

Danube**Belegish, RS_JDS50 (RS_JDS50), 03.September 2013**

FDA_ID 230



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



Pic. 2: Monitoring site Belegish, RS_JDS50

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, 03.September 2013

Biological quality element fish	FIA 4.00	Class 4	Poor
---------------------------------	----------	---------	------

Former classifications

None				
None				
None				

Information about and sampling conditions and location

Table 1: Key data and information on sampling, monitoring siteBelegish, RS_JDS50

Watercourse name	Danube	Federal state	not availabvle
Monitoring site	Belegish, RS_JDS50	District	
Monitoring site number	RS_JDS50	Community	
Turnus number		Longitude (WGS 84, decimal) O	20.35033
sampling number		Latitude (WGS 84, decimal) N	45.01109
Survey-ID (FDA)	230	Route-ID	
Date	9/3/2013	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	Pannonian Plain Danube (1497-1075) (6)	Huet-zonation	bream zone
Biocenotic Region	Metapotamon	Adapt. Reference	113
River km mean	1,202.0	Altitude [m.a.s]	73
		Ø catchment basin [km²]	410,000
Section length [m]	2,000	Catchment-class	more than 10.000km²
Ø channel width [m]	620	Slope [‰]	0.02
Original stream character	lowland stream -river	Discharge regime	
Actual site character			
Actual impact		Reference watergauge (name, number)	
Flow [semiquant.]		Distance from source [km]	1,644.0
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]	620	Flow condition	
pH-value		Visible depth	
SBV		Fishing conditions	
Water temperature [°C] (F117)		Average annual air temperature [°C]	12
Conductance, 25°C [µS/cm] (F118)			
Methods used and effort			
Strip-fishing, day		Number of runs	1
Fished length [m]	3,320	E-devices output [kW]	11
Fished area [m²]	9,780	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	4,155		

Comments on survey:

- no data -

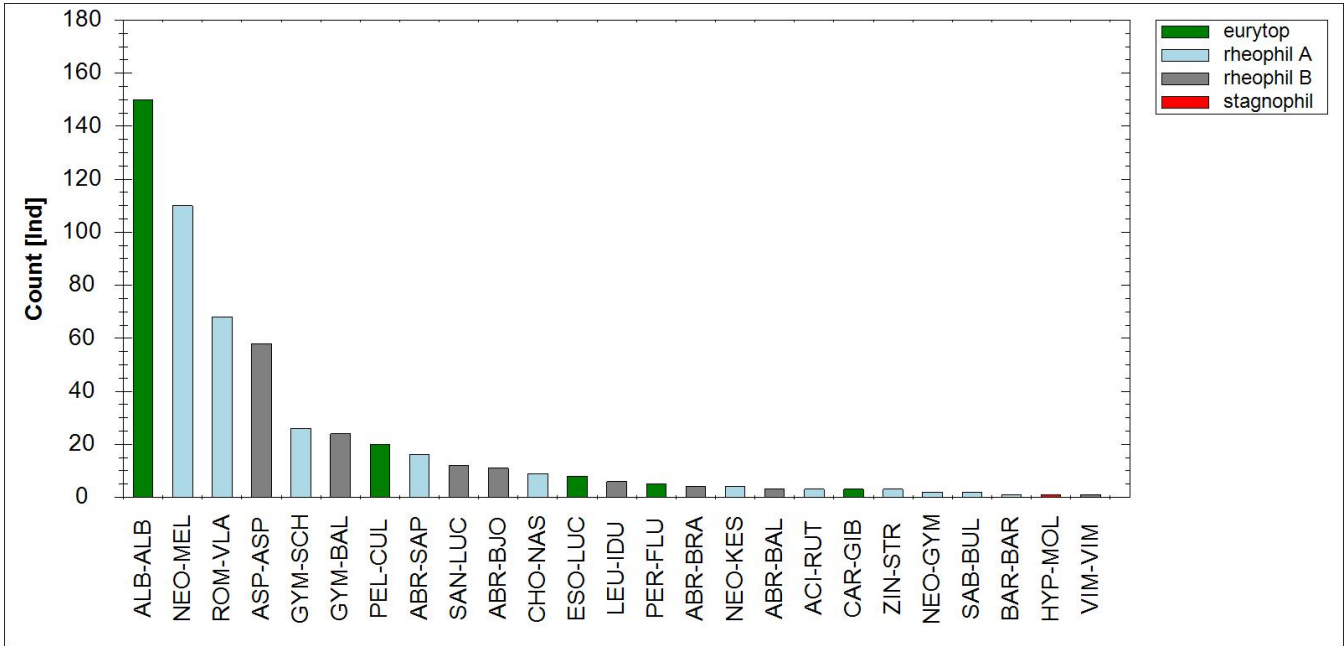
Table 2: Sampling effort at the monitoring site Belegish, RS_JDS50, September 2013

