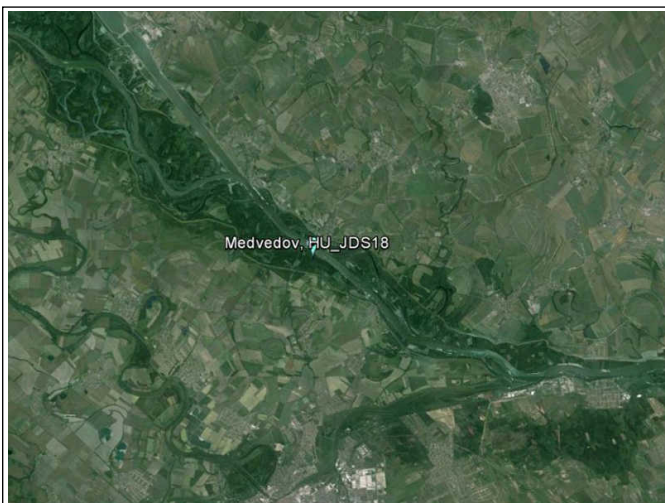


Danube**Medvedov, HU_JDS18 (HU_JDS18), 25.August 2013**

FDA_ID 224



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



Pic. 2: Monitoring site Medvedov, HU_JDS18

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, 25.August 2013

Biological quality element fish	FIA 2.27	Class 2	Good
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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 Medvedov, HU_JDS18

Watercourse name	Danube	Federal state	not available
Monitoring site	Medvedov, HU_JDS18	District	
Monitoring site number	HU_JDS18	Community	
Turnus number		Longitude (WGS 84, decimal) O	17.6528
sampling number		Latitude (WGS 84, decimal) N	47.79265
Survey-ID (FDA)	224	Route-ID	
Date	8/25/2013	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	09
Fish bioregion	Lower Alpine Foothills Danube (2001-1789,5) (4)	Huet-zonation	bream zone
Biocenotic Region	Epipotamon large	Adapt. Reference	115
River km from	1,807.0	Altitude [m.a.s]	120
River km to	1,800.0	Ø catchment basin [km²]	140,500
Section length [m]	7,000	Catchment-class	more than 10.000km²
Ø channel width [m]	320	Slope [‰]	0.2
Original stream character	lowland stream -river	Discharge regime	
Actual site character			
Actual impact		Reference watergauge (name, number)	
Flow [semiquant.]		Distance from source [km]	1,041.0
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]	310	Flow condition	
pH-value		Visible depth	
SBV		Fishing conditions	
Water temperature [°C] (F117)		Average annual air temperature [°C]	10.2
Conductance, 25°C [µS/cm] (F118)			
Methods used and effort			
Strip-fishing, day		Number of runs	1
Fished length [m]	2,730	E-devices output [kW]	11
Fished area [m²]	7,755	Output voltage	600
		Number of anodes	
		Number of strips/sections	10
and additional methods	Fished area [m²]	additional methods	Effort [UE]
E-Fishing by night	3,300		

Comments on survey:

- no data -

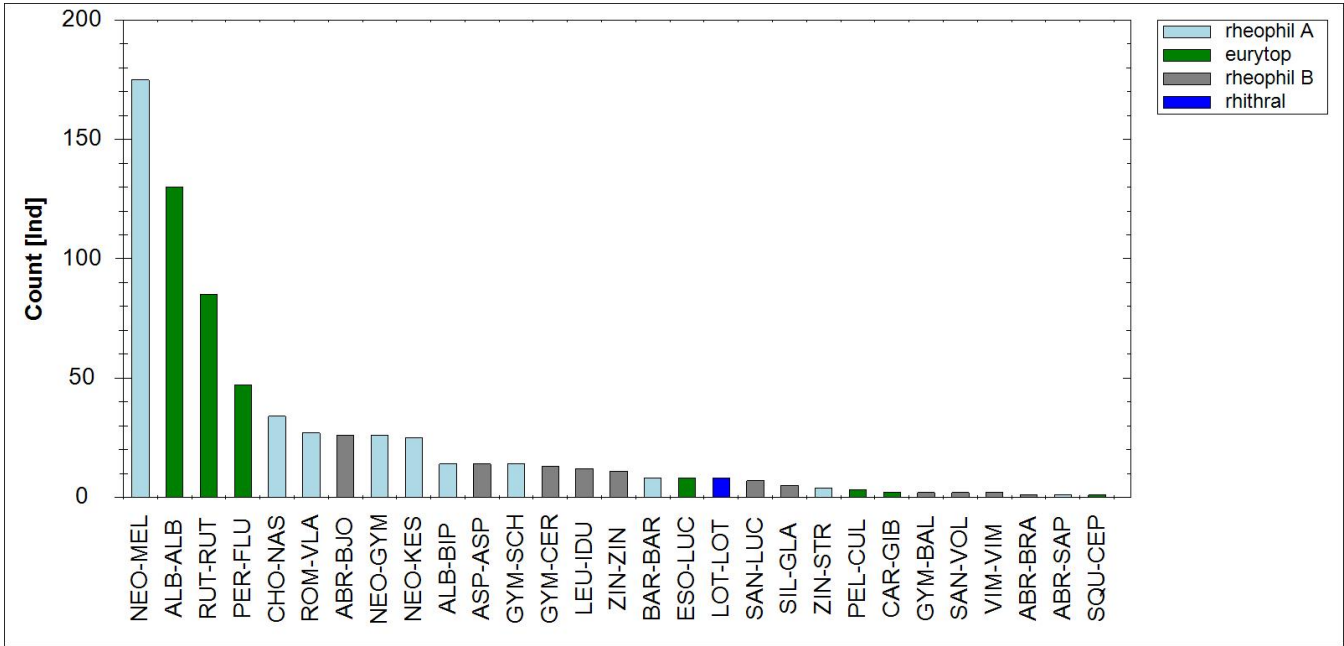
Table 2: Sampling effort at the monitoring site Medvedov, HU_JDS18, August 2013

