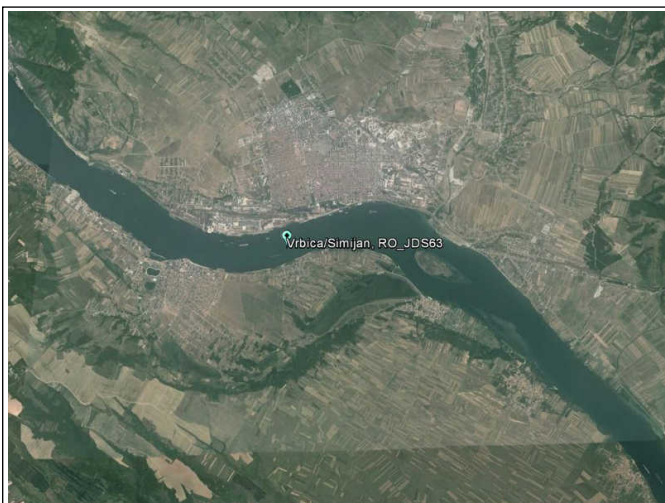


Danube**Vrbica, Simijan, RO_JDS63 (RO_JDS63), 09.September 2013****FDA_ID 205**

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



Pic. 2: Monitoring site Vrbica, Simijan, RO_JDS63

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

Biological quality element fish	None
---------------------------------	------

Ecological status class, current survey, 09.September 2013

Biological quality element fish	FIA 2.03	Class 2	Good
---------------------------------	----------	---------	------

Former classifications

None				
None				
None				

Information about and sampling conditions and location

Table 1: Key data and information on sampling, monitoring siteVrbica, Simijan, RO_JDS63

Watercourse name	Danube	Federal state	not availabvle
Monitoring site	Vrbica, Simijan, RO_JDS63	District	
Monitoring site number	RO_JDS63	Community	
Turnus number		Longitude (WGS 84, decimal) O	22.645301
sampling number		Latitude (WGS 84, decimal) N	44.616644
Survey-ID (FDA)	205	Route-ID	
Date	9/9/2013	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	119
River km mean	931.0	Altitude [m.a.s]	48
		Ø catchment basin [km²]	575,000
Section length [m]	10,000	Catchment-class	more than 10.000km²
Ø channel width [m]	1000	Slope [‰]	0.01
Original stream character	lowland stream -river	Discharge regime	
Actual site character			
Actual impact		Reference watergauge (name, number)	
Flow [semiquant.]		Distance from source [km]	1,919.0
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]	1000	Flow condition	
pH-value		Visible depth	
SBV		Fishing conditions	
Water temperature [°C] (F117)	22.3	Average annual air temperature [°C]	
Conductance, 25°C [µS/cm] (F118)	357		
Methods used and effort			
Strip-fishing, day		Number of runs	1
Fished length [m]	5,215	E-devices output [kW]	11
Fished area [m²]	12,450	Output voltage	600
		Number of anodes	
		Number of strips/sections	17
and additional methods	Fished area [m²]	additional methods	Effort [UE]
E-Fishing by night	6,230		

Comments on survey:

only left bank

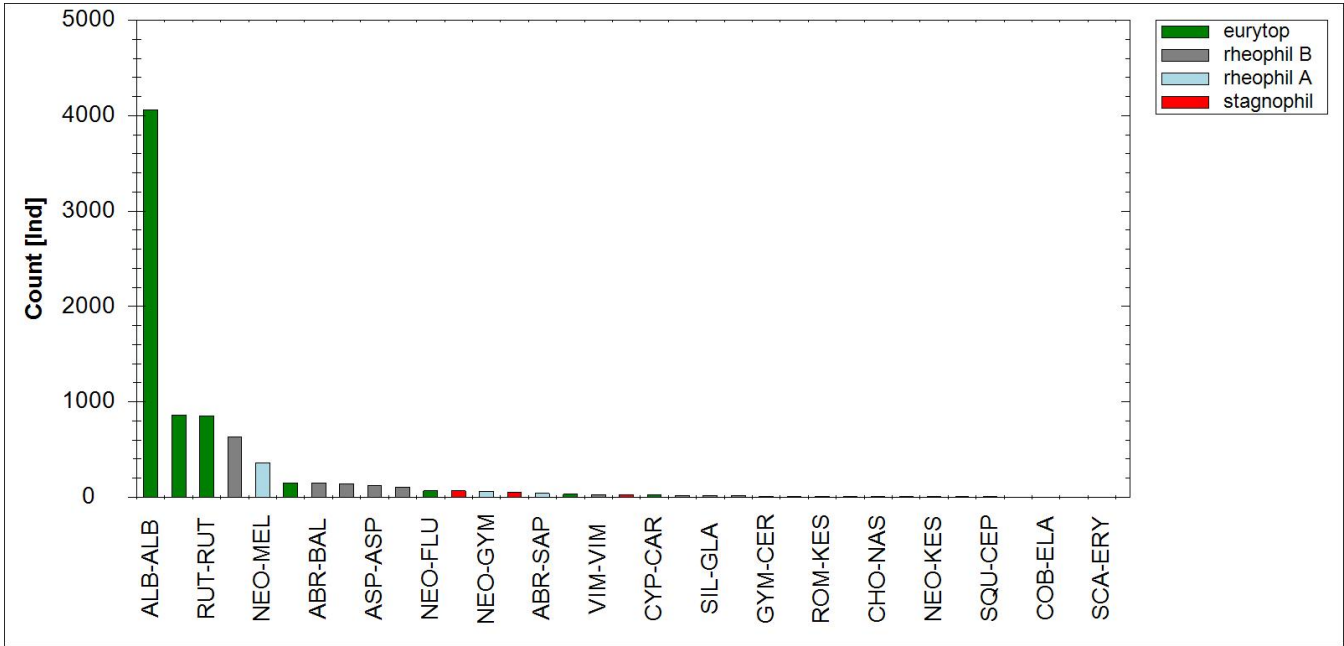
Table 2: Sampling effort at the monitoring site Vrbica, Simijan, RO_JDS63, September 2013

