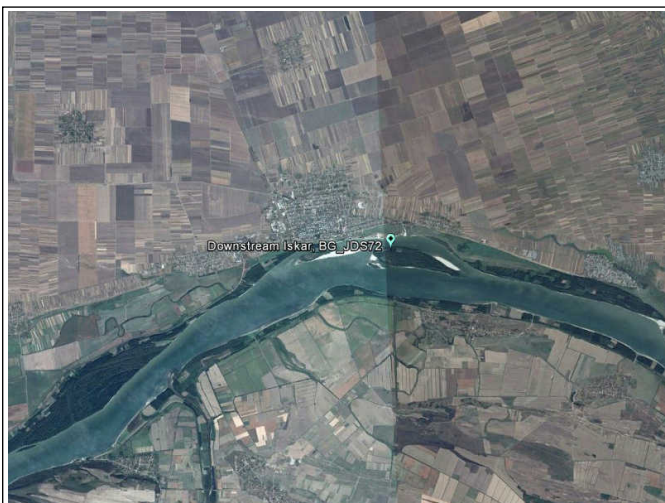


Danube**Downstream Iskar, BG_JDS72 (BG_JDS72), 14.September 2013**

FDA_ID 202



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



Pic. 2: Monitoring site Downstream Iskar, BG_JDS72

Description of monitoring site*- no data -***Assessment****Estimated assessment of the ecological status class (FÖZ)**

Biological quality element fish	Action required (3)
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Ecological status class, current survey, 14.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 siteDownstream Iskar, BG_JDS72

Watercourse name	Danube	Federal state	not availabvle
Monitoring site	Downstream Iskar, BG_JDS72	District	
Monitoring site number	BG_JDS72	Community	
Turnus number		Longitude (WGS 84, decimal) O	24.530433
sampling number		Latitude (WGS 84, decimal) N	43.76998
Survey-ID (FDA)	202	Route-ID	
Date	9/14/2013	River-km [monitoring site]	
Contracting authority	ICPDR	Number of planing area	
Contractor	BAW-IGF	Detail waterbody	
Project manager	Vinzenz Bammer		
Reason of survey	JDS 3		
Fishing category			
Bioregion		Waters ordinal number	
Fish bioregion	Western Pomtic Danube (943-375,5) (8)	Huet-zonation	bream zone
Biocenotic Region	Metapotamon	Adapt. Reference	121
River km from	634.0	Altitude [m.a.s]	19
River km to	624.0	Ø catchment basin [km²]	610,000
Section length [m]	10,000	Catchment-class	more than 10.000km²
Ø channel width [m]	1150	Slope [‰]	0.04
Original stream character	lowland stream -river	Discharge regime	
Actual site character			
Actual impact		Reference watergauge (name, number)	
Flow [semiquant.]		Distance from source [km]	2,216.0
Average water depth [m]		Lake above	No
Maximum water depth [m]		Distance lake upstream [km]	
Geology	calcareous	Lake below	
Influence of sediment transport	slightly affected	Distance lake downstream [km]	
Ø wetted width [m]	1150	Flow condition	
pH-value		Visible depth	
SBV		Fishing conditions	
Water temperature [°C] (F117)	21.8	Average annual air temperature [°C]	
Conductance, 25°C [µS/cm] (F118)	386		
Methods used and effort			
Strip-fishing, day		Number of runs	1
Fished length [m]	500	E-devices output [kW]	
Fished area [m²]	1,000	Output voltage	
		Number of anodes	
		Number of strips/sections	1
and additional methods	Fished area [m²]	additional methods	Effort [UE]
E-Fishing by night	3,960		

Comments on survey:

