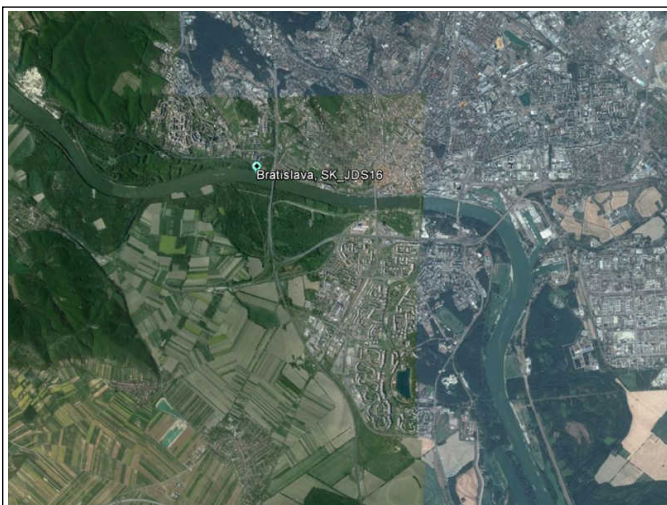


**Danube****Bratislava, SK\_JDS16 (SK\_JDS16 ), 23.August 2013**

FDA\_ID 222



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



Pic. 2: Monitoring site Bratislava, SK\_JDS16

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

Biological quality element fish	Action required (4)
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**Ecological status class, current survey, 23.August 2013**

Biological quality element fish	FIA 2.58	Class 3	Moderate
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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 Bratislava, SK\_JDS16

Watercourse name	<b>Danube</b>	Federal state	<b>not availabvle</b>
Monitoring site	<b>Bratislava, SK_JDS16</b>	District	
Monitoring site number	<b>SK_JDS16</b>	Community	
Turnus number		Longitude (WGS 84, decimal) O	<b>17.07062</b>
sampling number		Latitude (WGS 84, decimal) N	<b>48.14456</b>
Survey-ID (FDA)	<b>222</b>	Route-ID	
Date	<b>8/23/2013</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>Lower Alpine Foothills Danube (2001-1789,5) (4)</b>	Huet-zonation	<b>barbel zone</b>
Biocenotic Region	<b>Epipotamon large</b>	Adapt. Reference	<b>99</b>
River km mean	<b>1,875.0</b>	Altitude [m.a.s]	<b>130</b>
		Ø catchment basin [km²]	<b>131,338</b>
Section length [m]	<b>5,000</b>	Catchment-class	<b>more than 10.000km²</b>
Ø channel width [m]	<b>310</b>	Slope [‰]	<b>0.3</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>970.0</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>295</b>	Flow condition	
pH-value		Visible depth	
SBV		Fishing conditions	
Water temperature [°C] (F117)	<b>21.1</b>	Average annual air temperature [°C]	<b>9.8</b>
Conductance, 25°C [µS/cm] (F118)	<b>385</b>		
Methods used and effort			
<b>Strip-fishing, day</b>		Number of runs	<b>1</b>
Fished length [m]	<b>2,765</b>	E-devices output [kW]	<b>11</b>
Fished area [m²]	<b>8,663</b>	Output voltage	<b>600</b>
		Number of anodes	
		Number of strips/sections	<b>13</b>
and additional methods	<b>Fished area [m²]</b>	additional methods	<b>Effort [UE]</b>
E-Fishing by night	<b>2,850</b>		

### Comments on survey:

- no data -

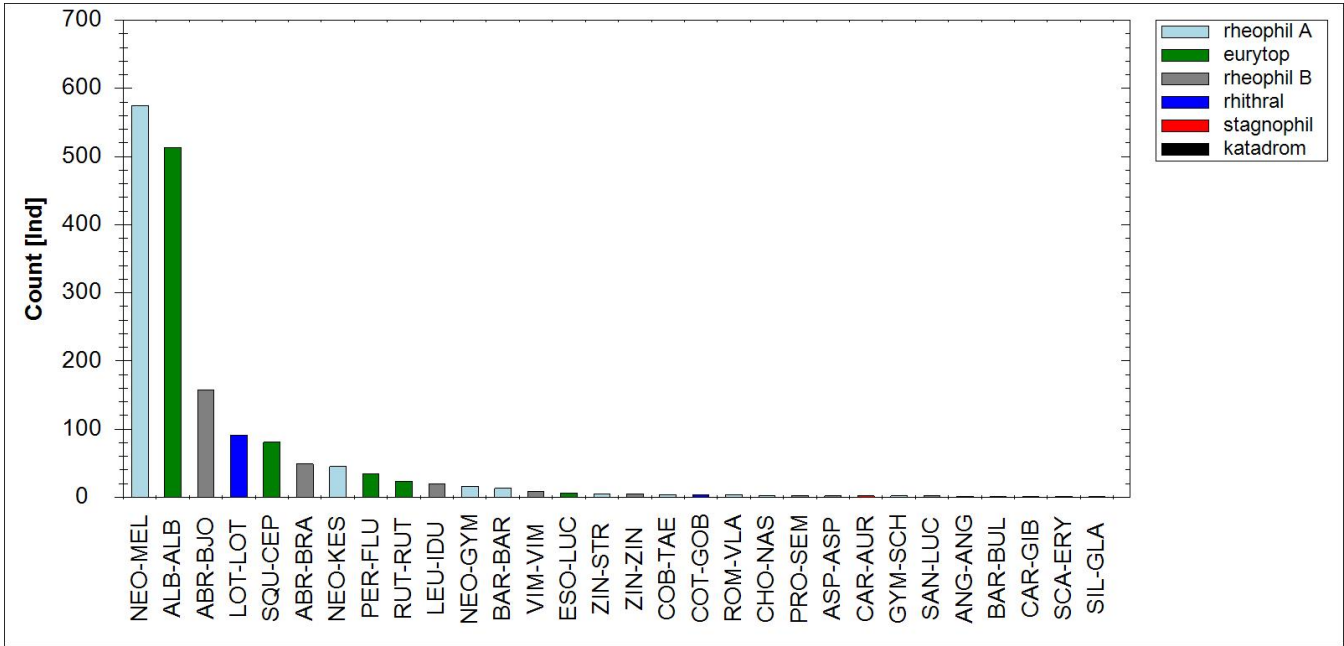
Table 2: Sampling effort at the monitoring site Bratislava, SK\_JDS16, August 2013