Habitat	Str. no	DG	Length [m]	Width [m]	UE	Method
rip-rap	1	1	180	1.5		E-fishing day wading
rip-rap	7	1	320	3		E-fishing day boat
rip-rap	8	1	250	3		E-fishing day boat
rip-rap	9	1	290	3		E-fishing day boat
rip-rap	10	1	110	1.5		E-fishing day wading
rip-rap	11	1	100	1.5		E-fishing night
rip-rap	12	1	100	1.5		E-fishing night
rip-rap	13	1	300	3		E-fishing night
rip-rap	14	1	300	3		E-fishing night
groin	3	1	320	3		E-fishing day boat
groin	4	1	250	3		E-fishing day boat
groin	5	1	290	3		E-fishing day boat
groin	6	1	400	3		E-fishing day boat
groin	15	1	400	3		E-fishing night
undet. middle of the river	16	1	500	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	470	2		electric beam trawl
undet. middle of the river	24	1	300	2		electric beam trawl
sand/mud bar	2	1	320	3		E-fishing day boat

Table 3: Habitat weighting used at the monitoring site Medvedov, HU_JDS18

Habitat	%
groin	40
rip-rap	50
sand/mud bar	10
undet. middle of the river	0

Catch result, fish assemblage and threatening status



Pic. 3: Species ranking diagramm of catch resultsDanube, Medvedov, HU_JDS18

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	Danube salmon	<i>Hucho hucho</i>	s	II; V	EN	EN	
Cyprinidae	Asp	<i>Aspius aspius</i>	b	II	EN	DD	14
	Barbel	<i>Barbus barbus</i>	I	V	NT	LC	8
	Bitterling	<i>Rhodeus amarus</i>	b	II	VU	LC	
	Black Sea roach	<i>Rutilus meidingeri</i>	s	II; V	EN	EN	
	Bleak	<i>Alburnus alburnus</i>	I	-	LC	LC	130
	Blue bream	<i>Abramis ballerus</i>	b	-	EN		
	Bream	<i>Abramis brama</i>	I	-	LC		1
	Carp	<i>Cyprinus carpio</i>	b	-	EN	DD	
	Chub	<i>Squalius cephalus</i>	s	-	LC	LC	1
	Crucian carp	<i>Carassius carassius</i>	b	-	EN	LC	
	Dace	<i>Leuciscus leuciscus</i>	b	-	NT	LC	
	Danube barbel	<i>Barbus balcanicus</i>	s	II	CR	NT	
	Danube roach	<i>Rutilus pigus</i>	b	II; V	EN	DD	
	Danubian gudgeon	<i>Romanogobio uranoscopus</i>	s	II	CR	DD	
	Gudgeon	<i>Gobio gobio</i>	b	-	LC	LC	
	Ide	<i>Leuciscus idus</i>	I	-	EN	LC	12
	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	34
	Prussian carp	<i>Carassius gibelio</i>	s	-	LC		2
	Roach	<i>Rutilus rutilus</i>	I	-	LC	LC	85
	Rudd	<i>Scardinius erythrophthalmus</i>	s	-	LC	LC	
	Sabre carp	<i>Pelecus cultratus</i>	s	II; V	NT	DD	3
	Spirin	<i>Alburnoides bipunctatus</i>	s	-	LC	LC	14
	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	2
	White bream	<i>Blicca bjoerkna</i>	I	-	LC	LC	26
	White-finned gudgeon	<i>Romanogobio vladykovi</i>	b	II	LC	DD	27
Esocidae	Pike	<i>Esox lucius</i>	b	-	NT		8
Gadidae	Burbot	<i>Lota lota</i>	b	-	VU		8
Percidae	Danube ruffe	<i>Gymnocephalus baloni</i>	b	II; IV	VU	DD	2
	Perch	<i>Perca fluviatilis</i>	I	-	LC	LC	47
	Pikeperch	<i>Sander lucioperca</i>	I	-	NT	LC	7
	Ruffe	<i>Gymnocephalus cernuus</i>	b	-	LC	LC	13
	Schraetser	<i>Gymnocephalus schraetser</i>	b	II; V	VU	VU	14
	Streber	<i>Zingel streber</i>	b	II	EN	VU	4
	Volga pikeperch	<i>Sander volgensis</i>	s	-	EN	DD	2
	Zingel	<i>Zingel zingel</i>	b	II; V	VU	VU	11
Siluridae	Wels catfish	<i>Silurus glanis</i>	b	-	VU	LC	5
Cottidae	Bullhead	<i>Cottus gobio</i>	s	II	NT	LC	
Cobitidae	Balkan loach	<i>Sabanejewia balcanica</i>	s	II	EN	DD	
	Danubian spined loach	<i>Cobitis elongatoides</i>	b	-			

Family	English name	Scient. name of species	Reference fish assemblage	FFH	Red List	IUCN	Count
	Weatherfish	<i>Misgurnus fossilis</i>	s	II	CR	NT	
Balitoridae	Danube bream	<i>Abramis sapa</i>	b	-	EN		1
	Stone loach	<i>Barbatula barbatula</i>	s	-	LC	LC	
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>	b	V	CR	VU	
Clupeidae	European mud-minnow	<i>Umbra krameri</i>	s	II	CR	VU	
	Pontic shad	<i>Alosa immaculata</i>	s	-			
Gobiidae	Bighead goby	<i>Neogobius kessleri</i>		-	NE	DD	25
	Racer goby	<i>Neogobius gymnotrachelus</i>		-	NE	DD	26
	Round goby	<i>Neogobius melanostomus</i>		-	NE	DD	175

Observed:: reference fish assemblage 26Taxa :: 55Taxa

Taxa complete 29

Count species of reference fish assemblage 481

Total count 707

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)