Nur Nachtbefischungen- bei Tag zu starker Wind

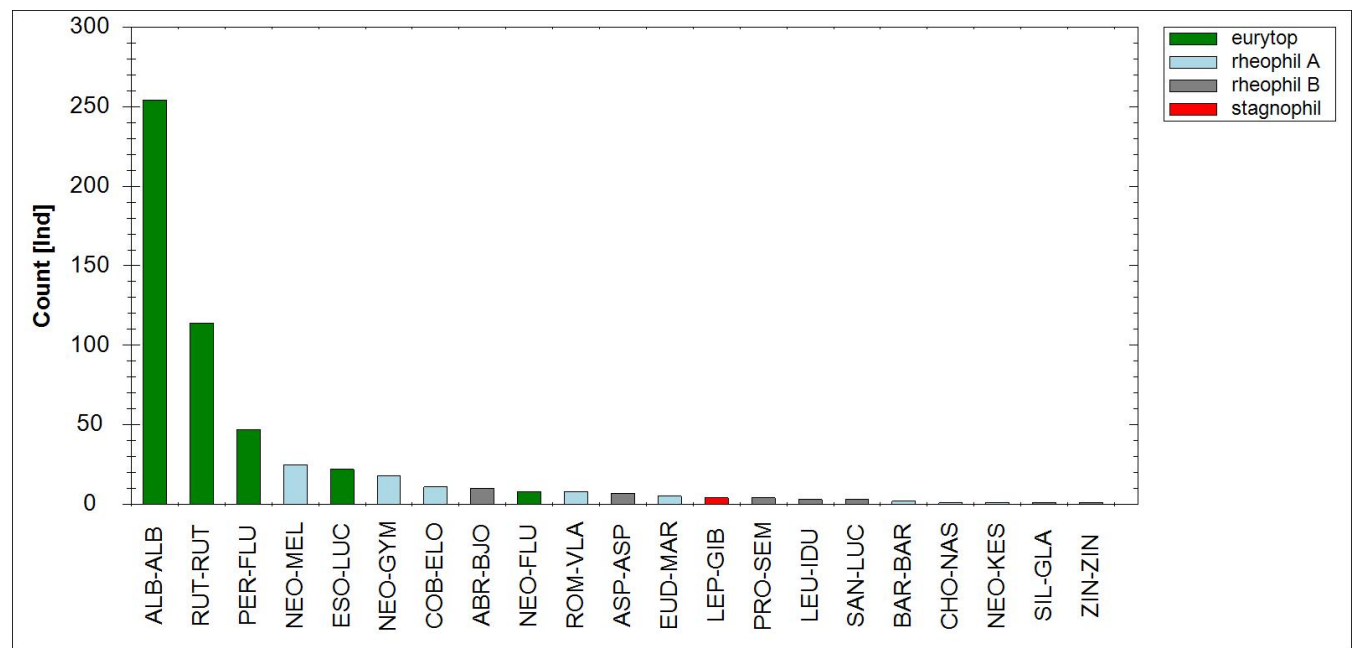
Table 2: Sampling effort at the monitoring site Downstream Iskar, BG_JDS72, September 2013

Habitat	Str. no	DG	Length [m]	Width [m]	UE	Method
rock	6	1	500	2		E-fishing day
gravel bar	4	1	280	3		E-fishing night
other natural bank	1	1	250	3		E-fishing night
other natural bank	2	1	250	3		E-fishing night
other natural bank	3	1	240	3		E-fishing night
indefinite waterside	5	1	300	3		E-fishing night

Table 3: Habitat weighting used at the monitoring site Downstream Iskar, BG_JDS72

Habitat	%
gravel bar	15
indefinite waterside	20
other natural bank	65
rock	0

Catch result, fish assemblage and threatening status



Pic. 3: Species ranking diagramm of catch results Danube, Downstream Iskar, BG_JDS72

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	-			
Petromyzontidae	Ukrainian lamprey	<i>Eudontomyzon mariae</i>	s	II	VU	DD	5
Cyprinidae	Asp	<i>Aspius aspius</i>	b	II	EN	DD	7
	Barbel	<i>Barbus barbus</i>	b	V	NT	LC	2
	Bitterling	<i>Rhodeus amarus</i>	b	II	VU	LC	
	Bleak	<i>Alburnus alburnus</i>	I	-	LC	LC	254
	Blue bream	<i>Abramis ballerus</i>	b	-	EN		
	Bream	<i>Abramis brama</i>	I	-	LC		
	Carp	<i>Cyprinus carpio</i>	b	-	EN	DD	
	Chub	<i>Squalius cephalus</i>	s	-	LC	LC	
	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	3
	Kessler's gudgeon	<i>Romanogobio kesslerii</i>	s	II	EN	DD	
	Nase	<i>Chondrostoma nasus</i>	s	-	NT	LC	1
	Prussian carp	<i>Carassius gibelio</i>	b	-	LC		
	Roach	<i>Rutilus rutilus</i>	I	-	LC	LC	114
	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	10
	White-finned gudgeon	<i>Romanogobio vladykovi</i>	I	II	LC	DD	8
Esocidae	Pike	<i>Esox lucius</i>	b	-	NT		22
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	47
	Pikeperch	<i>Sander lucioperca</i>	b	-	NT	LC	3
	Ruffe	<i>Gymnocephalus cernuus</i>	s	-	LC	LC	
	Schraetser	<i>Gymnocephalus schraetser</i>	b	II; V	VU	VU	
	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	1
Siluridae	Wels catfish	<i>Silurus glanis</i>	b	-	VU	LC	1
Gobiidae	Bighead goby	<i>Neogobius kessleri</i>	s	-	NE	DD	1
	Monkey goby	<i>Neogobius fluviatilis</i>	I	-	NE	DD	8
	Racer goby	<i>Neogobius gymnotrachelus</i>	s	-	NE	DD	18
	Round goby	<i>Neogobius melanostomus</i>	s	-	NE	DD	25
	Tubenose goby	<i>Proterorhinus semilunaris</i>	b	-	EN	LC	4
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	FHH	Red List	IUCN	Count
	Danubian spined loach	<i>Cobitis elongatoides</i>	b	-			11
	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	
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	-			
Centrarchidae	Pumpkinseed	<i>Lepomis gibbosus</i>		-	NE		4