Habitat	Str. no	DG	Length [m]	Width [m]	UE	Method
rip-rap	3	1	185	1.5		E-fishing day boat
rip-rap	4	1	50	1.5		E-fishing day boat
rip-rap	7	1	410	3		E-fishing day boat
rip-rap	8	1	100	1.5		E-fishing day boat
rip-rap	9	1	100	1.5		E-fishing day boat
rip-rap	10	1	240	3		E-fishing day boat
rip-rap	11	1	100	1.5		E-fishing night
rip-rap	12	1	100	1.5		E-fishing night
rip-rap	14	1	300	3		E-fishing night
rip-rap	15	1	150	3		E-fishing night
rock	26	1	310	5		E-fishing day boat
rock	27	1	100	5		E-fishing day boat
rock	28	1	100	5		E-fishing day boat
undet. middle of the river	16	1	100	2		electric beam trawl
undet. middle of the river	17	1	500	2		electric beam trawl
undet. middle of the river	18	1	500	2		electric beam trawl
undet. middle of the river	19	1	500	2		electric beam trawl
undet. middle of the river	20	1	500	2		electric beam trawl
undet. middle of the river	21	1	500	2		electric beam trawl
undet. middle of the river	22	1	500	2		electric beam trawl
undet. middle of the river	23	1	500	2		electric beam trawl
undet. middle of the river	24	1	1000	2		electric beam trawl
undet. middle of the river	25	1	500	2		electric beam trawl
gravel bar	5	1	410	3		E-fishing day boat
gravel bar	6	1	360	3		E-fishing day boat
gravel bar	13	1	400	3		E-fishing night
eupotamon (permanent running water channel)	1	1	200	3		E-fishing day boat
eupotamon (permanent running water channel)	2	1	200	3		E-fishing day boat

Table 3: Habitat weighting used at the monitoring site Bratislava, SK\_JDS16

Habitat	%
eupotamon (permanent running water channel)	5
gravel bar	25
rip-rap	70
rock	0
undet. middle of the river	0

Catch result, fish assemblage and threatening status



Pic. 3: Species ranking diagramm of catch resultsDanube, Bratislava, SK\_JDS16

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	
Salmonidae	Brown trout	<i>Salmo trutta fario</i>	s	-	NT		
	Danube salmon	<i>Hucho hucho</i>	I	II; V	EN	EN	
Thymallidae	Greyling	<i>Thymallus thymallus</i>	s	V	VU	LC	
Cyprinidae	Asp	<i>Aspius aspius</i>	b	II	EN	DD	2
	Barbel	<i>Barbus barbus</i>	I	V	NT	LC	13
	Bitterling	<i>Rhodeus amarus</i>	b	II	VU	LC	
	Blageon	<i>Leuciscus souffia</i>	s	II	EN	LC	
	Bleak	<i>Alburnus alburnus</i>	I	-	LC	LC	513
	Blue bream	<i>Abramis ballerus</i>	b	-	EN		
	Bream	<i>Abramis brama</i>	I	-	LC		49
	Carp	<i>Cyprinus carpio</i>	s	-	EN	DD	
	Chub	<i>Squalius cephalus</i>	b	-	LC	LC	81
	Crucian carp	<i>Carassius carassius</i>	b	-	EN	LC	
	Dace	<i>Leuciscus leuciscus</i>	I	-	NT	LC	
	Danube bleak	<i>Alburnus mento</i>	s	II	LC	DD	
	Danube roach	<i>Rutilus pigus</i>	s	II; V	EN	DD	
	Danubian gudgeon	<i>Romanogobio uranoscopus</i>	s	II	CR	DD	
	Gudgeon	<i>Gobio gobio</i>	s	-	LC	LC	
	Ide	<i>Leuciscus idus</i>	I	-	EN	LC	20
	Italian barbel	<i>Barbus plebejus</i>	s	II		LC	
	Kessler's gudgeon	<i>Romanogobio kesslerii</i>	s	II	EN	DD	
	Minnow	<i>Phoxinus phoxinus</i>	s	-	NT	LC	
	Nase	<i>Chondrostoma nasus</i>	I	-	NT	LC	3
	Prussian carp	<i>Carassius gibelio</i>	b	-	LC		1
	Roach	<i>Rutilus rutilus</i>	b	-	LC	LC	23
	Rudd	<i>Scardinius erythrophthalmus</i>	s	-	LC	LC	1
	Sabre carp	<i>Pelecus cultratus</i>	s	II; V	NT	DD	
	Spirlin	<i>Alburnoides bipunctatus</i>	s	-	LC	LC	
	Sunbleak	<i>Leucaspisus delineatus</i>	s	-	EN	LC	
	Tench	<i>Tinca tinca</i>	s	-	VU	LC	
	Vimba bream	<i>Vimba vimba</i>	b	-	VU	LC	9
	White bream	<i>Blicca bjoerkna</i>	b	-	LC	LC	158
	White-finned gudgeon	<i>Romanogobio vladkovi</i>	b	II	LC	DD	4
Esocidae	Pike	<i>Esox lucius</i>	I	-	NT		6
Gadidae	Burbot	<i>Lota lota</i>	b	-	VU		91
Percidae	Danube ruffe	<i>Gymnocephalus baloni</i>	s	II; IV	VU	DD	
	Perch	<i>Perca fluviatilis</i>	b	-	LC	LC	34
	Pikeperch	<i>Sander lucioperca</i>	b	-	NT	LC	2
	Ruffe	<i>Gymnocephalus cernuus</i>	s	-	LC	LC	
	Schraetser	<i>Gymnocephalus schraetser</i>	b	II; V	VU	VU	2
	Streber	<i>Zingel streber</i>	b	II	EN	VU	5
	Volga pikeperch	<i>Sander volgensis</i>	s	-	EN	DD	
	Zingel	<i>Zingel zingel</i>	b	II; V	VU	VU	5
Siluridae	Wels catfish	<i>Silurus glanis</i>	b	-	VU	LC	1