Habitat	Str. no	DG	Length [m]	Width [m]	UE	Method
rip-rap	1	1	120	1.5		E-fishing day boat
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	500	2		electric beam trawl
undet. middle of the river	24	1	500	2		electric beam trawl
undercut slope (outside curve)	1	1	350	3		E-fishing day boat
other natural bank	2	1	350	3		E-fishing day boat
other natural bank	3	1	350	3		E-fishing day boat
other natural bank	4	1	400	3		E-fishing day boat
other natural bank	5	1	350	3		E-fishing day boat
other natural bank	6	1	350	3		E-fishing day boat
other natural bank	7	1	350	3		E-fishing day boat
other natural bank	8	1	350	3		E-fishing day boat
other natural bank	9	1	350	3		E-fishing day boat
other natural bank	10	1	300	3		E-fishing night
other natural bank	11	1	300	3		E-fishing night
other natural bank	12	1	285	3		E-fishing night
other natural bank	13	1	250	3		E-fishing night
other natural bank	14	1	250	3		E-fishing night

Table 3: Habitat weighting used at the monitoring site Belegish, RS_JDS50

Habitat	%
other natural bank	90
rip-rap	5
undercut slope (outside curve)	5
undet. middle of the river	0

Catch result, fish assemblage and threatening status



Pic. 3: Species ranking diagramm of catch resultsDanube, Belegish, RS_JDS50

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	58
	Barbel	<i>Barbus barbus</i>	b	V	NT	LC	1
	Bleak	<i>Alburnus alburnus</i>	I	-	LC	LC	150
	Blue bream	<i>Abramis ballerus</i>	I	-	EN		3
	Bream	<i>Abramis brama</i>	b	-	LC		4
	Carp	<i>Cyprinus carpio</i>	b	-	EN	DD	
	Chub	<i>Squalius cephalus</i>	s	-	LC	LC	
	Danubian gudgeon	<i>Romanogobio uranoscopus</i>	s	II	CR	DD	
	Gudgeon	<i>Gobio gobio</i>	b	-	LC	LC	
	Ide	<i>Leuciscus idus</i>	b	-	EN	LC	6
	Kessler's gudgeon	<i>Romanogobio kesslerii</i>	b	II	EN	DD	
	Nase	<i>Chondrostoma nasus</i>	b	-	NT	LC	9
	Prussian carp	<i>Carassius gibelio</i>	I	-	LC		3
	Roach	<i>Rutilus rutilus</i>	I	-	LC	LC	
	Tench	<i>Tinca tinca</i>	s	-	VU	LC	
	Vimba bream	<i>Vimba vimba</i>	I	-	VU	LC	1
	White bream	<i>Blicca bjoerkna</i>	I	-	LC	LC	11
Esocidae	Pike	<i>Esox lucius</i>	b	-	NT		8
Gadidae	Burbot	<i>Lota lota</i>	b	-	VU		
Percidae	Danube ruffe	<i>Gymnocephalus baloni</i>	b	II; IV	VU	DD	24
	Perch	<i>Perca fluviatilis</i>	b	-	LC	LC	5
	Pikeperch	<i>Sander lucioperca</i>	b	-	NT	LC	12
	Ruffe	<i>Gymnocephalus cernuus</i>	b	-	LC	LC	
	Schraetser	<i>Gymnocephalus schraetser</i>	b	II; V	VU	VU	26
	Volga pikeperch	<i>Sander volgensis</i>	s	-	EN	DD	
	Zingel	<i>Zingel zingel</i>	s	II; V	VU	VU	
Siluridae	Wels catfish	<i>Silurus glanis</i>	b	-	VU	LC	
Gobiidae	Tubenose goby	<i>Proterorhinus semilunaris</i>	I	-	EN	LC	
Cobitidae	Spined loach	<i>Cobitis taenia</i>	b	II	VU	LC	
Balitoridae	Danube bream	<i>Abramis sapa</i>	b	-	EN		16
Acipenseridae	Danube sturgeon	<i>Acipenser gueldenstaedtii</i>	s	V	RE	EN	
	Fringebarbel sturgeon	<i>Acipenser nudiiventris</i>	s	V	RE	EN	
	Sterlet	<i>Acipenser ruthenus</i>	b	V	CR	VU	3
Cyprinidae	Sabre carp	<i>Pelecus cultratus</i>		II; V	NT	DD	20
	Silver carp	<i>Hypophthalmichthys molitrix</i>		-			1
	White-finned gudgeon	<i>Romanogobio vladykovi</i>		II	LC	DD	68
Percidae	Streber	<i>Zingel streber</i>		II	EN	VU	3
Gobiidae	Bighead goby	<i>Neogobius kessleri</i>		-	NE	DD	4
	Racer goby	<i>Neogobius gymnotrachelus</i>		-	NE	DD	2
	Round goby	<i>Neogobius melanostomus</i>		-	NE	DD	110
Cobitidae	Bulgarian golden loach	<i>Sabanejewia bulgarica</i>					2