Observed:: reference fish assemblage 20Taxa :: 56Taxa

Taxa complete 21

Count species of reference fish assemblage 545

Total count 549

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

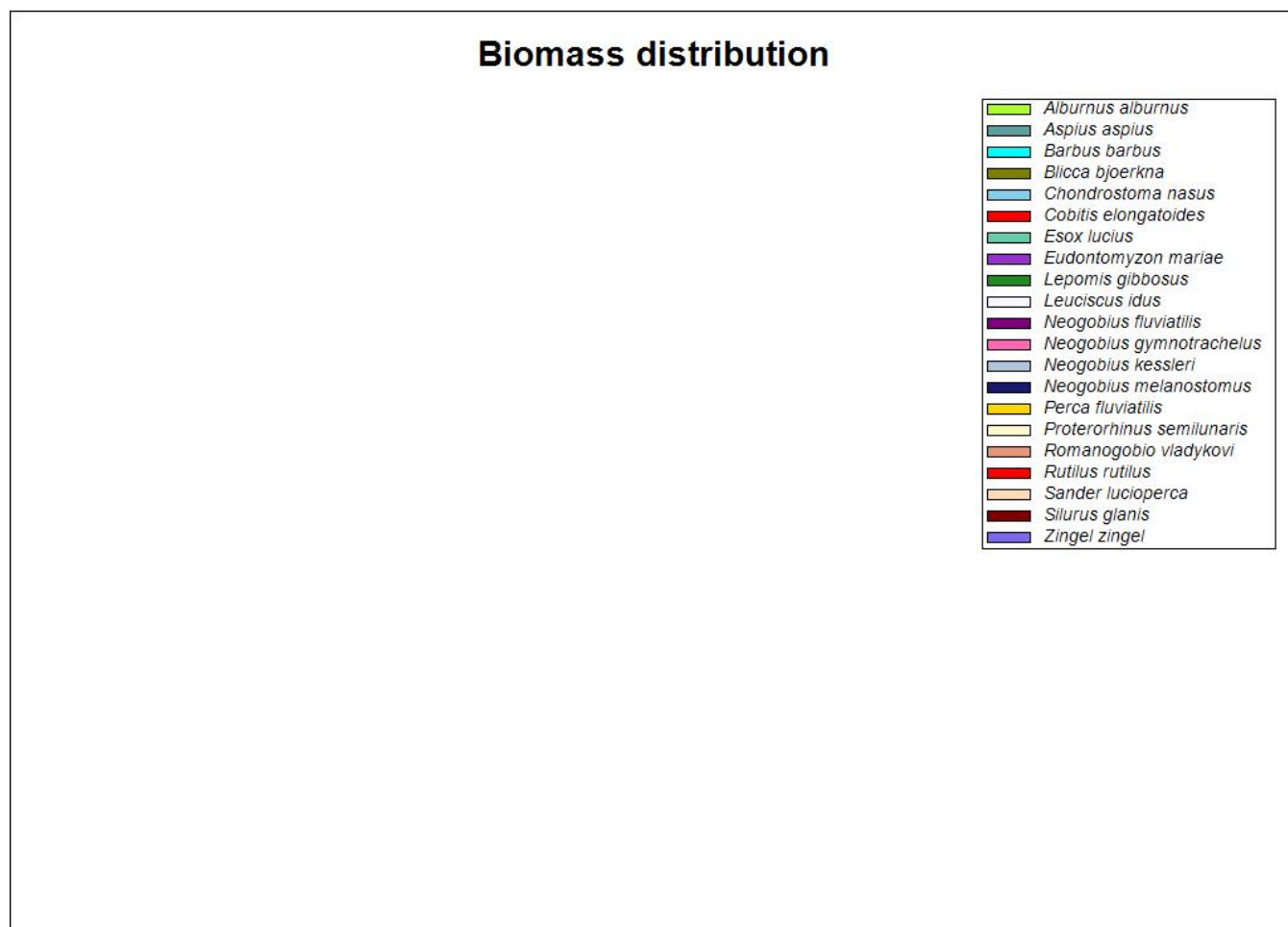
Table 5: abundance and biomass (e-fishings) Danube, Downstream Iskar, BG_JDS72, 9/14/2013