Habitat	Str. no	DG	Length [m]	Width [m]	UE	Method
rip-rap	1	1	210	3		E-fishing day boat
rip-rap	2	1	130	1.5		E-fishing day boat
rip-rap	3	1	280	3		E-fishing day boat
rip-rap	4	1	150	3		E-fishing day boat
rip-rap	5	1	250	3		E-fishing day boat
rip-rap	6	1	200	3		E-fishing day boat
rip-rap	7	1	310	3		E-fishing night
rip-rap	8	1	290	3		E-fishing night
rip-rap	9	1	170	3		E-fishing night
rip-rap	10	1	150	3		E-fishing night
rock	16	1	500	2		E-fishing day boat
rock	17	1	500	2		E-fishing day boat
rock	18	1	300	2		E-fishing day boat
rock	19	1	500	2		E-fishing day boat
rock	20	1	300	2		E-fishing day boat
rock	21	1	500	2		E-fishing day boat
rock	22	1	400	2		E-fishing day boat
rock	23	1	500	2		E-fishing night
rock	24	1	400	2		E-fishing night
rock	25	1	300	2		E-fishing night
rock	26	1	400	2		E-fishing night
eupotamon (permanent running water channel)	1	1	315	3		E-fishing day boat
eupotamon (permanent running water channel)	2	1	180	1.5		E-fishing night
other natural bank	1	1	200	3		E-fishing day boat
other natural bank	2	1	230	3		E-fishing day boat
other natural bank	3	1	250	3		E-fishing day boat

Table 3: Habitat weighting used at the monitoring site Vrbica, Simijan, RO_JDS63

Habitat	%
eupotamon (permanent running water channel)	5
other natural bank	25
rip-rap	70
rock	0

Catch result, fish assemblage and threatening status



Pic. 3: Species ranking diagramm of catch resultsDanube, Vrbica, Simijan, RO_JDS63

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
Petromyzontidae	Ukrainian lamprey	<i>Eudontomyzon mariae</i>	s	II	VU	DD	
Cyprinidae	Asp	<i>Aspius aspius</i>	b	II	EN	DD	121
	Barbel	<i>Barbus barbus</i>	b	V	NT	LC	
	Bitterling	<i>Rhodeus amarus</i>	s	II	VU	LC	2
	Bleak	<i>Alburnus alburnus</i>	I	-	LC	LC	4,063
	Blue bream	<i>Abramis ballerus</i>	s	-	EN		149
	Bream	<i>Abramis brama</i>	I	-	LC		142
	Carp	<i>Cyprinus carpio</i>	b	-	EN	DD	22
	Chub	<i>Squalius cephalus</i>	s	-	LC	LC	4
	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	1
	Ide	<i>Leuciscus idus</i>	I	-	EN	LC	635
	Kessler's gudgeon	<i>Romanogobio kesslerii</i>	s	II	EN	DD	10
	Nase	<i>Chondrostoma nasus</i>	b	-	NT	LC	7
	Prussian carp	<i>Carassius gibelio</i>	s	-	LC		862
	Roach	<i>Rutilus rutilus</i>	I	-	LC	LC	851
	Rudd	<i>Scardinius erythrophthalmus</i>	s	-	LC	LC	1
	Sabre carp	<i>Pelecus cultratus</i>	s	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	30
	White bream	<i>Blicca bjoerkna</i>	I	-	LC	LC	20
	White-finned gudgeon	<i>Romanogobio vladykovi</i>	b	II	LC	DD	
Esocidae	Pike	<i>Esox lucius</i>	b	-	NT		34
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	151
	Pikeperch	<i>Sander lucioperca</i>	b	-	NT	LC	108
	Ruffe	<i>Gymnocephalus cernuus</i>	s	-	LC	LC	11
	Schraetser	<i>Gymnocephalus schraetser</i>	b	II; V	VU	VU	9
	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	20
Cobitidae	Danubian spined loach	<i>Cobitis elongatoides</i>	b	-			
	Weatherfish	<i>Misgurnus fossilis</i>	s	II	CR	NT	
Balitoridae	Danube bream	<i>Abramis sapa</i>	b	-	EN		41
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	

Family	English name	Scient. name of species	Reference fish assemblage	FFH	Red List	IUCN	Count
Clupeidae	Azov shad	<i>Alosa tanaica</i>	s				
	Pontic shad	<i>Alosa immaculata</i>	s	-			
Syngnathidae	Black-striped pipefish	<i>Syngnathus abaster</i>		-			28
Cyprinidae	Stone moroko	<i>Pseudorasbora parva</i>		-	NE		7
Gobiidae	Bighead goby	<i>Neogobius kessleri</i>		-	NE	DD	6
	Chinese sleeper	<i>Perccottus glenii</i>		-			69
	Monkey goby	<i>Neogobius fluviatilis</i>		-	NE	DD	69
	Mushroom goby	<i>Neogobius eurycephalus</i>		-			11
	Racer goby	<i>Neogobius gymnotrachelus</i>		-	NE	DD	62
	Round goby	<i>Neogobius melanostomus</i>		-	NE	DD	362
	Tubenose goby	<i>Proterorhinus semilunaris</i>		-	EN	LC	17
Cobitidae	Balkan spined loach	<i>Cobitis elongata</i>		II			1
	Spined loach	<i>Cobitis taenia</i>		II	VU	LC	5
Centrarchidae	Pumpkinseed	<i>Lepomis gibbosus</i>		-	NE		49

Observed:: reference fish assemblage 23Taxa :: 47Taxa

Taxa complete 35

Count species of reference fish assemblage 7,294

Total count 7,980

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, Vrbica, Simijan, RO_JDS63, 9/9/2013