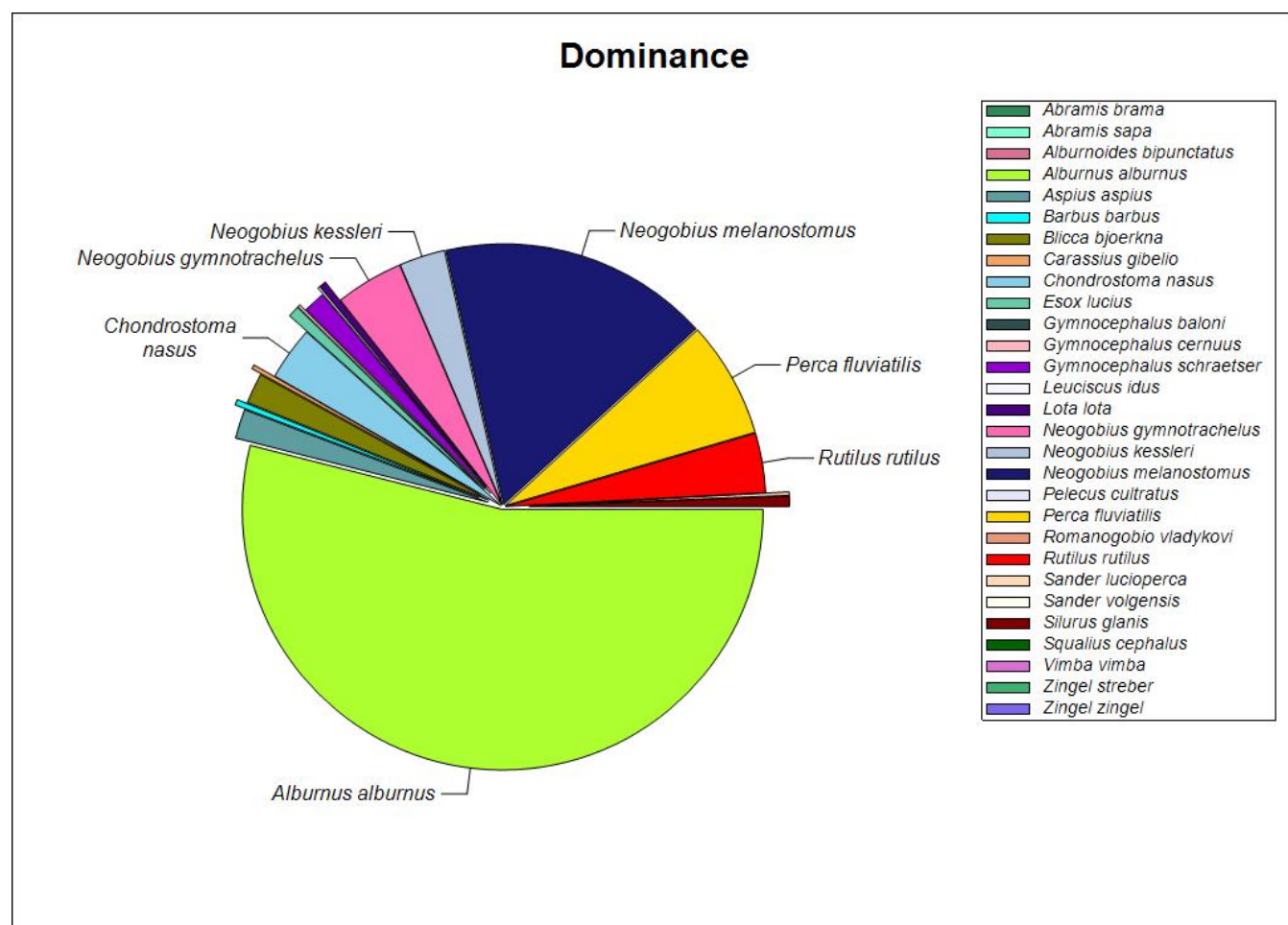
- II Species listed in Annex II of the FFH- Directive (nature reserves have to be set out for this species)
- IV Species listed in Annex IV of the FFH- Directive (strict protection of animals and plants)
- V Species listed in Annex V of the FFH- Directive (species whose collection and use is subject 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