English name	Species Code	Count	Abu [Ind/ha]	95% Konfid.	Biom [kg/ha]	95% Konfid.	Weight [g] median all over	Mean Weight [g] total	Population structure	Reference fish assemblage
Asp	ASP-ASP	7	0.0		0.0	0.0	14.8	0.0	3	b
Barbel	BAR-BAR	2	0.0		0.0	0.0	11.0	0.0	4	b
Bighead goby	NEO-KES	1	0.0		0.0	0.0	7.0	0.0	4	s
Bleak	ALB-ALB	254	0.0		0.0	0.0	8.3	0.0	1	I
Danubian spined loach	COB-ELO	11	0.0		0.0	0.0	7.6	0.0	3	b
Ide	LEU-IDU	3	0.0		0.0	0.0	12.2	0.0	4	b
Monkey goby	NEO-FLU	8	0.0		0.0	0.0	7.8	0.0	3	I
Nase	CHO-NAS	1	0.0		0.0	0.0	34.0	0.0	4	s

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
Perch	PER-FLU	47	0.0		0.0	0.0	9.9	0.0	1	b
Pike	ESO-LUC	22	0.0		0.0	0.0	31.5	0.0	3	b
Pikeperch	SAN-LUC	3	0.0		0.0	0.0	14.8	0.0	4	b
Pumkinseed	LEP-GIB	4	0.0		0.0	0.0	7.6	0.0	3	
Racer goby	NEO-GYM	18	0.0		0.0	0.0	5.4	0.0	2	s
Roach	RUT-RUT	114	0.0		0.0	0.0	9.7	0.0	2	l
Round goby	NEO-MEL	25	0.0		0.0	0.0	8.1	0.0	2	s
Tubenose goby	PRO-SEM	4	0.0		0.0	0.0	4.5	0.0	4	b
Ukrainian lamprey	EUD-MAR	5	0.0		0.0	0.0	23.5	0.0	3	s
Wels catfish	SIL-GLA	1	0.0		0.0	0.0	49.0	0.0	4	b
White bream	ABR-BJO	10	0.0		0.0	0.0	7.6	0.0	3	l
White-finned gudgeon	ROM-VLA	8	0.0		0.0	0.0	10.3	0.0	3	l
Zingel	ZIN-ZIN	1	0.0		0.0	0.0	29.0	0.0	4	b
20 species of 56		Total	549	0.0	0.0	0.0				

Dominance

	<i>Alburnus alburnus</i>
	<i>Aspius aspius</i>
	<i>Barbus barbus</i>
	<i>Blicca bjoerkna</i>
	<i>Chondrostoma nasus</i>
	<i>Cobitis elongatoides</i>
	<i>Esox lucius</i>
	<i>Eudontomyzon mariae</i>
	<i>Lepomis gibbosus</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>Romanogobio vladkovi</i>
	<i>Rutilus rutilus</i>
	<i>Sander lucioperca</i>
	<i>Silurus glanis</i>
	<i>Zingel zingel</i>