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	121	73.5		4.8		12.5	65.5	3	b
Balkan spined loach	COB-ELA	1	4.1		0.0		8.0	3.4	4	
Bighead goby	NEO-KES	6	33.7		0.2		8.0	6.7	3	
Bitterling	RHO-SER	2	4.1		0.0		5.5	1.5	3	s
Black-striped pipefish	SYN-ABA	28	0.0		0.0	0.0	11.9	0.0	1	
Bleak	ALB-ALB	4,063	3,645.0		25.4		8.3	7.0	1	I
Blue bream	ABR-BAL	149	34.6		0.3		9.3	8.0	3	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
Bream	ABR-BRA	142	6.7		0.0		9.4	1.6	3	l
Carp	CYP-CAR	22	1.8		0.3		17.6	149.4	3	b
Chinese sleeper	PER-GLE	69	0.0		0.0	0.0	5.1	0.0	1	
Chub	SQU-CEP	4	6.7		0.0		11.8	4.4	3	s
Danube bream	ABR-SAP	41	0.0		0.0	0.0	10.5	0.0	3	b
Gudgeon	GOB-GOB	1	0.0		0.0	0.0	10.5	0.0	4	s
Ide	LEU-IDU	635	186.7		1.0		9.1	5.4	3	l
Kessler's gudgeon	ROM-KES	10	0.0		0.0	0.0	7.8	0.0	2	s
Monkey goby	NEO-FLU	69	0.0		0.0	0.0	7.3	0.0	1	
Mushroom goby	NEO-EUR	11	0.0		0.0	0.0	7.0	0.0	3	
Nase	CHO-NAS	7	0.0		0.0	0.0	20.0	0.0	3	b
Perch	PER-FLU	151	37.0		0.3		8.7	8.0	2	b
Pike	ESO-LUC	34	9.2		2.1		30.2	231.9	3	b
Pikeperch	SAN-LUC	108	0.0		0.0	0.0	17.5	0.0	2	b
Prussian carp	CAR-GIB	862	535.8		31.9		11.5	59.6	1	s
Pumpkinseed	LEP-GIB	49	41.8		0.6		6.2	14.5	2	
Racer goby	NEO-GYM	62	1.8		0.0		6.3	3.0	1	
Roach	RUT-RUT	851	324.8		1.5		8.1	4.6	1	l
Round goby	NEO-MEL	362	282.8		1.2		6.5	4.3	1	
Rudd	SCA-ERY	1	4.1		0.0		6.0	3.1	4	s
Ruffe	GYM-CER	11	0.0		0.0	0.0	9.7	0.0	3	s
Schraetser	GYM-SCH	9	0.0		0.0	0.0	11.8	0.0	3	b
Spined loach	COB-TAE	5	0.0		0.0	0.0	9.2	0.0	3	
Stone moroko	PSE-PAR	7	0.0		0.0	0.0	6.6	0.0	2	
Tubenose goby	PRO-SEM	17	101.0		0.1		4.8	1.2	1	
Vimba bream	VIM-VIM	30	0.0		0.0	0.0	12.1	0.0	3	b
Wels catfish	SIL-GLA	20	19.0		131.0		21.8	6,896.3	3	b
White bream	ABR-BJO	20	0.0		0.0	0.0	9.1	0.0	3	l