Family	English name	Scient. name of species	Reference fish assemblage	FHH	Red List	IUCN	Count
Cottidae	Bullhead	<i>Cottus gobio</i>	s	II	NT	LC	4
Cobitidae	Balkan loach	<i>Sabanejewia balcanica</i>	s	II	EN	DD	
	Spined loach	<i>Cobitis taenia</i>	s	II	VU	LC	4
	Weatherfish	<i>Misgurnus fossilis</i>	s	II	CR	NT	
Balitoridae	Danube bream	<i>Abramis sapa</i>	b	-	EN		
	Stone loach	<i>Barbatula barbatula</i>	s	-	LC	LC	1
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	European mud-minnow	<i>Umbra krameri</i>	s	II	CR	VU	
Cyprinidae	Goldfish	<i>Carassius auratus</i>		-			2
Gobiidae	Bighead goby	<i>Neogobius kessleri</i>		-	NE	DD	45
	Racer goby	<i>Neogobius gymnotrachelus</i>		-	NE	DD	16
	Round goby	<i>Neogobius melanostomus</i>		-	NE	DD	575
	Tubenose goby	<i>Proterorhinus semilunaris</i>		-	EN	LC	3
Anguillidae	Eel	<i>Anguilla anguilla</i>		-	RE		1

Observed:: reference fish assemblage 24Taxa :: 57Taxa

Taxa complete 30

Count species of reference fish assemblage 1,032

Total count 1,674

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, Bratislava, SK\_JDS16, 8/23/2013

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	2	7.9		6.5		40.8	824.9	4	b
Barbel	BAR-BAR	13	8.5		9.2		31.8	1,080.0	3	l
Bighead goby	NEO-KES	45	123.7		1.1		8.7	8.5	1	
Bleak	ALB-ALB	513	2,985.3		32.9		10.0	11.0	1	l
Bream	ABR-BRA	49	19.1		14.0		13.3	730.7	1	l
Bullhead	COT-GOB	4	12.8		0.1		6.7	9.2	4	s
Burbot	LOT-LOT	91	235.2		42.2		26.0	179.4	1	b
Chub	SQU-CEP	81	22.0		0.8		13.5	34.5	2	b
Eel	ANG-ANG	1	0.0		0.0	0.0	47.0	0.0	4	
Goldfish	CAR-AUR	2	0.0		0.0	0.0	23.5	0.0	4	
Ide	LEU-IDU	20	8.5		1.1		23.3	131.7	3	l
Nase	CHO-NAS	3	3.7		0.6		21.3	150.2	4	l
Perch	PER-FLU	34	49.6		1.1		13.2	22.7	2	b
Pike	ESO-LUC	6	0.0		0.0	0.0	30.8	0.0	3	l
Pikeperch	SAN-LUC	2	6.4		0.1		9.7	8.2	4	b
Prussian carp	CAR-GIB	1	0.0		0.0	0.0	28.0	0.0	4	b
Racer goby	NEO-GYM	16	0.0		0.0	0.0	3.8	0.0	1	
Roach	RUT-RUT	23	2.3		0.3		14.7	151.9	3	b
Round goby	NEO-MEL	575	733.7		11.2		10.1	15.3	1	
Rudd	SCA-ERY	1	0.0		0.0	0.0	5.0	0.0	4	s
Schraetser	GYM-SCH	2	0.0		0.0	0.0	7.0	0.0	4	b
Spined loach	COB-TAE	4	0.0		0.0	0.0	6.1	0.0	4	s
Stone loach	BAR-BUL	1	0.0		0.0	0.0	40.0	0.0	4	s
Streber	ZIN-STR	5	0.0		0.0	0.0	12.1	0.0	4	b
Tubenose goby	PRO-SEM	3	0.0		0.0	0.0	3.2	0.0	4	
Vimba bream	VIM-VIM	9	0.0		0.0	0.0	3.6	0.0	3	b
Wels catfish	SIL-GLA	1	4.3		24.7		95.0	5,786.1	4	b
White bream	ABR-BJO	158	18.3		0.1		7.0	7.3	1	b
White-finned gudgeon	ROM-VLA	4	0.0		0.0	0.0	6.3	0.0	4	b
Zingel	ZIN-ZIN	5	6.4		0.0		7.4	5.1	4	b