Observed:: reference fish assemblage 17Taxa :: 34Taxa

Taxa complete 25

Count species of reference fish assemblage 340

Total count 550

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

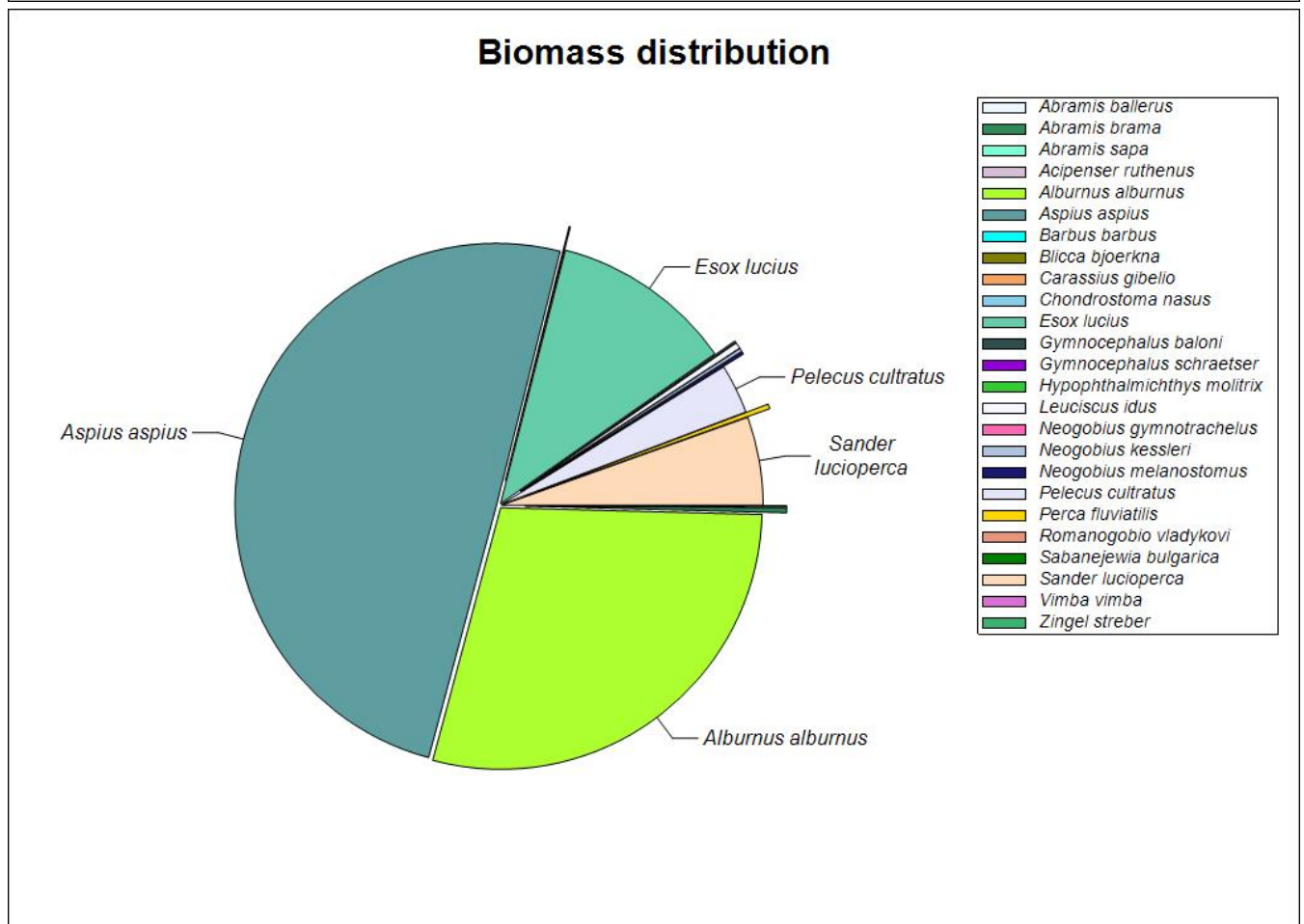
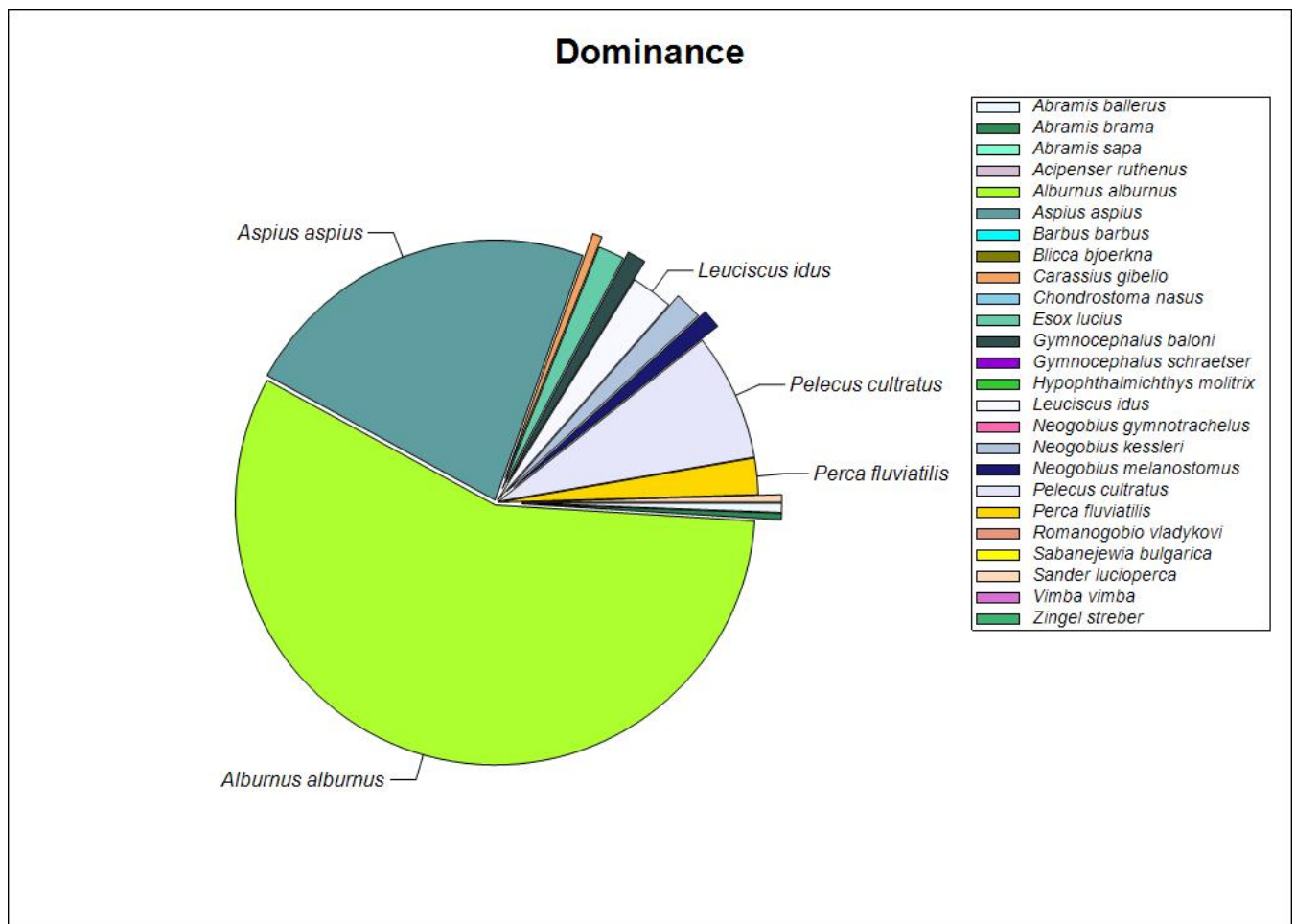
FFH...Fauna-Flora-Habitat-Directive (Council Directive 92/43/EEC of 21.Mai 1992)