Pic. 4: Dominance und Biomass distribution

Shannon-Index: 1.843

Equitability: 0.605

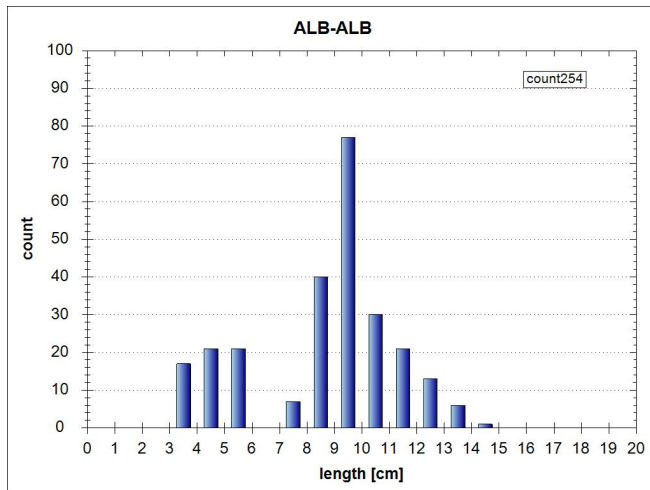
Biometrics and catch rate

Table 6: biometrics of each species and catch specific parameters

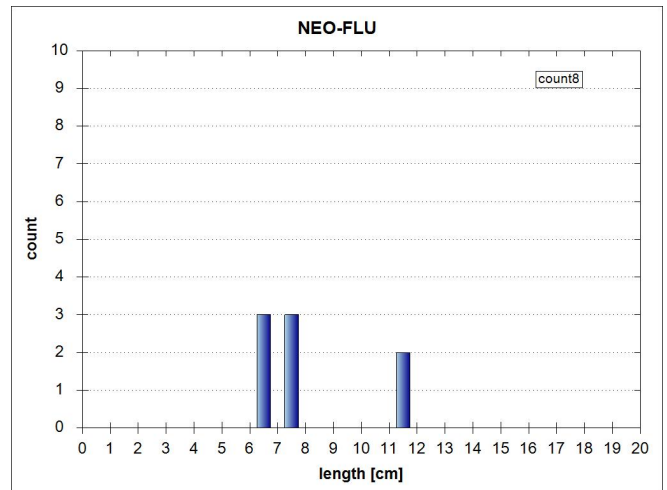
Fish species	Lt [cm]			n	Statist. Method	Catch- Probability [%]	Catch-effectivity		
	Min		Max				Min	MW	Max
Asp	12.5	14.8	17.5	7			0.40	0.40	0.40
Barbel	11.0	11.0	11.0	2			0.40	0.40	0.40
Bighead goby	7.0	7.0	7.0	1			0.40	0.40	0.40
Bleak	3.5	8.3	14.0	254			0.15	0.29	0.60
Danubian spined loach	5.9	7.6	11.0	11			0.40	0.49	0.50
Ide	11.0	12.2	13.0	3			0.30	0.37	0.40
Monkey goby	6.0	7.8	11.0	8			0.40	0.46	0.50
Nase	34.0	34.0	34.0	1			0.40	0.40	0.40
Perch	5.0	9.9	15.0	47			0.30	0.36	0.50
Pike	21.0	31.5	43.0	22			0.30	0.43	0.60
Pikeperch	13.0	14.8	17.0	3			0.40	0.40	0.40
Pumkinseed	3.5	7.6	12.0	4			0.40	0.48	0.50
Racer goby	4.2	5.4	8.0	18			0.40	0.49	0.50
Roach	6.2	9.7	19.0	114			0.15	0.19	0.50
Round goby	5.0	8.1	10.5	25			0.30	0.36	0.40
Tubenose goby	4.0	4.5	5.0	4			0.50	0.50	0.50

Fish species	Lt [cm]		n	Statist.	Catch-	Catch-effectivity		
	Min	Max		Method	Probability [%]	Min	MW	Max
Ukrainian lamprey	15.5	23.5	30.0	5		0.50	0.58	0.70
Wels catfish	49.0	49.0	49.0	1		1.00	1.00	1.00
White bream	5.0	7.6	9.0	10		0.30	0.32	0.40
White-finned gudgeon	8.0	10.3	14.0	8		0.15	0.19	0.30
Zingel	29.0	29.0	29.0	1		0.40	0.40	0.40
21 species		Sum	549					