24 species of 57

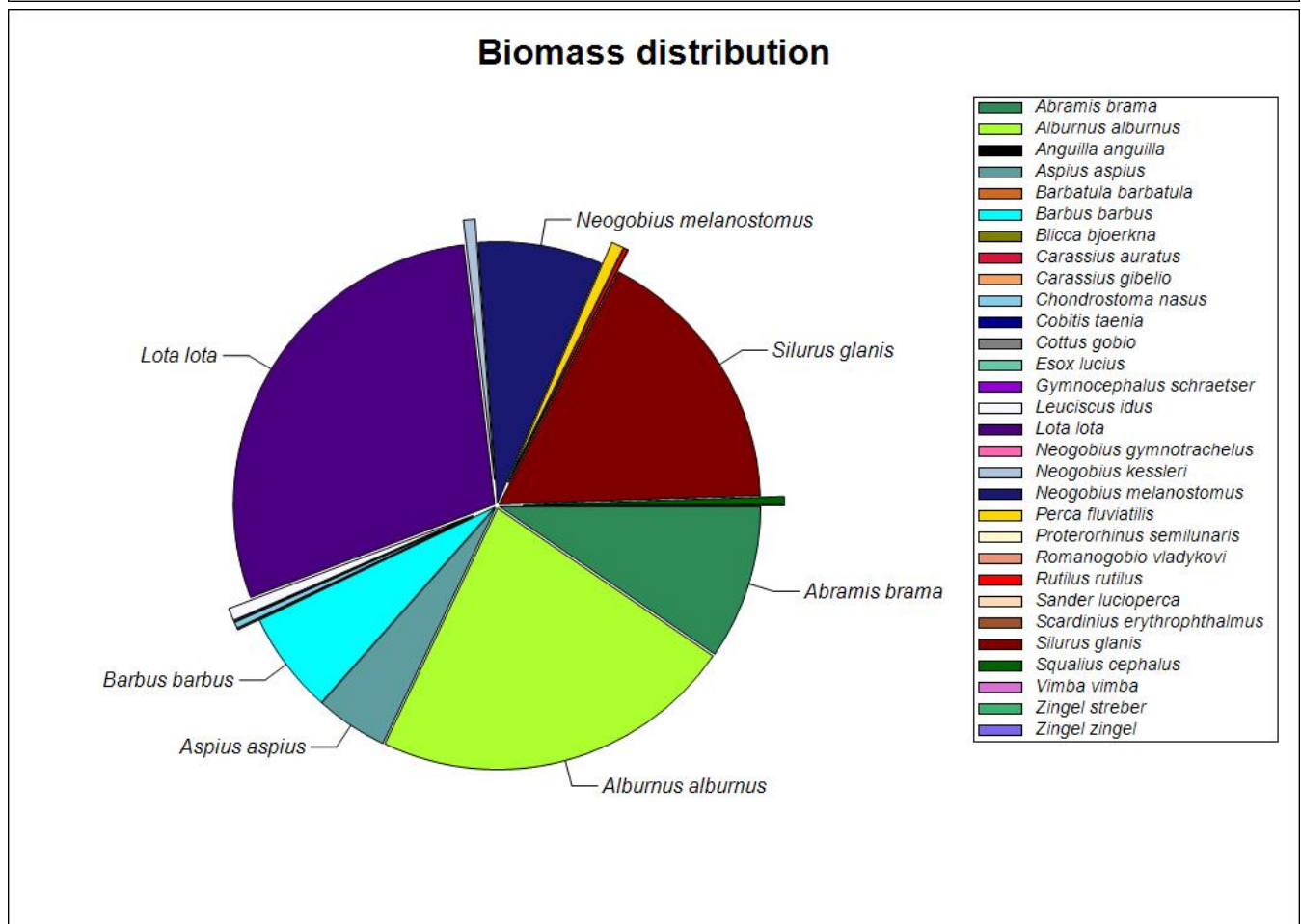
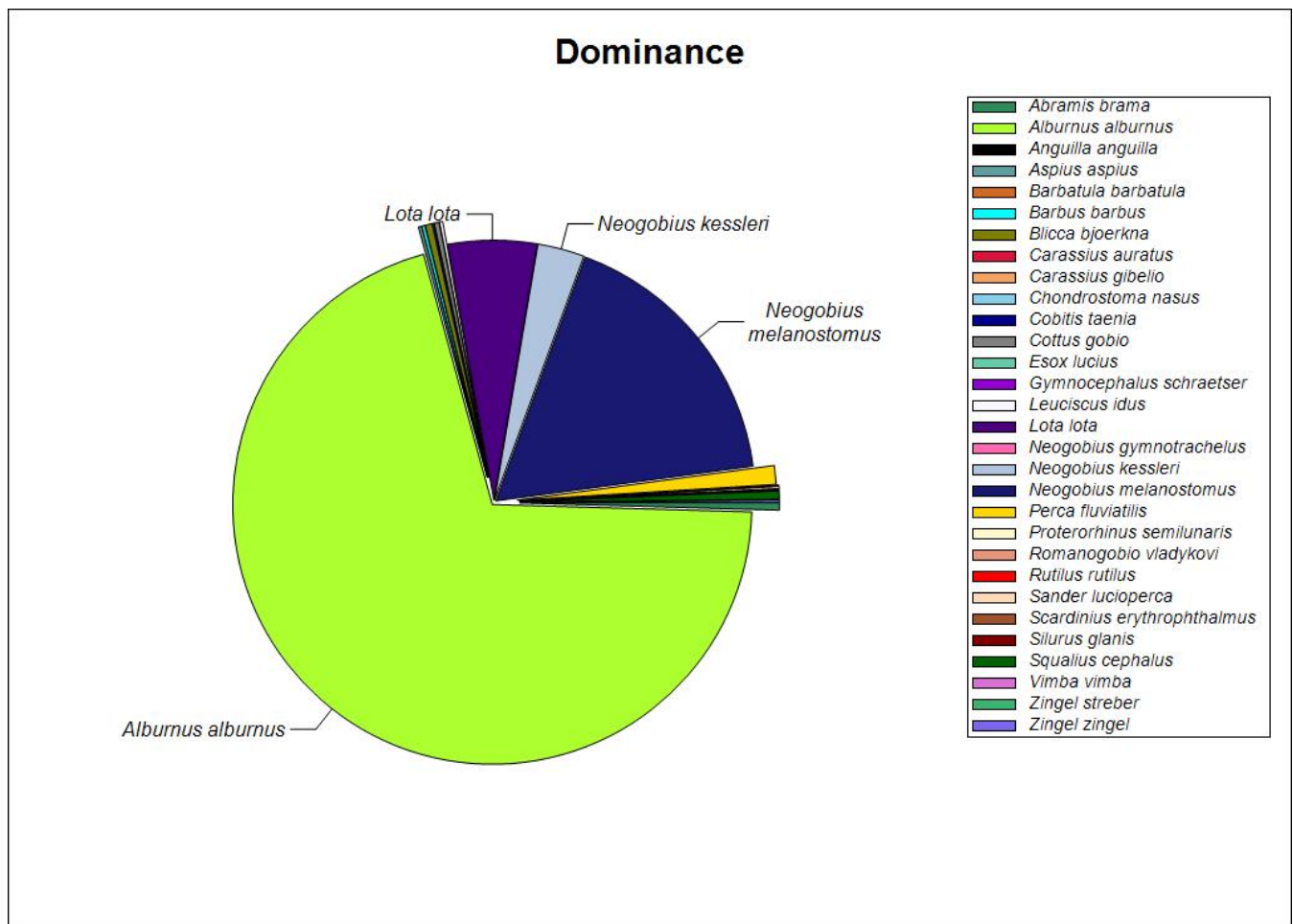
Total