- 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, Belegish, RS_JDS50, 9/3/2013

English name	Species Code	Count	Abu [Ind/ha]	95% Konfid.	Biom [kg/ha]	95% Konfid.	Weight [g] median	Mean Weight [g] total	Population structure	Reference fish assemblage
Asp	ASP-ASP	58	179.7		17.2		16.9	95.7	1	b
Barbel	BAR-BAR	1	0.0		0.0	0.0	2.9	0.0	4	b
Bighead goby	NEO-KES	4	13.9		0.1		6.9	5.3	4	
Bleak	ALB-ALB	150	454.7		10.0		12.8	21.9	1	I
Blue bream	ABR-BAL	3	4.6		0.0		7.4	6.9	4	I
Bream	ABR-BRA	4	3.2		0.1		21.4	35.0	3	b
Bulgarian golden loach	SAB-BUL	2	0.0		0.0	0.0	6.8	0.0	4	
Danube bream	ABR-SAP	16	0.0		0.0	0.0	14.8	0.0	3	b
Danube ruffe	GYM-BAL	24	9.3		0.0		6.0	4.5	2	b
Ide	LEU-IDU	6	20.7		0.1		8.4	6.2	3	b
Nase	CHO-NAS	9	0.0		0.0	0.0	28.4	0.0	3	b
Perch	PER-FLU	5	18.1		0.1		7.3	5.7	4	b
Pike	ESO-LUC	8	13.0		3.9		33.8	300.7	3	b
Pikeperch	SAN-LUC	12	3.7		1.9		18.7	511.3	3	b
Prussian carp	CAR-GIB	3	4.6		0.0		16.7	5.6	4	I
Racer goby	NEO-GYM	2	0.0		0.0	0.0	4.6	0.0	4	
Round goby	NEO-MEL	110	9.3		0.1		6.0	6.5	2	
Sabre carp	PEL-CUL	20	63.2		1.1		15.1	16.8	3	
Schraetser	GYM-SCH	26	0.0		0.0	0.0	12.1	0.0	1	b
Silver carp	HYP-MOL	1	0.0		0.0	0.0	39.0	0.0	4	
Sterlet	ACI-RUT	3	0.0		0.0	0.0	22.8	0.0	4	b
Streber	ZIN-STR	3	0.0		0.0	0.0	9.8	0.0	4	
Vimba bream	VIM-VIM	1	0.0		0.0	0.0	26.0	0.0	4	I
White bream	ABR-BJO	11	0.0		0.0	0.0	19.3	0.0	3	I
White-finned gudgeon	ROM-VLA	68	0.0		0.0	0.0	7.2	0.0	2	
17 species of 34	Total	550	798.0		34.6					