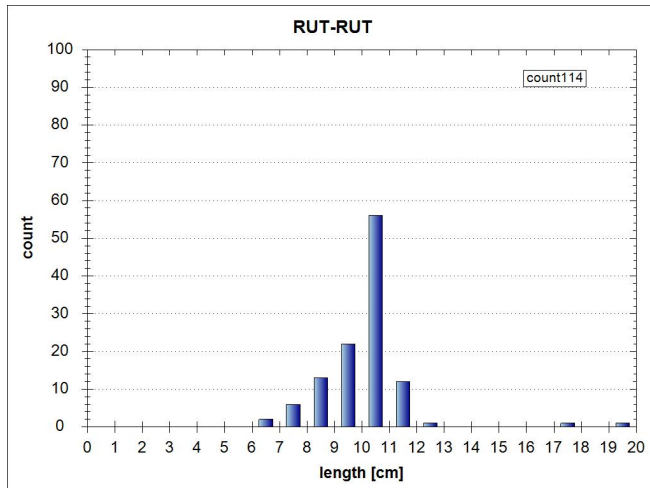
Population structure of dominant species and subdominant species (total catch)



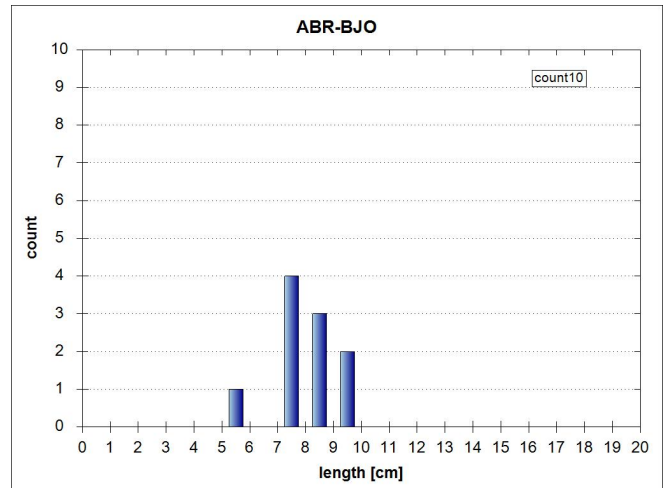
Bleak (*Alburnus alburnus*), 1



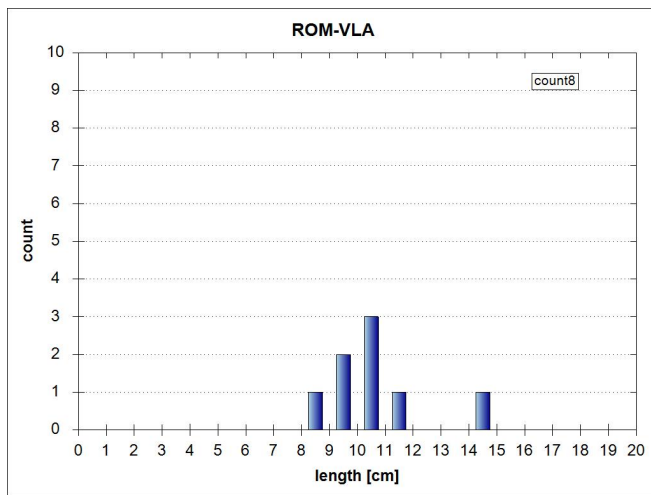
Monkey goby (*Neogobius fluviatilis*), 3