1,674

4,247.7

146.1





Pic. 4: Dominance und Biomass distribution



Shannon-Index: 1.934

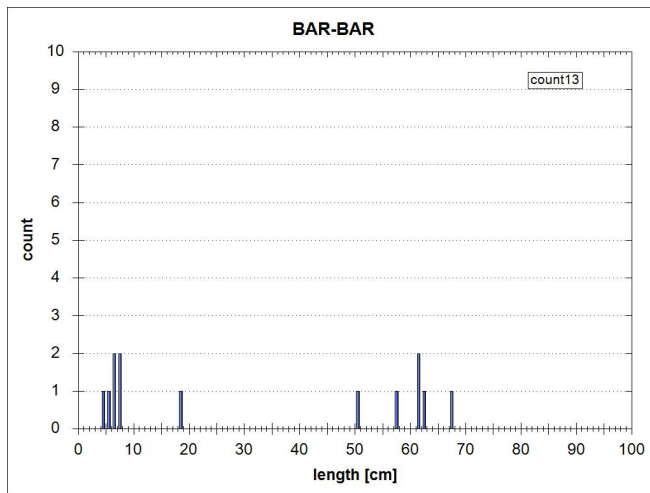
Equitability: 0.569

**Biometrics and catch rate**

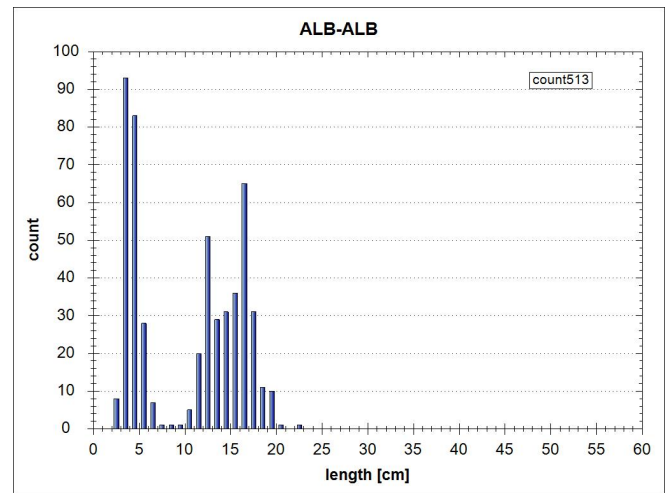
Table 6: biometrics of each species and catch specific parameters

Fish species	Lt [cm]			n	Statist. Method	Catch- Probability [%]	Catch-effectivity		
	Min		Max				Min	MW	Max
Asp	20.5	40.8	61.0	2			0.60	0.65	0.70
Barbel	4.0	31.8	67.0	13			0.30	0.48	0.60
Bighead goby	3.5	8.7	15.5	45			0.30	0.45	0.70
Bleak	2.0	10.0	22.1	513			0.10	0.29	0.70
Bream	2.6	13.3	50.0	49			0.30	0.64	0.70
Bullhead	3.4	6.7	10.0	4			0.40	0.55	0.70
Burbot	6.0	26.0	44.0	91			0.30	0.55	0.70
Chub	4.0	13.5	50.0	81			0.40	0.51	1.00
Eel	47.0	47.0	47.0	1			1.00	1.00	1.00
Goldfish	23.0	23.5	24.0	2			0.50	0.50	0.50
Ide	9.5	23.3	50.0	20			0.40	0.51	0.60
Nase	15.0	21.3	25.0	3			0.50	0.57	0.70
Perch	7.0	13.2	23.0	34			0.40	0.53	0.75
Pike	24.0	30.8	38.0	6			0.50	0.50	0.50
Pikeperch	9.4	9.7	10.0	2			0.40	0.55	0.70
Prussian carp	28.0	28.0	28.0	1			0.50	0.50	0.50
Racer goby	1.5	3.8	7.5	16			0.50	0.69	0.70
Roach	6.6	14.7	27.0	23			0.50	0.55	0.75
Round goby	1.9	10.1	21.0	575			0.30	0.47	1.00
Rudd	5.0	5.0	5.0	1			0.50	0.50	0.50
Schraetser	6.5	7.0	7.5	2			0.70	0.70	0.70
Spined loach	5.0	6.1	7.5	4			0.50	0.50	0.50
Stone loach	40.0	40.0	40.0	1			0.70	0.70	0.70
Streber	10.0	12.1	13.6	5			0.70	0.70	0.70
Tubenose goby	2.0	3.2	4.0	3			0.50	0.57	0.70
Vimba bream	2.3	3.6	5.5	9			0.50	0.52	0.70
Wels catfish	95.0	95.0	95.0	1			0.60	0.60	0.60
White bream	3.0	7.0	21.0	158			0.30	0.49	0.70
White-finned gudgeon	4.1	6.3	8.0	4			0.50	0.55	0.70
Zingel	6.6	7.4	8.5	5			0.40	0.60	0.70
30 species			Sum	1,674					