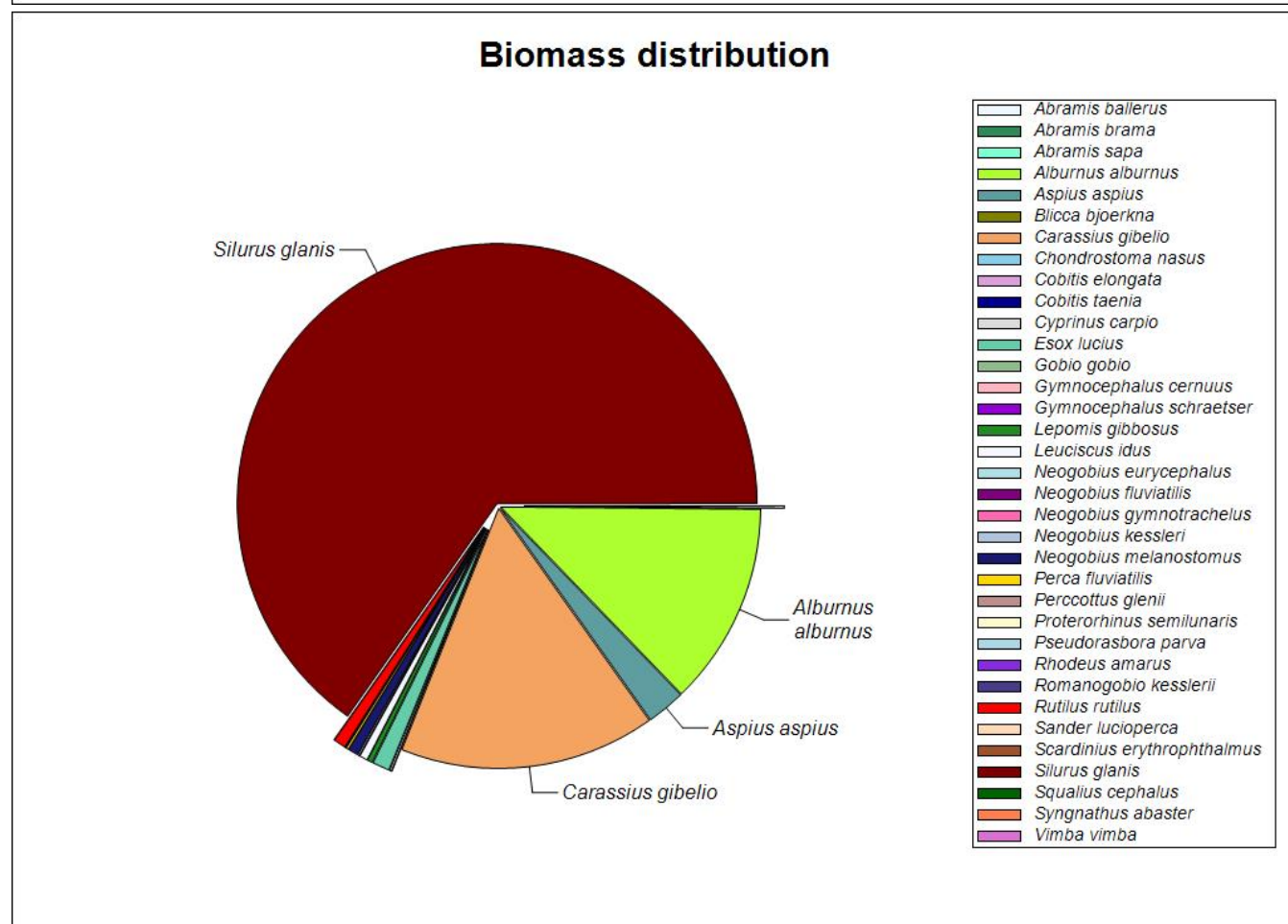
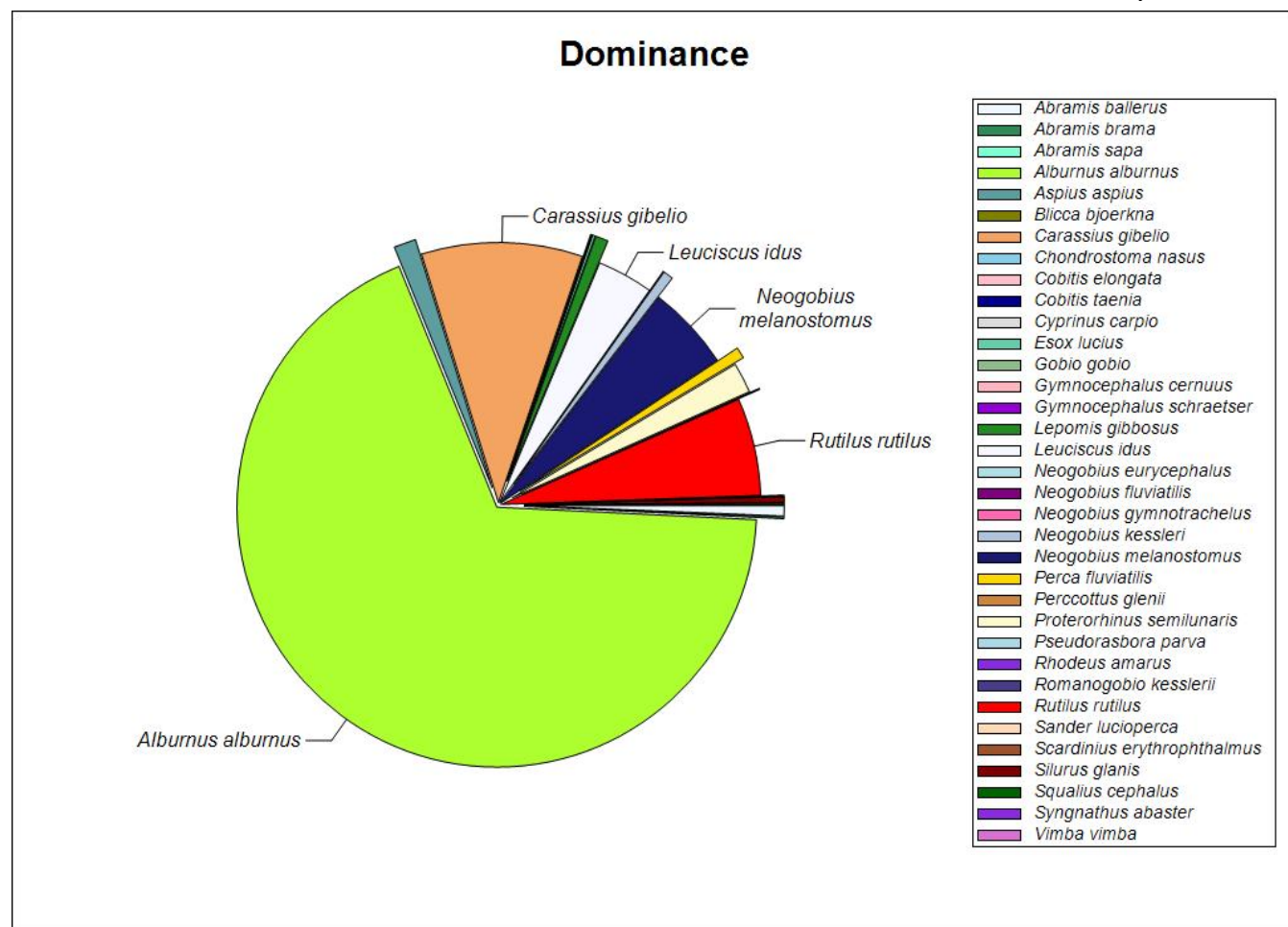
23 species of 47