Roach (*Rutilus rutilus*), 2

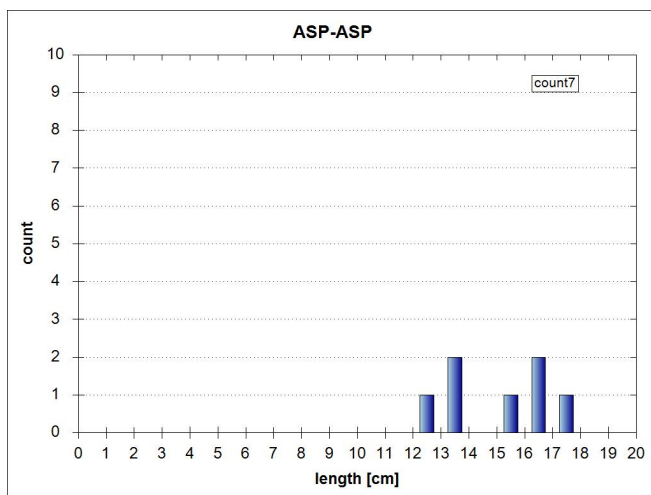


White bream (*Blicca bjoerkna*), 3

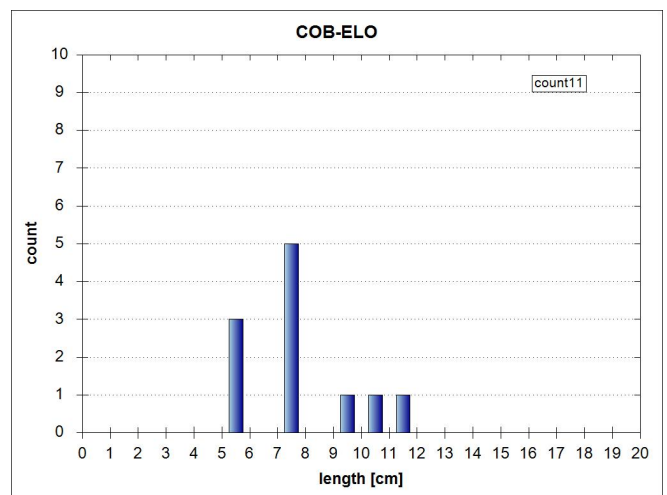


White-finned gudgeon (*Romanogobio vladkovii*), 3

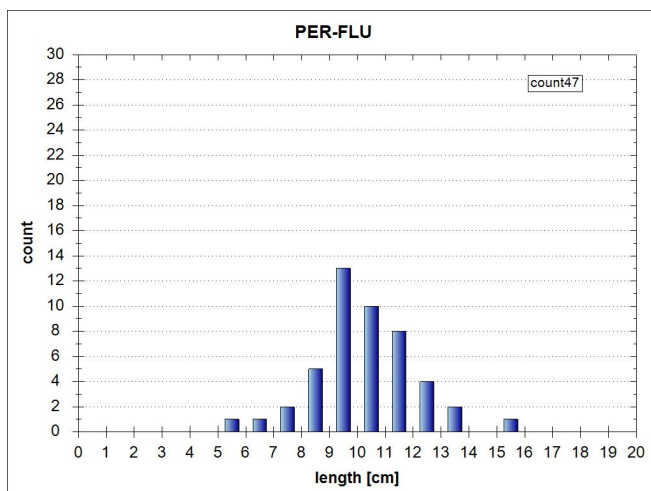
Pic. 5: Length-frequency diagram of dominant species (n>3), Sep. 2013



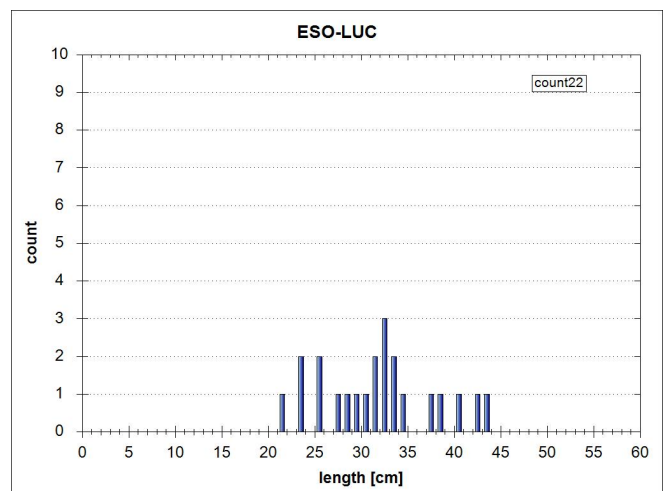
Asp (*Aspius aspius*), 3



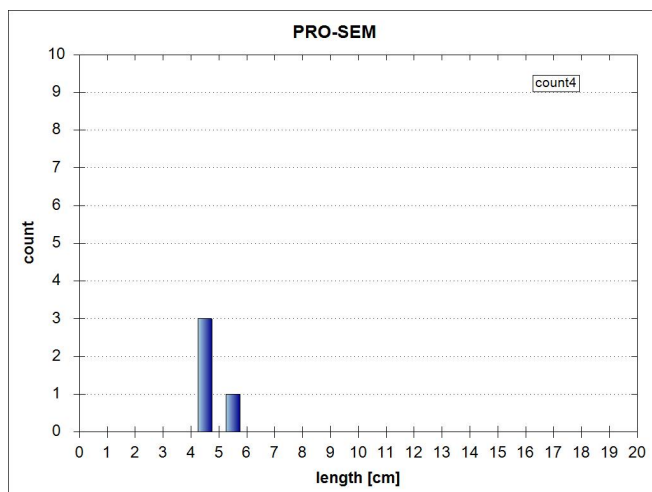
Danubian spined loach (*Cobitis elongatoides*), 3