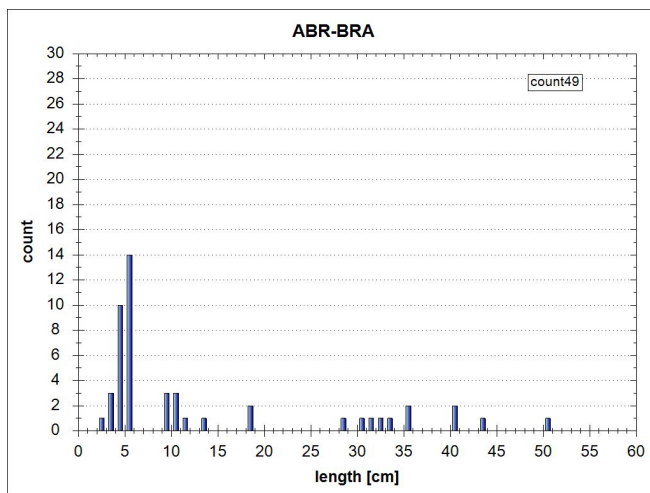
### Population structure of dominant species and subdominant species (total catch)



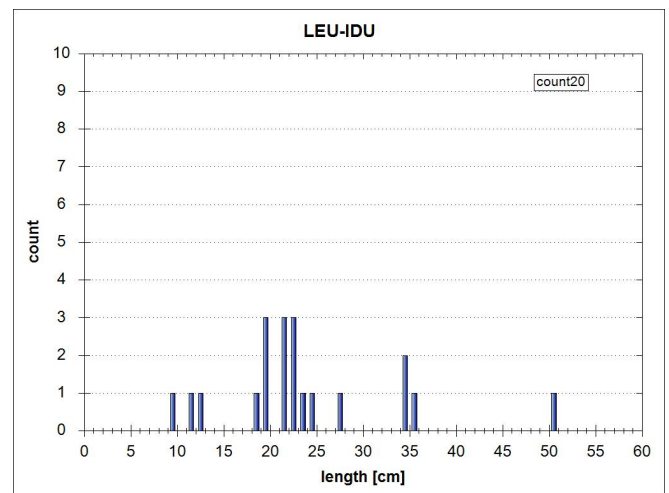
Barbel (*Barbus barbus*), 3



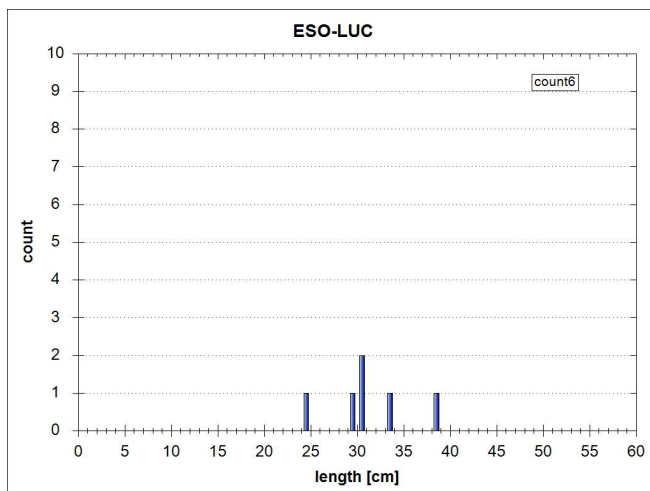
Bleak (*Alburnus alburnus*), 1



Bream (*Abramis brama*), 1

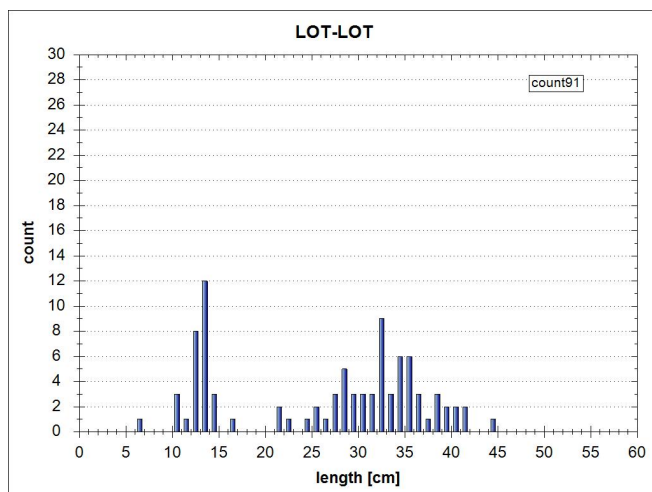