Total

7,980

5,354.2

200.8



Pic. 4: Dominance und Biomass distribution

Shannon-Index: 1.875

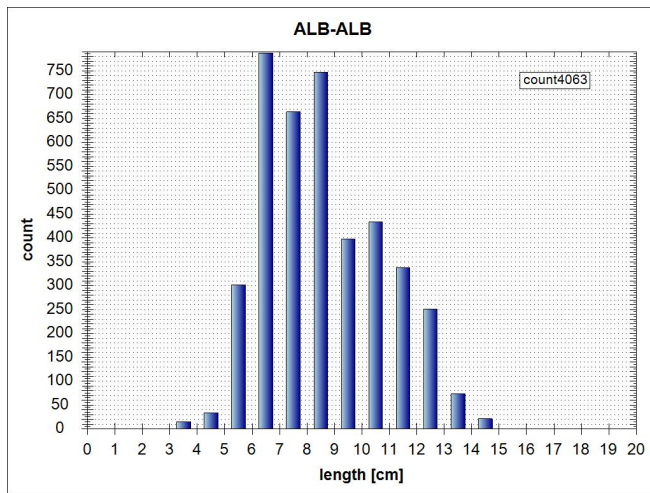
Equitability: 0.527

Biometrics and catch rate

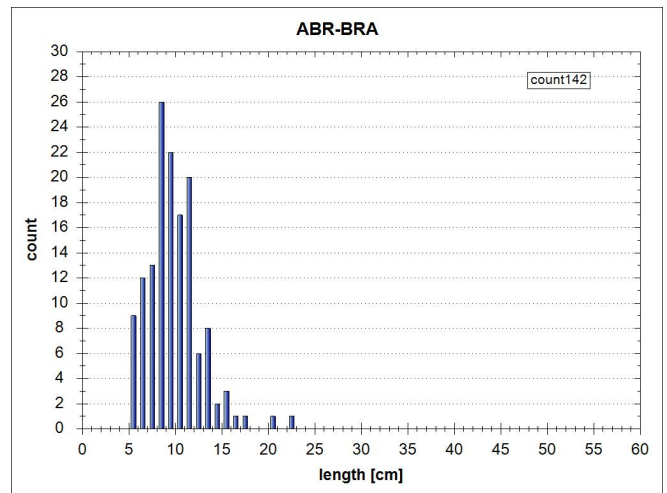
Table 6: biometrics of each species and catch specific parameters

Fish species	Lt [cm]		n	Statist. Method	Catch- Probability [%]	Catch-effectivity		
	Min	Max				Min	MW	Max
Asp	7.0	12.5	31.5	121		0.05	0.45	0.50
Balkan spined loach	8.0	8.0	8.0	1		0.30	0.30	0.30
Bighead goby	4.0	8.0	11.0	6		0.25	0.29	0.30
Bitterling	5.0	5.5	6.0	2		0.25	0.28	0.30
Black-striped pipefish	8.5	11.9	15.5	28		0.10	0.49	0.50
Bleak	3.5	8.3	14.5	4,063		0.01	0.45	0.50
Blue bream	4.0	9.3	13.5	149		0.05	0.49	0.50
Bream	5.0	9.4	22.0	142		0.10	0.49	0.50
Carp	9.0	17.6	37.0	22		0.30	0.49	0.50
Chinese sleeper	3.0	5.1	6.5	69		0.10	0.49	0.50
Chub	7.5	11.8	16.5	4		0.30	0.45	0.50
Danube bream	7.5	10.5	14.0	41		0.30	0.50	0.50
Gudgeon	10.5	10.5	10.5	1		0.50	0.50	0.50
Ide	5.0	9.1	24.0	635		0.05	0.46	0.50
Kessler's gudgeon	6.5	7.8	9.5	10		0.50	0.50	0.50
Monkey goby	5.0	7.3	11.0	69		0.50	0.50	0.50
Mushroom goby	5.5	7.0	8.5	11		0.50	0.50	0.50
Nase	8.0	20.0	25.0	7		0.30	0.30	0.30
Perch	3.5	8.7	18.0	151		0.20	0.49	0.50
Pike	12.5	30.2	42.0	34		0.10	0.48	1.00
Pikeperch	11.5	17.5	50.0	108		0.10	0.49	0.50
Prussian carp	1.3	11.5	31.0	862		0.10	0.47	0.50
Pumpkinseed	2.0	6.2	12.0	49		0.25	0.43	0.50
Racer goby	4.5	6.3	8.0	62		0.10	0.47	0.50
Roach	4.0	8.1	18.5	851		0.01	0.22	0.50
Round goby	3.0	6.5	9.5	362		0.25	0.47	0.50
Rudd	6.0	6.0	6.0	1		0.30	0.30	0.30
Ruffe	8.5	9.7	13.0	11		0.50	0.50	0.50
Schraetser	9.5	11.8	15.0	9		0.50	0.50	0.50
Spined loach	7.5	9.2	11.0	5		0.50	0.50	0.50
Stone moroko	5.0	6.6	10.0	7		0.25	0.46	0.50
Tubenose goby	4.0	4.8	6.0	17		0.25	0.29	0.30
Vimba bream	9.0	12.1	17.5	30		0.10	0.47	0.50
Wels catfish	6.5	21.8	110.0	20		0.10	0.46	0.50
White bream	5.0	9.1	14.0	20		0.50	0.50	0.50
35 species		Sum	7,980					

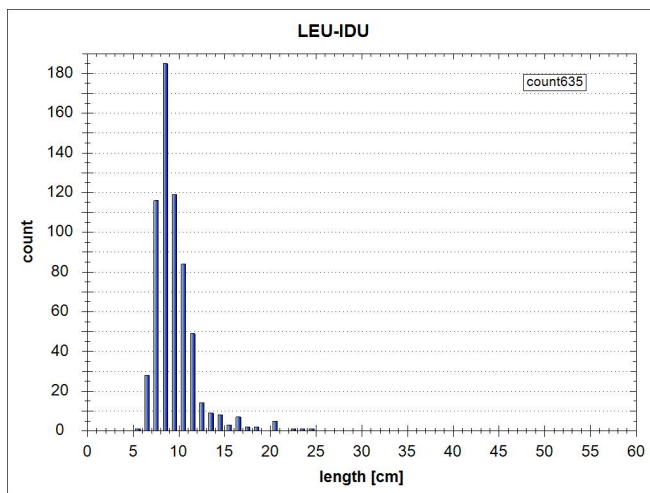
Population structure of dominant species and subdominant species (total catch)