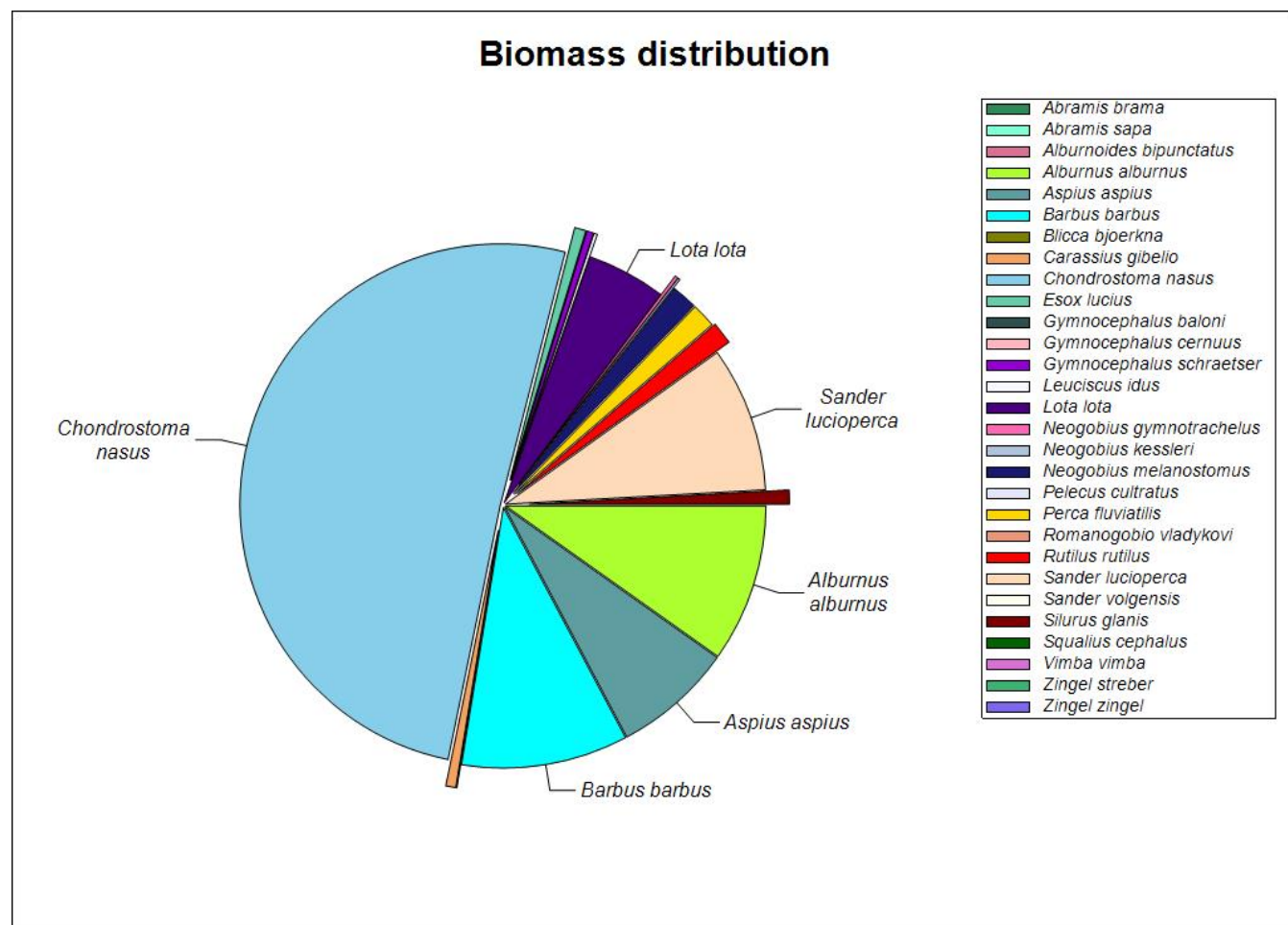
Abundance and biomass

Table 5: abundance and biomass (e-fishings) Danube, Medvedov, HU_JDS18, 8/25/2013

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	14	27.7		8.2		30.7	295.6	2	b
Barbel	BAR-BAR	8	5.3		11.4		37.1	2,167.5	3	I
Bighead goby	NEO-KES	25	43.4		0.2		6.1	3.7	3	
Bleak	ALB-ALB	130	822.2		10.8		12.1	13.2	2	I
Bream	ABR-BRA	1	0.0		0.0	0.0	27.0	0.0	4	I
Burbot	LOT-LOT	8	6.4		5.4		39.6	840.4	3	b
Chub	SQU-CEP	1	0.0		0.0	0.0	26.5	0.0	4	s
Danube bream	ABR-SAP	1	0.0		0.0	0.0	19.0	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
Danube ruffe	GYM-BAL	2	0.0		0.0	0.0	5.8	0.0	4	b
Ide	LEU-IDU	12	2.1		0.2		32.3	113.7	3	l
Nase	CHO-NAS	34	50.8		56.0		38.0	1,102.6	3	l
Perch	PER-FLU	47	110.5		1.7		9.9	15.0	1	l
Pike	ESO-LUC	8	10.7		0.8		21.3	73.2	3	b
Pikeperch	SAN-LUC	7	3.2		9.9		25.1	3,092.5	3	l
Prussian carp	CAR-GIB	2	4.0		0.7		21.0	167.7	4	s
Racer goby	NEO-GYM	26	64.3		0.2		6.3	3.5	3	
Roach	RUT-RUT	85	56.3		1.5		14.1	27.4	2	l
Round goby	NEO-MEL	175	255.5		1.8		7.0	6.9	1	
Ruffe	GYM-CER	13	2.7		0.0		6.8	2.4	3	b
Sabre carp	PEL-CUL	3	0.0		0.0	0.0	28.0	0.0	4	s
Schraetser	GYM-SCH	14	20.5		0.5		13.6	23.0	3	b
Spirlin	ALB-BIP	14	0.0		0.0	0.0	13.5	0.0	3	s
Streber	ZIN-STR	4	0.0		0.0	0.0	5.0	0.0	4	b
Vimba bream	VIM-VIM	2	0.0		0.0	0.0	19.8	0.0	4	b
Volga pikeperch	SAN-VOL	2	0.0		0.0	0.0	7.8	0.0	4	s
Wels catfish	SIL-GLA	5	9.6		1.0		51.8	100.1	3	b
White bream	ABR-BJO	26	28.5		0.0		11.0	1.3	2	l
White-finned gudgeon	ROM-VLA	27	0.0		0.0	0.0	10.5	0.0	2	b
Zingel	ZIN-ZIN	11	0.0		0.0	0.0	17.1	0.0	3	b
26 species of 55		Total	707	1,523.7		110.3				