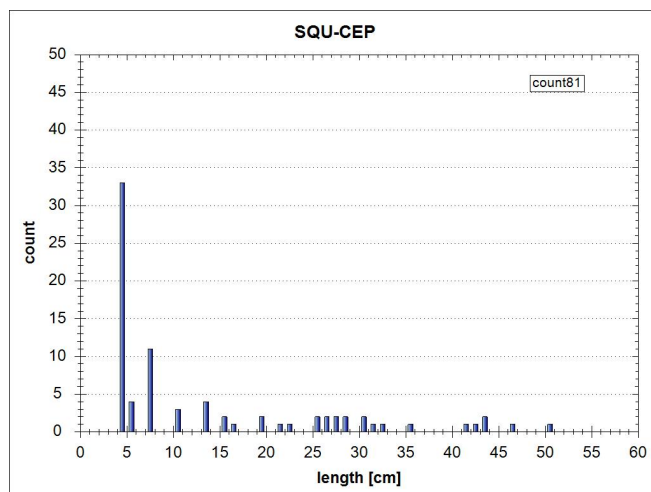
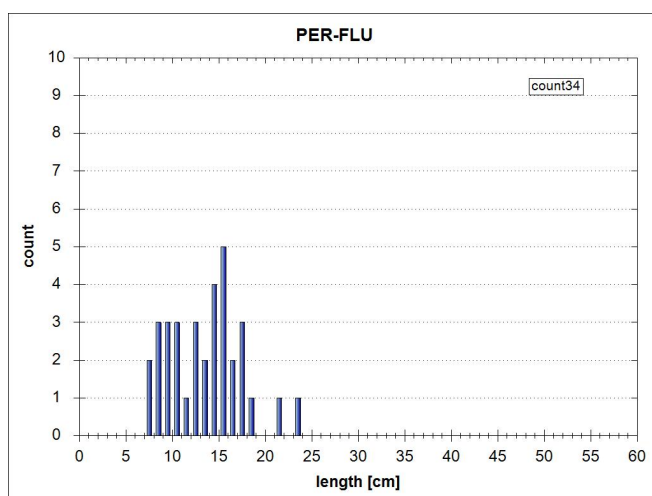
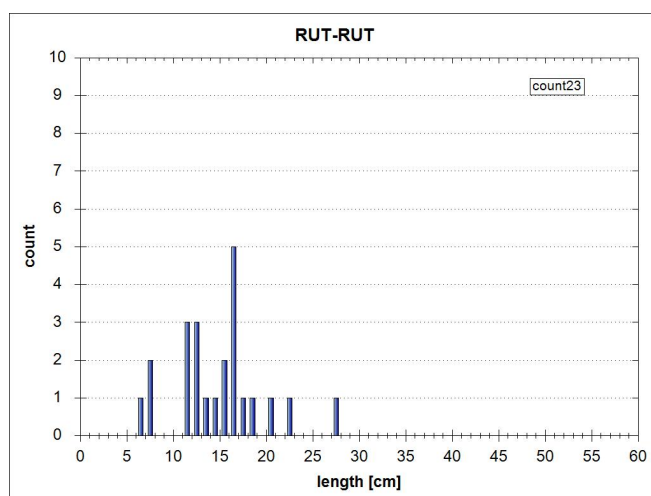
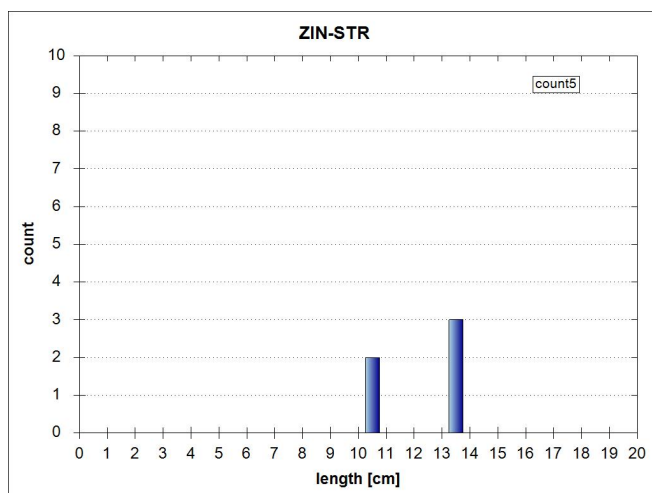
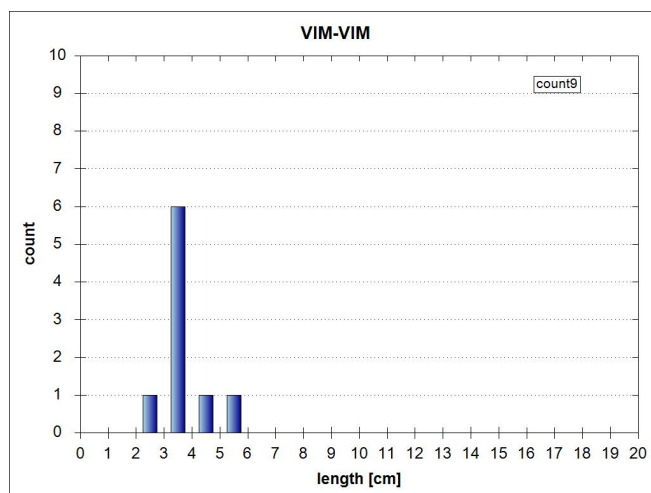


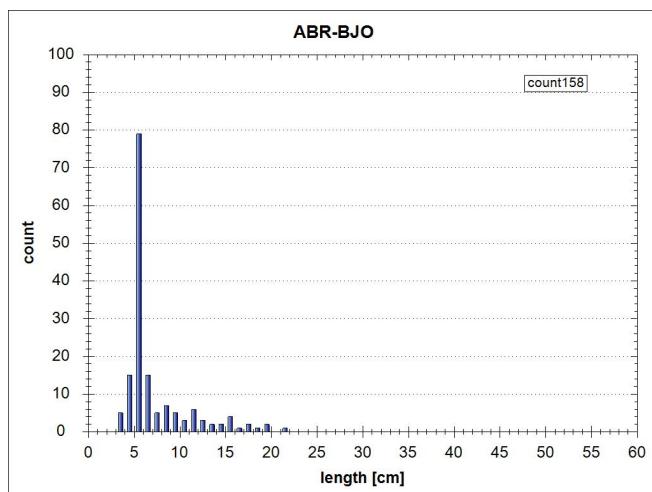
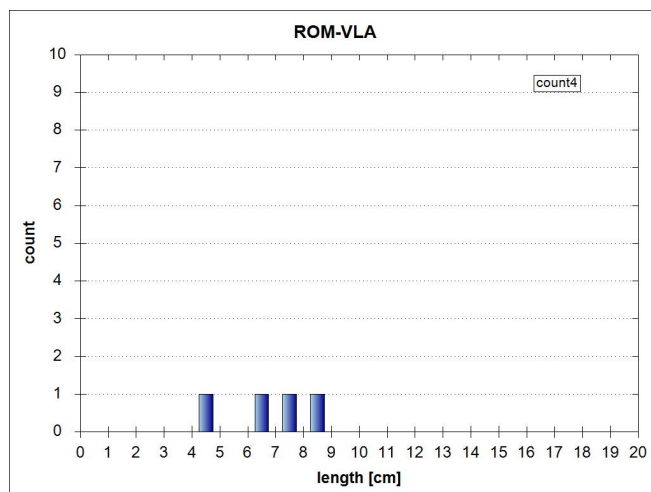
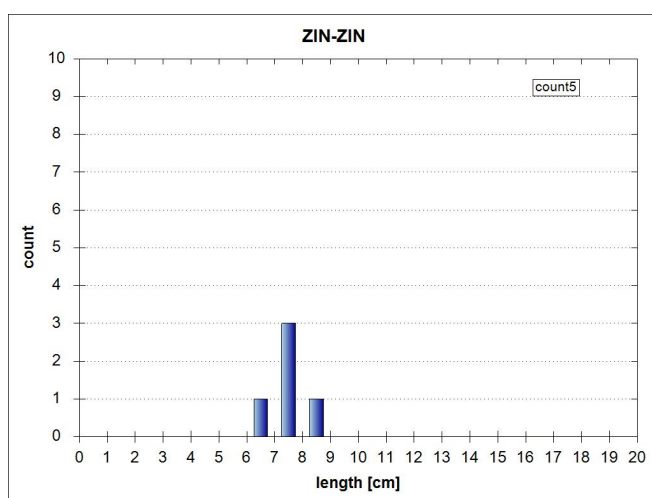
Ide (*Leuciscus idus*), 3