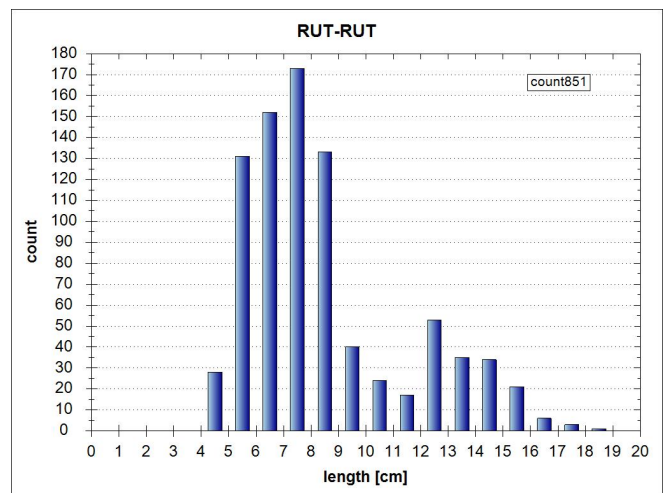
Bleak (*Alburnus alburnus*), 1



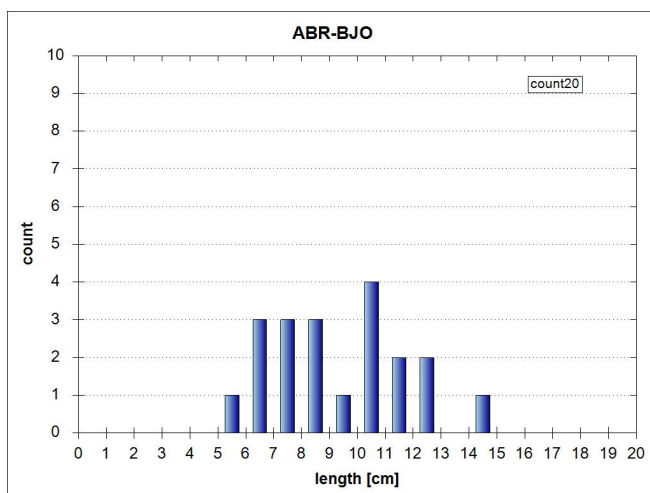
Bream (*Abramis brama*), 3



Ide (*Leuciscus idus*), 3

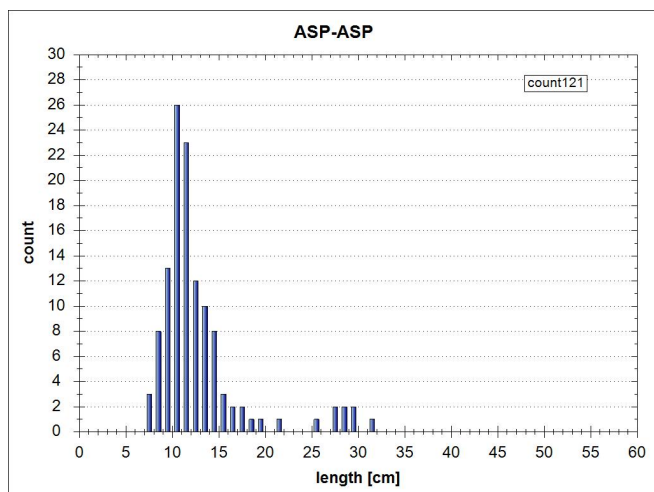
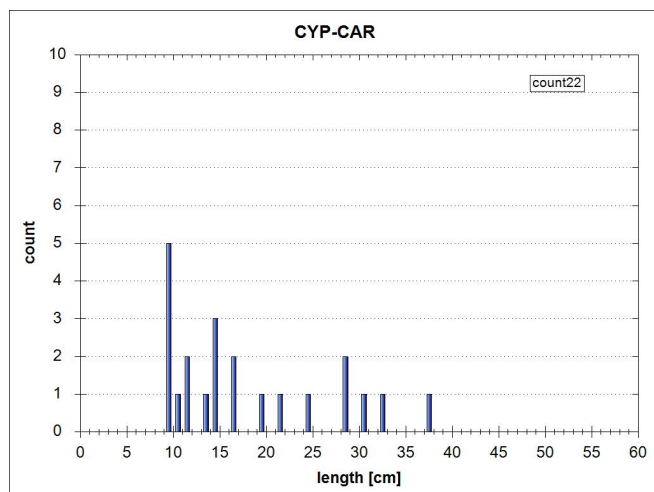
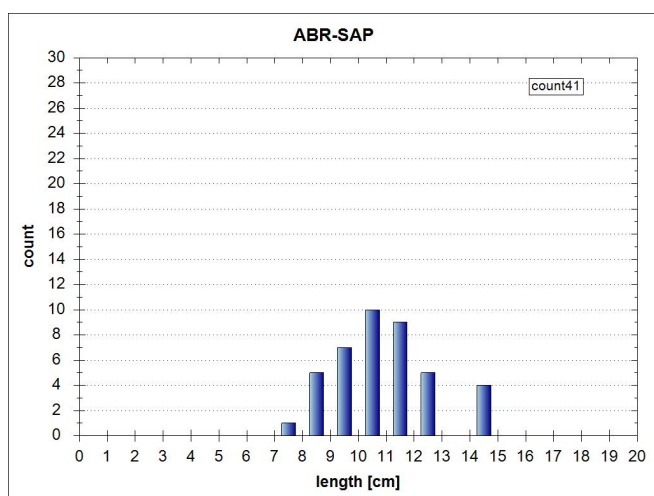
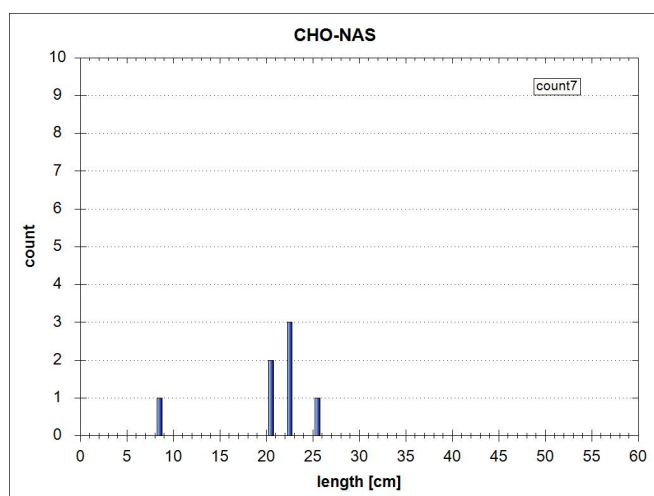
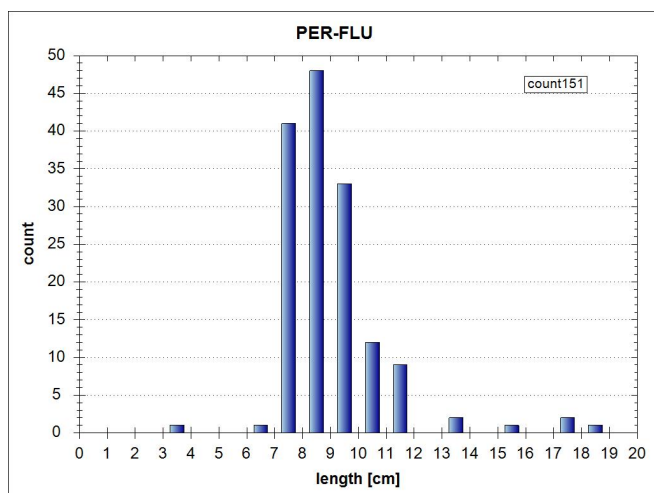
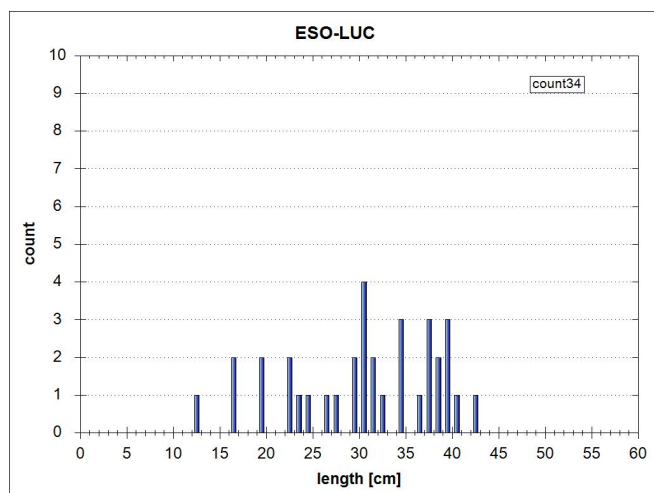