Pic. 4: Dominance und Biomass distribution

Shannon-Index: 2.544

Equitability: 0.755

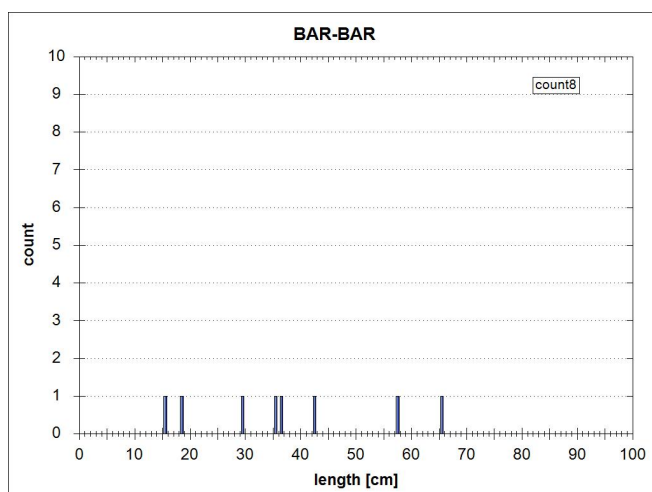
Biometrics and catch rate

Table 6: biometrics of each species and catch specific parameters

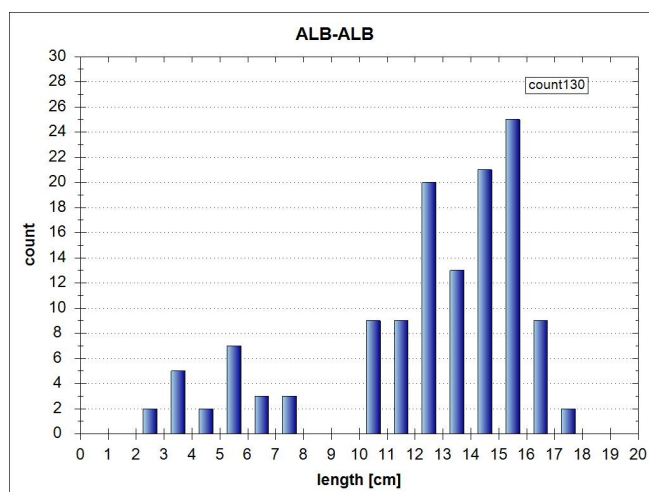
Fish species	Lt [cm]		n	Statist. Method	Catch-Probability [%]	Catch-effectivity		
	Min	Max				Min	MW	Max
Asp	11.0	30.7	58.0	14		0.40	0.49	0.50
Barbel	15.0	37.1	65.0	8		0.50	0.60	0.70
Bighead goby	4.0	6.1	14.0	25		0.40	0.47	0.70
Bleak	2.0	12.1	17.5	130		0.05	0.26	0.60
Bream	27.0	27.0	27.0	1		0.50	0.50	0.50
Burbot	33.0	39.6	53.0	8		0.33	0.69	1.00
Chub	26.5	26.5	26.5	1		0.50	0.50	0.50
Danube bream	19.0	19.0	19.0	1		0.70	0.70	0.70
Danube ruffe	5.0	5.8	6.5	2		0.50	0.50	0.50
Ide	21.0	32.3	46.0	12		0.50	0.58	0.70
Nase	19.0	38.0	52.0	34		0.20	0.51	0.75
Perch	5.5	9.9	21.5	47		0.40	0.44	0.50
Pike	16.5	21.3	28.5	8		0.50	0.55	0.60
Pikeperch	8.0	25.1	75.0	7		0.50	0.51	0.60
Prussian carp	20.0	21.0	22.0	2		0.50	0.50	0.50
Racer goby	3.5	6.3	10.0	26		0.40	0.44	0.70

Fish species	Lt [cm]		n	Statist.	Catch-	Catch-effectivity		
	Min	Max		Method	Probability [%]	Min	MW	Max
Roach	6.0	14.1	24.5	85		0.30	0.48	0.50
Round goby	1.0	7.0	13.5	175		0.40	0.49	0.70
Ruffe	6.0	6.8	8.0	13		0.50	0.51	0.60
Sabre carp	26.0	28.0	29.0	3		0.50	0.50	0.50
Schraetser	6.5	13.6	17.0	14		0.25	0.52	0.70
Spirlin	3.0	13.5	16.0	14		0.10	0.10	0.10
Streber	4.5	5.0	5.5	4		0.70	0.70	0.70
Vimba bream	11.5	19.8	28.0	2		0.05	0.37	0.70
Volga pikeperch	7.5	7.8	8.0	2		0.50	0.50	0.50
Wels catfish	18.0	51.8	170.0	5		0.50	0.54	0.70
White bream	4.5	11.0	27.0	26		0.05	0.46	0.70
White-finned gudgeon	4.0	10.5	13.5	27		0.20	0.46	0.70
Zingel	7.0	17.1	25.0	11		0.70	0.73	0.80
29 species		Sum	707					

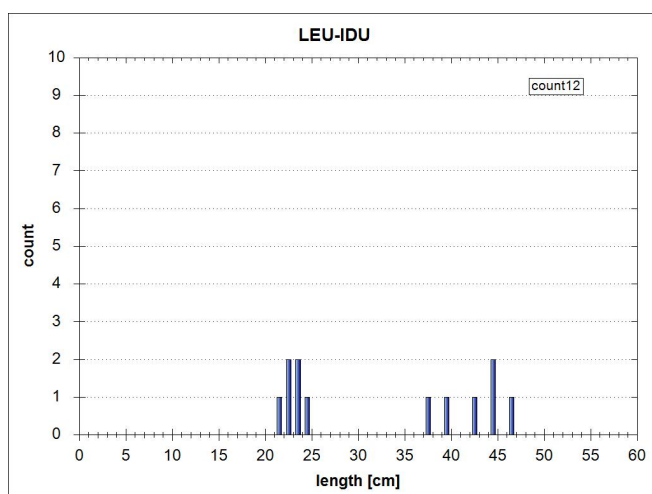
Population structure of dominant species and subdominant species (total catch)