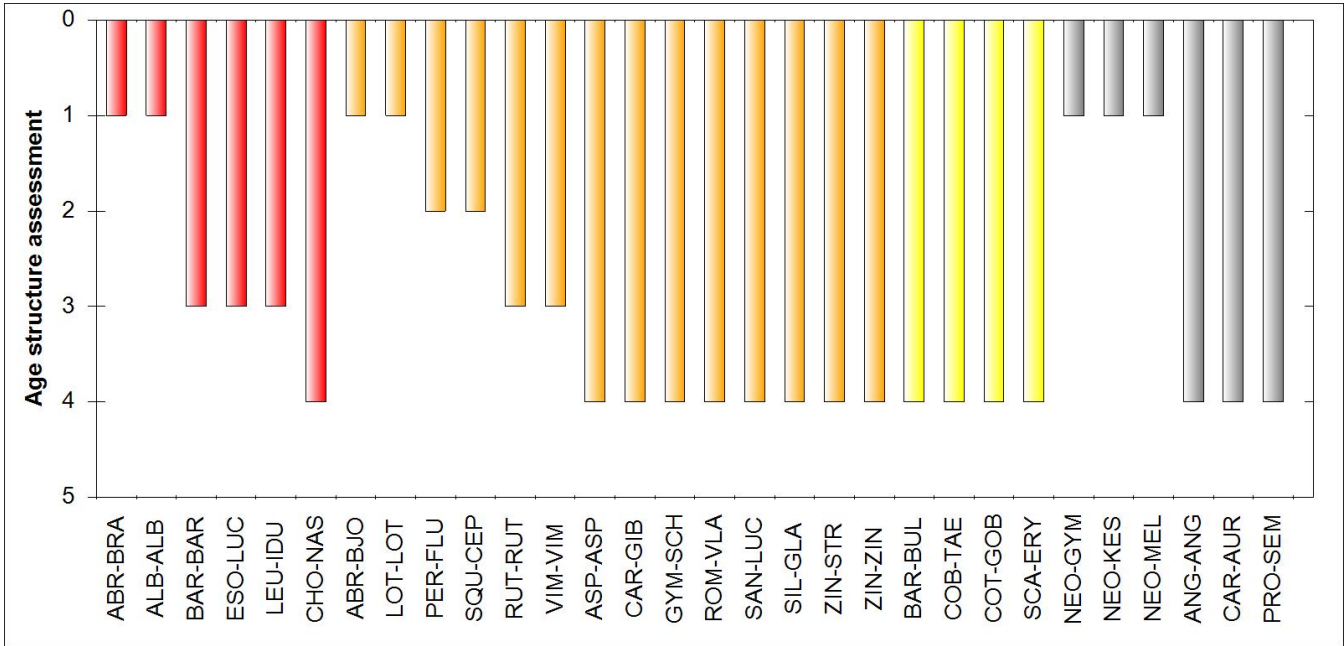
Pike (*Esox lucius*), 3

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

Burbot (*Lota lota*), 1Chub (*Squalius cephalus*), 2Perch (*Perca fluviatilis*), 2Roach (*Rutilus rutilus*), 3Streber (*Zingel streber*), 4Vimba bream (*Vimba vimba*), 3

White bream (*Blicca bjoerkna*), 1White-finned gudgeon (*Romanogobio vladykovi*), 4Zingel (*Zingel zingel*), 4

Pic. 6: Length-frequency diagram of subdominant species (n&gt;3), Aug. 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, Bratislava, SK\_JDS16, 8/23/2013

Rating					
Stock data	Abundance Ind/ha	Biomass kg/ha			ko-criterion biomass
	3,390.3	133.8			OK
<b>1. Species</b>	<b>Reference fish assemblage</b>	<b>actual (current)</b>	<b>Ratio/Deviation</b>	<b>Partial rating</b>	
<b>Species</b>					
Dominant species	8	6	75%	3.0	
Subdominant species	18	14	78%	1.0	
Rare species	31	4	13%	3.0	
				2.3	
<b>Ecological guilds</b>					
Flow	6	5	1	2.0	
Reproduction	7	6	1	2.0	
				2.0	
<b>Species diversity &amp; guilds overall</b>					<b>2.3</b>
<b>2. Dominance</b>	<b>Reference fish assemblage</b>	<b>actual (current)</b>	<b>Difference</b>		
<b>Fish region index</b>	6.3	6.4	0.1		<b>1.0</b>
<b>3. Population structure</b>	<b>Reference fish assemblage</b>	<b>actual (current)</b>		<b>Partial rating (1-5)</b>	
Dominant species	8	6		3.1	
Subdominant species	18	14		3.6	
					<b>3.3</b>
Fishindex Austria without active ko-criterion					2.58
<b>Biological quality element fish</b>		<b>FIA 2.58</b>	<b>Class 3</b>	<b>Moderate</b>	

Date of Assessment:2/27/2014

Comment BAW-IGF

- no comment -

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

*Recommended improvements with priority ranking if possible;*