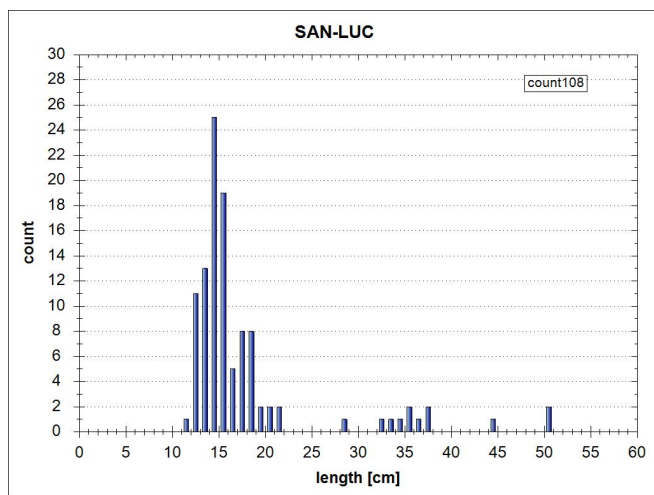
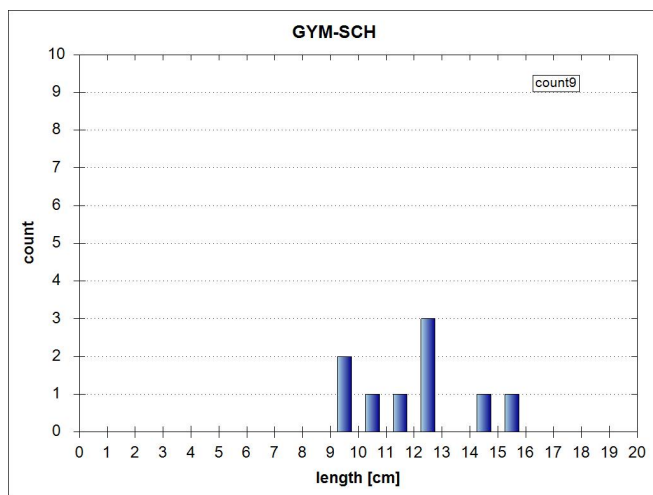
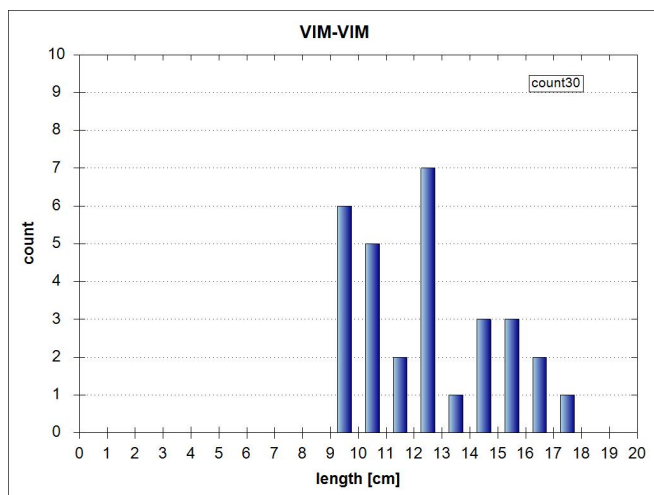
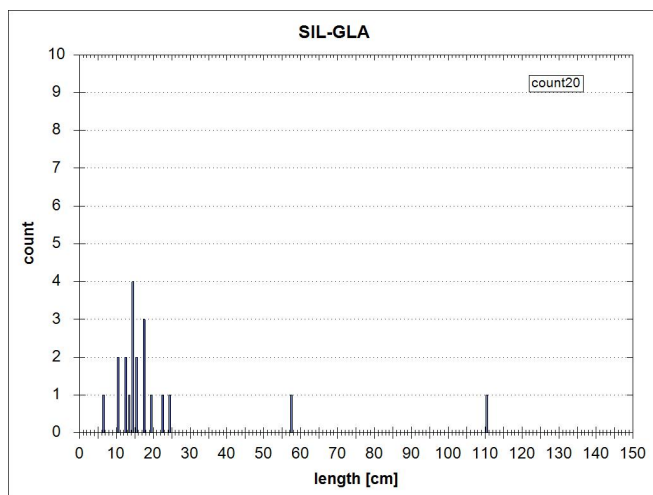
Roach (*Rutilus rutilus*), 1