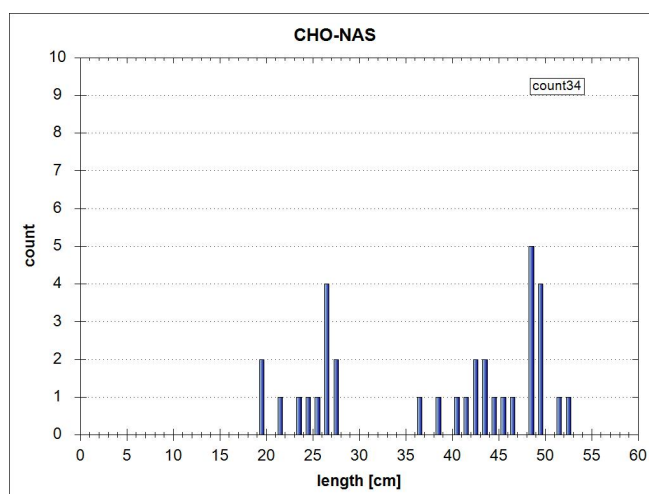
Barbel (*Barbus barbus*), 3



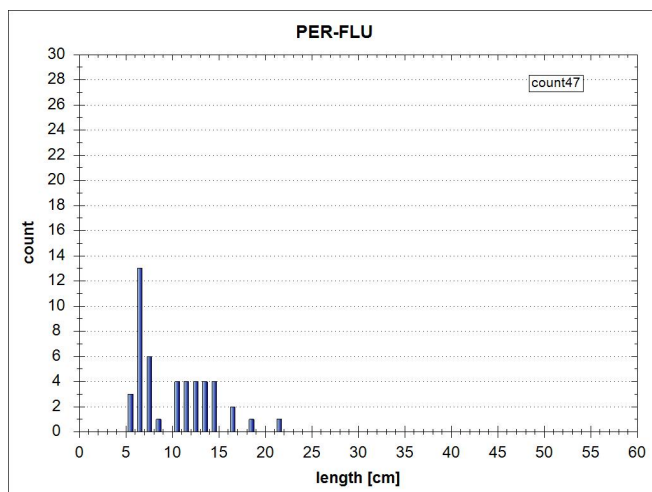
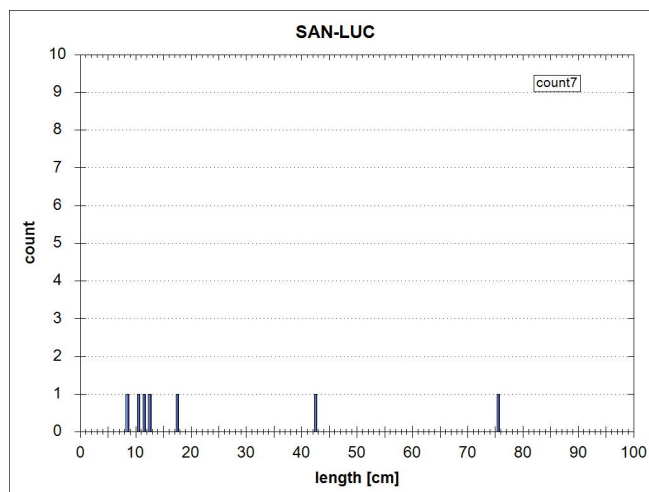
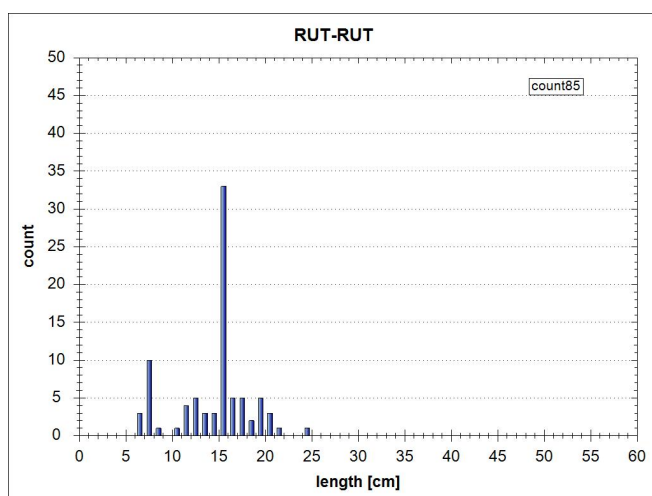
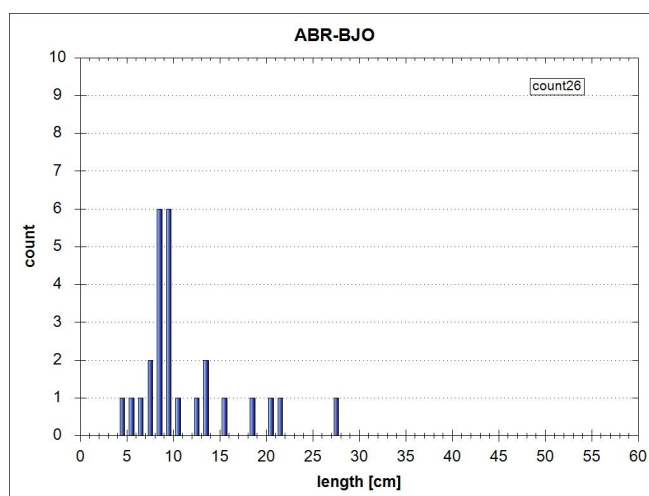
Bleak (*Alburnus alburnus*), 2



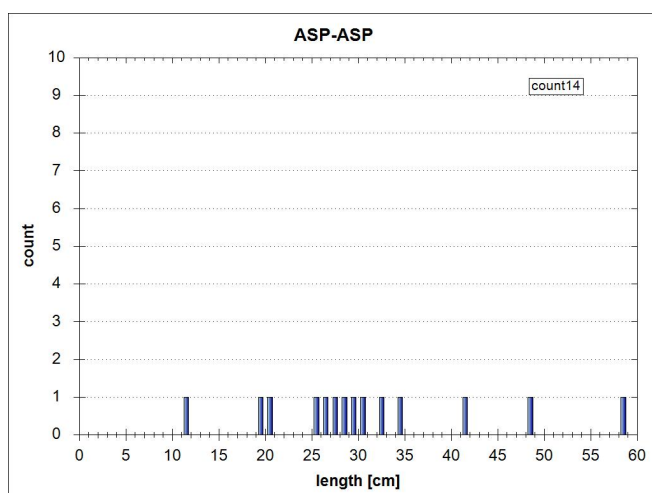
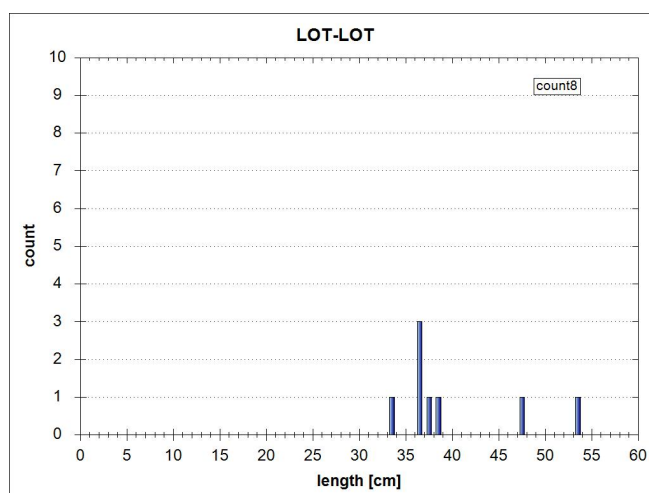
Ide (*Leuciscus idus*), 3