Perch (*Perca fluviatilis*), 1

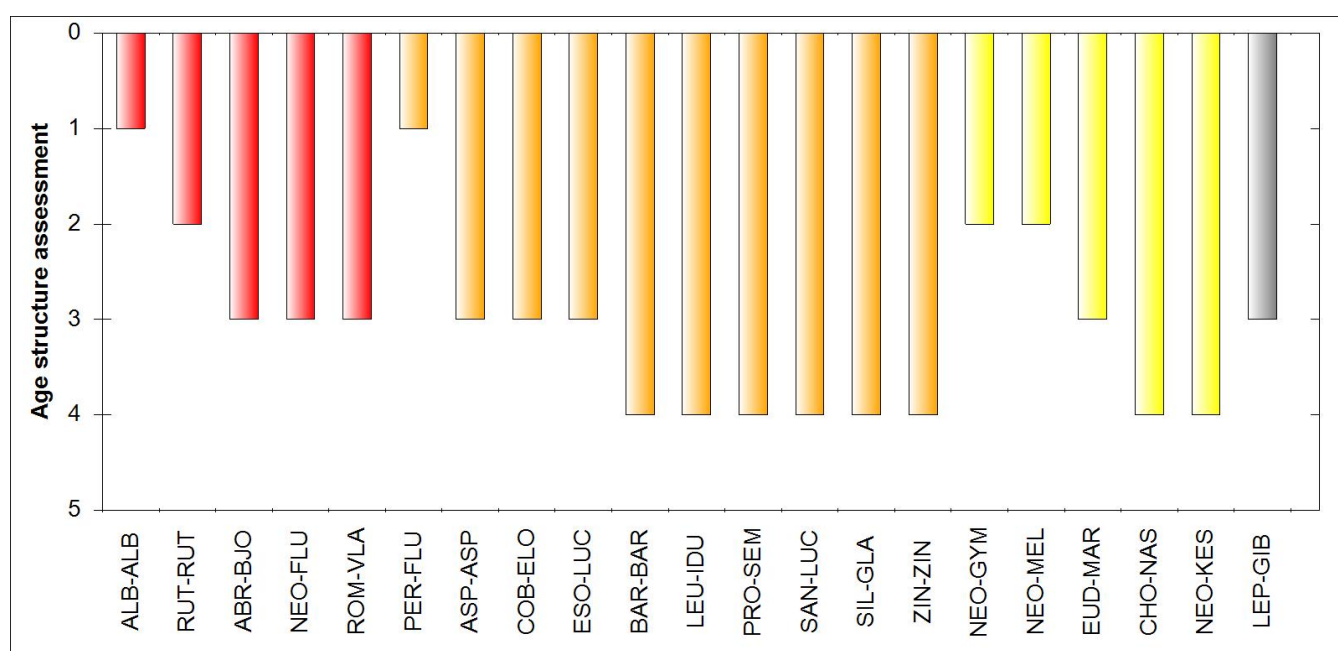


Pike (*Esox lucius*), 3



Tubenose goby (*Proterorhinus semilunaris*), 4

Pic. 6: Length-frequency diagram of subdominant species (n>3), Sep. 2013



Pic. 7: 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 Iskar, BG_JDS72, 9/14/2013

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	
Species					
Dominant species	8	5	63%	4.0	
Subdominant species	16	10	63%	2.0	
Rare species	32	5	16%	3.0	
				3.0	
Ecological guilds					
Flow	6	3	3	4.0	
Reproduction	7	4	3	4.0	
				4.0	
Species diversity & guilds overall					3.4
2. Dominance	Reference fish assemblage	actual (current)	Difference		
Fish region index	6.5	0.0	6.5	ko-crit	5.0
3. Population structure	Reference fish assemblage	actual (current)		Partial rating (1-5)	
Dominant species	8	5		3.4	
Subdominant species	16	10		4.0	
					3.6
Fishindex Austria without active ko-criterion					3.77
Biological quality element fish		FIA 5.00	Class 5	Bad	

Date of Assessment:3/4/2014

Comment BAW-IGF

- no comment -

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

Recommended improvements with priority ranking if possible;