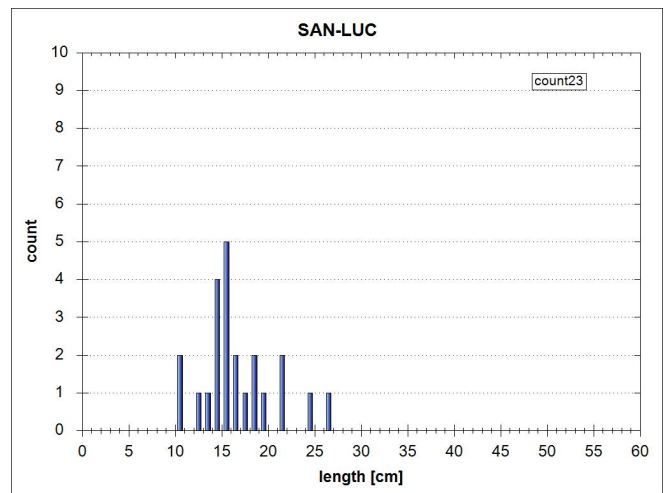
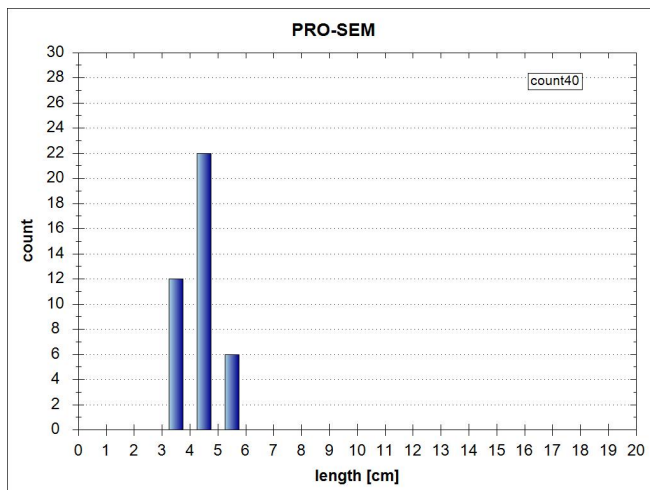


Roach (*Rutilus rutilus*), 2

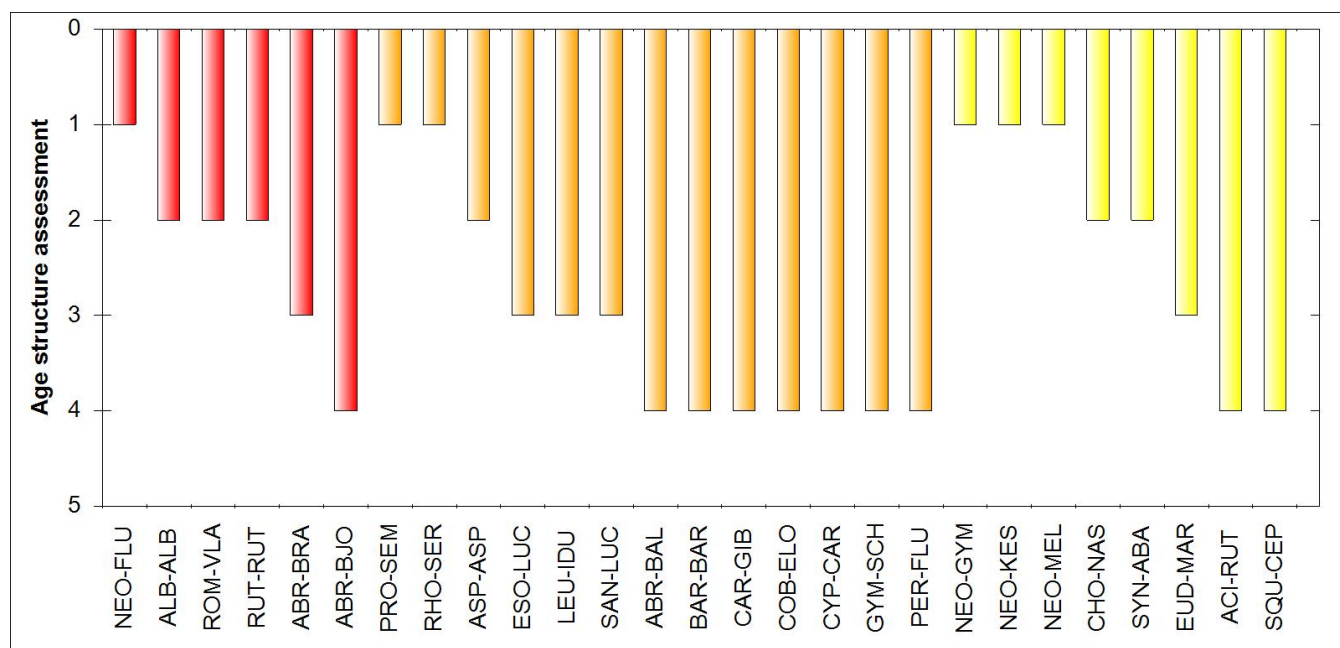
White bream (*Blicca bjoerkna*), 4White-finned gudgeon (*Romanogobio vladkovi*), 2

Pic. 4: Length-frequency diagram of dominant species (n&gt;3), Sep. 2013

Asp (*Aspius aspius*), 2Barbel (*Barbus barbus*), 4Bitterling (*Rhodeus amarus*), 1Blue bream (*Abramis ballerus*), 4

Ide (*Leuciscus idus*), 3Perch (*Perca fluviatilis*), 4Pike (*Esox lucius*), 3Pikeperch (*Sander lucioperca*), 3Tubenose goby (*Proterorhinus semilunaris*), 1

Pic. 5: Length-frequency diagram of subdominant species (n&gt;3), Sep. 2013



Pic. 6: Age structure of present species

**Comment on population structure of dominant and subdominant species**

- no comment -

**Fish ecological assessment (FIA, FISH INDEX AUSTRIA)**Table 7: fish ecologic assessment, Danube, Downstream Ruse - Giurgiu, RO JDS 82,  
9/18/2013

Rating					
Stock data	Abundance Ind/ha	Biomass kg/ha			ko-criterion biomass
	0.0	0.0		ko-crit	5

1. Species	Reference fish assemblage	actual (current)	Ratio/Deviation	Partial rating	
<b>Species</b>					
Dominant species	7	6	86%	3.0	
Subdominant species	17	13	76%	1.0	
Rare species	32	8	25%	2.0	
				2.0	
<b>Ecological guilds</b>					
Flow	6	4	2	3.0	
Reproduction	8	6	2	3.0	
				3.0	
<b>Species diversity &amp; guilds overall</b>					<b>2.4</b>

2. Dominance	Reference fish assemblage	actual (current)	Difference		
<b>Fish region index</b>	6.5	0.0	6.5	ko-crit	5.0

3. Population structure	Reference fish assemblage	actual (current)		Partial rating (1-5)	
Dominant species	7	6		2.7	
Subdominant species	17	13		3.6	
					<b>3.0</b>

Fishindex Austria without active ko-criterion				<b>3.15</b>
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<b>Biological quality element fish</b>	<b>FIA 5.00</b>	<b>Class 5</b>	<b>Bad</b>
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Date of Assessment:3/18/2014

Comment BAW-IGF

- no comment -

## **Discussion of fish ecological assessment, plausibility, deficits and measures (AN)**

*Recommended improvements with priority ranking if possible;*