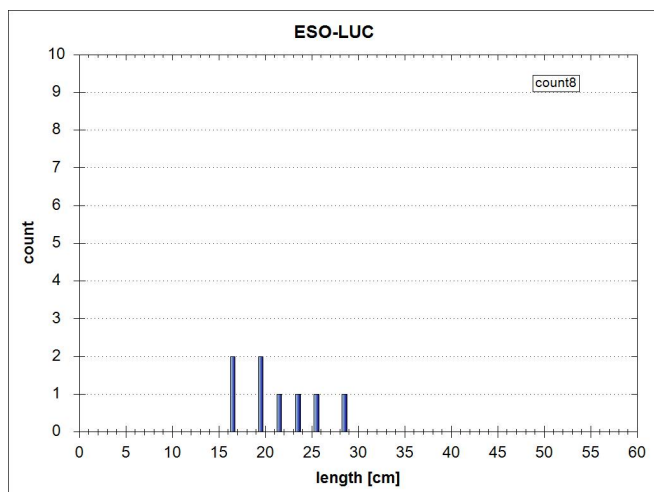
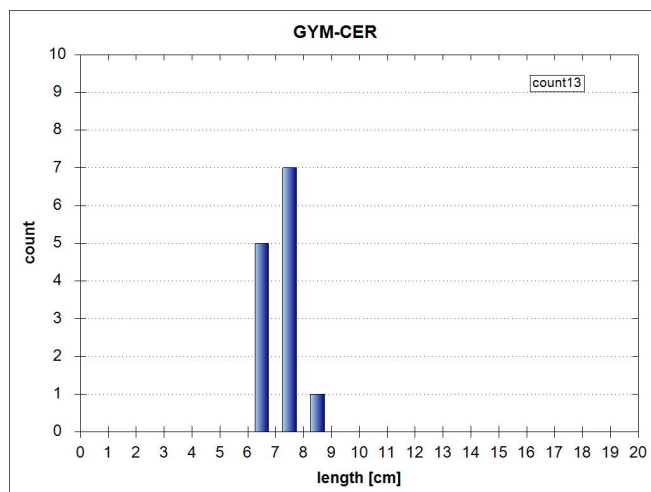
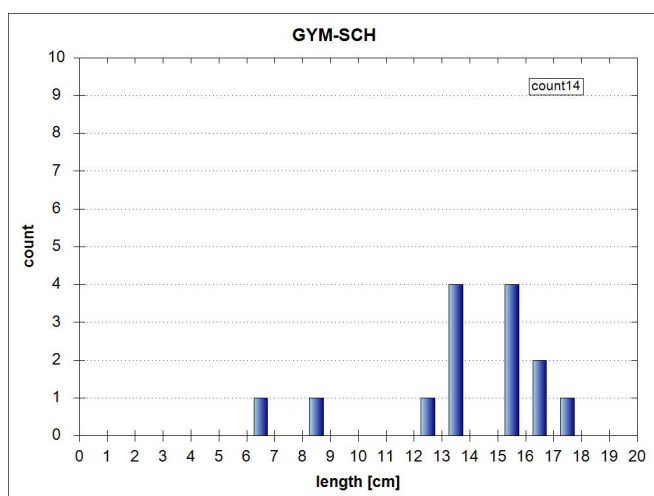
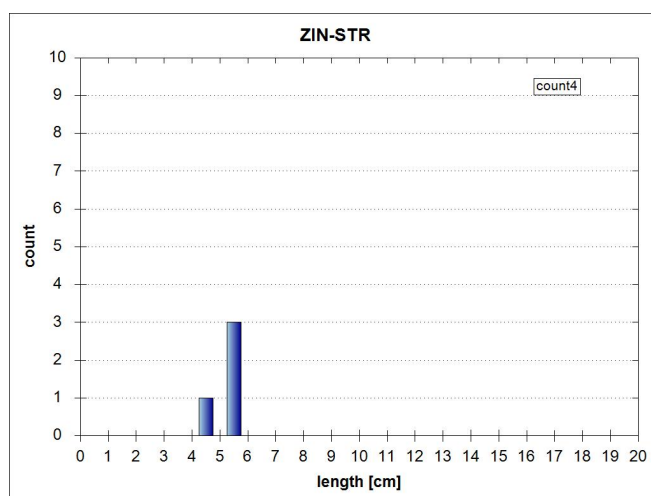
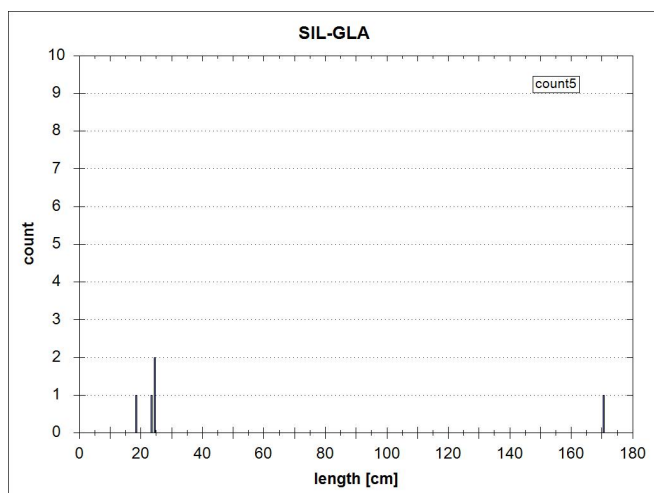
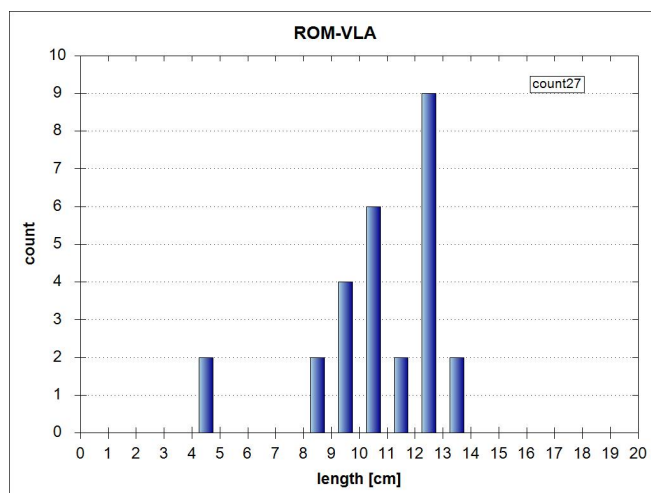