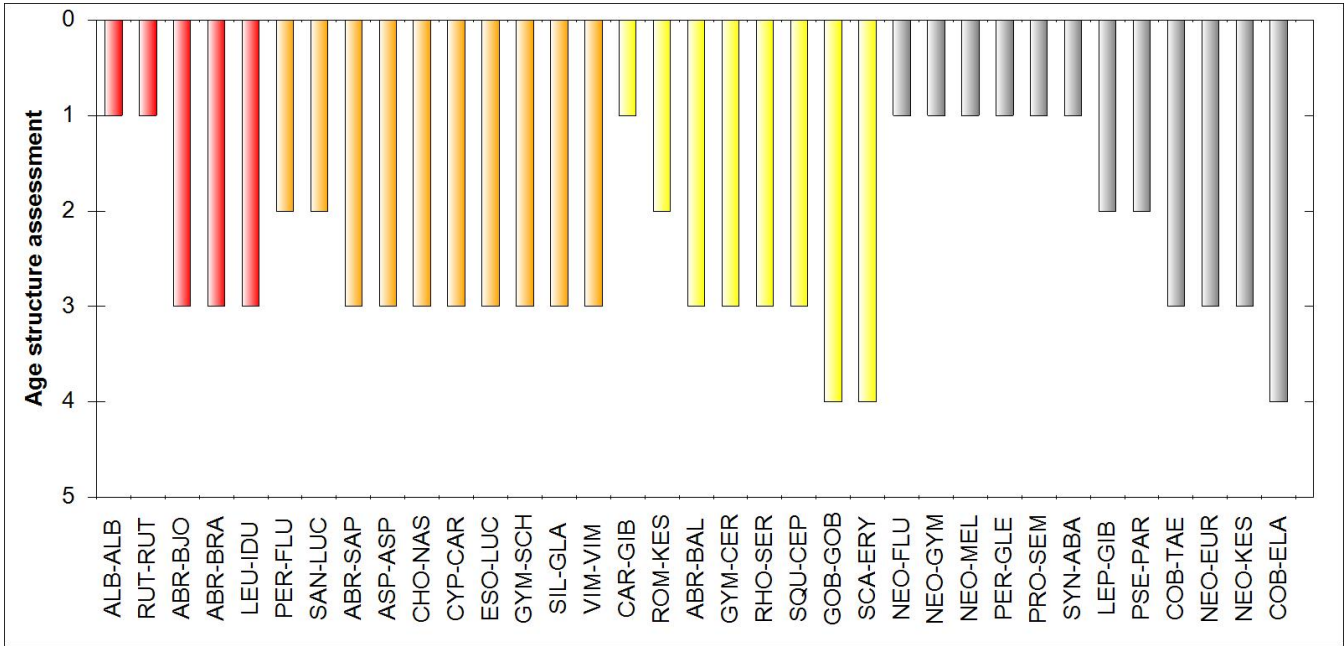
White bream (*Blicca bjoerkna*), 3

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

Asp (*Aspius aspius*), 3Carp (*Cyprinus carpio*), 3Danube bream (*Abramis sapo*), 3Nase (*Chondrostoma nasus*), 3Perch (*Perca fluviatilis*), 2Pike (*Esox lucius*), 3

Pikeperch (*Sander lucioperca*), 2Schraetser (*Gymnocephalus schraetser*), 3Vimba bream (*Vimba vimba*), 3Wels catfish (*Silurus glanis*), 3

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



Pic. 7: Age structure of present species

Comment on population structure of dominat and subdominant species

- no comment -

Fish ecological assessment (FIA, FISH INDEX AUSTRIA)

Table 7: fish ecologic assessment, Danube, Vrbica, Simijan, RO_JDS63, 9/9/2013

Rating					
Stock data	Abundance Ind/ha	Biomass kg/ha			ko-criterion biomass
	4,888.9	198.6			OK
1. Species	Reference fish assemblage	actual (current)	Ratio/Deviation	Partial rating	
Species					
Dominant species	5	5	100%	1.0	
Subdominant species	14	10	71%	2.0	
Rare species	28	8	29%	2.0	
				1.7	
Ecological guilds					
Flow	6	4	2	3.0	
Reproduction	6	5	1	2.0	
				2.5	
Species diversity & guilds overall					1.7
2. Dominance	Reference fish assemblage	actual (current)	Difference		
Fish region index	6.4		0.0		1.0
3. Population structure	Reference fish assemblage	actual (current)		Partial rating (1-5)	
Dominant species	5	5		2.2	
Subdominant species	14	10		3.4	
					2.6
Fishindex Austria without active ko-criterion					2.03
Biological quality element fish		FIA 2.03	Class 2	Good	

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;