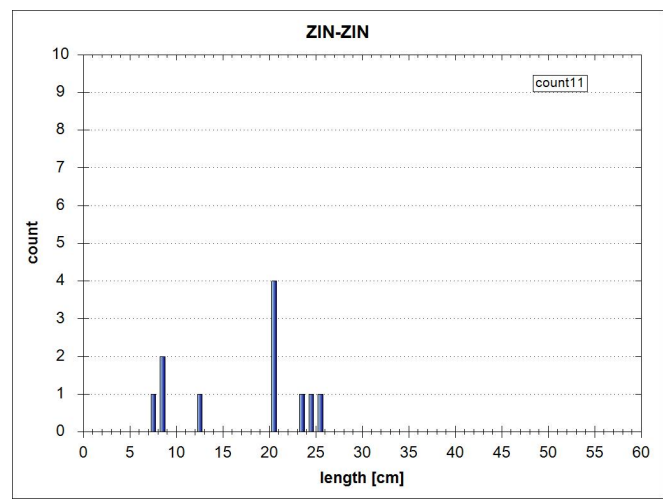
Nase (*Chondrostoma nasus*), 3

Perch (*Perca fluviatilis*), 1Pikeperch (*Sander lucioperca*), 3Roach (*Rutilus rutilus*), 2White bream (*Blicca bjoerkna*), 2

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

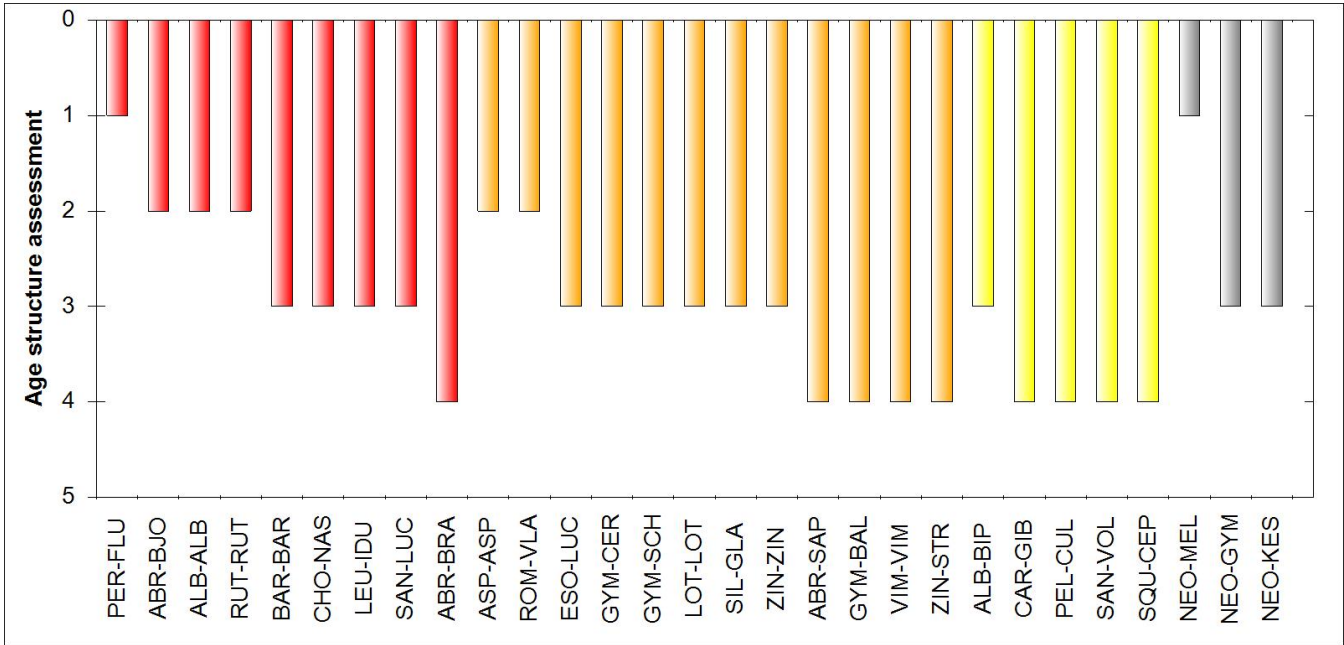
Asp (*Aspius aspius*), 2Burbot (*Lota lota*), 3

Pike (*Esox lucius*), 3Ruffe (*Gymnocephalus cernuus*), 3Schraetser (*Gymnocephalus schraetser*), 3Streber (*Zingel streber*), 4Wels catfish (*Silurus glanis*), 3White-finned gudgeon (*Romanogobio vladykovi*), 2



Zingel (*Zingel zingel*), 3

Pic. 6: Length-frequency diagram of subdominant species (n>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, Medvedov, HU_JDS18, 8/25/2013

Rating					
Stock data	Abundance Ind/ha	Biomass kg/ha			ko-criterion biomass
	1,160.5	108.1			OK
1. Species	Reference fish assemblage	actual (current)	Ratio/Deviation	Partial rating	
Species					
Dominant species	9	9	100%	1.0	
Subdominant species	21	12	57%	2.0	
Rare species	25	5	20%	2.0	
				1.7	
Ecological guilds					
Flow	5	4	1	2.0	
Reproduction	7	4	3	4.0	
				3.0	
Species diversity & guilds overall					1.8
2. Dominance	Reference fish assemblage	actual (current)	Difference		
Fish region index	6.4	6.4	0.0		1.0
3. Population structure	Reference fish assemblage	actual (current)		Partial rating (1-5)	
Dominant species	9	9		2.6	
Subdominant species	21	12		4.0	
					3.0
Fishindex Austria without active ko-criterion					2.27
Biological quality element fish		FIA 2.27	Class 2	Good	

Date of Assessment:3/6/2014

Comment BAW-IGF

- no comment -

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

Recommended improvements with priority ranking if possible;