Pic. 4: Dominance und Biomass distribution

Shannon-Index: 2.319

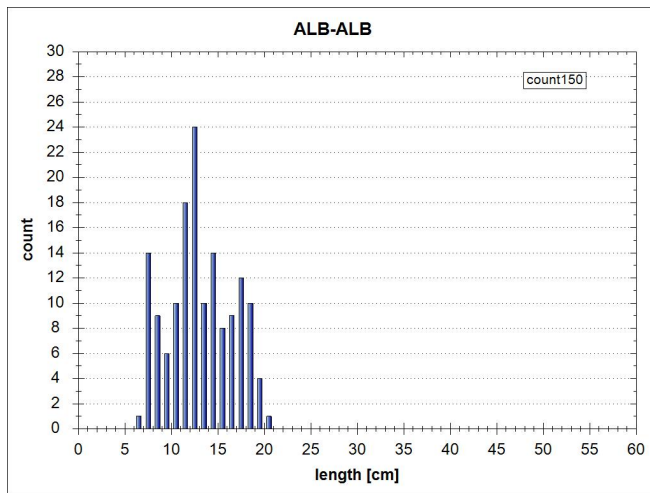
Equitability: 0.721

Biometrics and catch rate

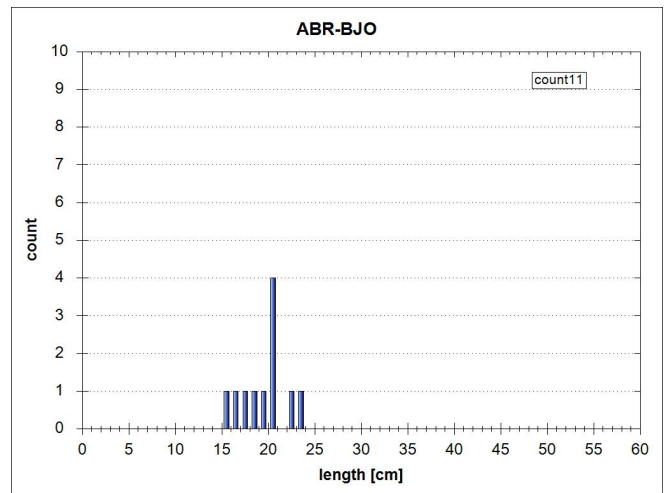
Table 6: biometrics of each species and catch specific parameters

Fish species	Lt [cm]			n	Statist. Method	Catch- Probability [%]	Catch-effectivity		
	Min		Max				Min	MW	Max
Asp	4.5	16.9	70.0	58			0.10	0.49	0.70
Barbel	2.9	2.9	2.9	1			0.70	0.70	0.70
Bighead goby	6.0	6.9	8.0	4			0.60	0.63	0.70
Bleak	6.5	12.8	20.0	150			0.10	0.31	0.60
Blue bream	5.5	7.4	9.5	3			0.60	0.67	0.70
Bream	14.0	21.4	29.0	4			0.20	0.38	0.70
Bulgarian golden loach	5.7	6.8	8.0	2			0.70	0.70	0.70
Danube bream	5.5	14.8	24.0	16			0.10	0.30	0.70
Danube ruffe	5.0	6.0	7.1	24			0.60	0.69	0.70
Ide	7.0	8.4	12.0	6			0.40	0.53	0.60
Nase	25.0	28.4	31.0	9			0.20	0.20	0.20
Perch	5.5	7.3	8.0	5			0.50	0.56	0.60
Pike	19.0	33.8	47.0	8			0.25	0.37	0.50
Pikeperch	10.5	18.7	52.0	12			0.25	0.50	0.70
Prussian carp	6.5	16.7	23.0	3			0.20	0.35	0.60
Racer goby	4.5	4.6	4.6	2			0.70	0.70	0.70
Round goby	2.1	6.0	9.0	110			0.60	0.70	0.70
Sabre carp	13.0	15.1	17.5	20			0.20	0.26	0.30
Schraetser	9.0	12.1	20.5	26			0.10	0.31	0.70
Silver carp	39.0	39.0	39.0	1			0.30	0.30	0.30
Sterlet	19.3	22.8	27.0	3			0.70	0.70	0.70
Streber	8.6	9.8	11.9	3			0.70	0.70	0.70
Vimba bream	26.0	26.0	26.0	1			0.20	0.20	0.20
White bream	15.0	19.3	23.5	11			0.10	0.22	0.30
White-finned gudgeon	2.2	7.2	12.0	68			0.10	0.52	0.70
25 species			Sum	550					

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

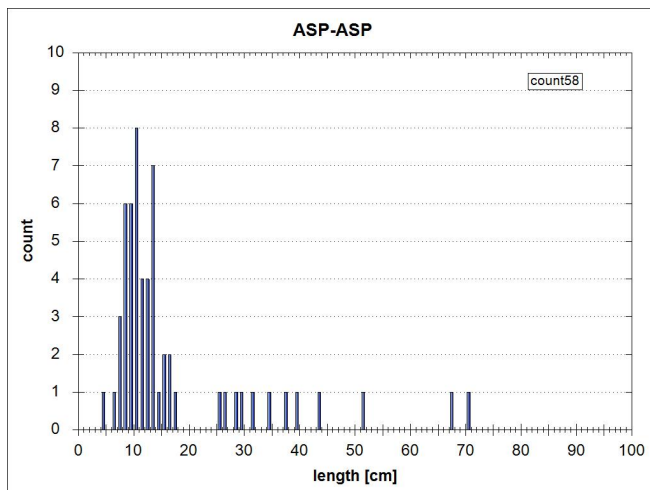


Bleak (*Alburnus alburnus*), 1

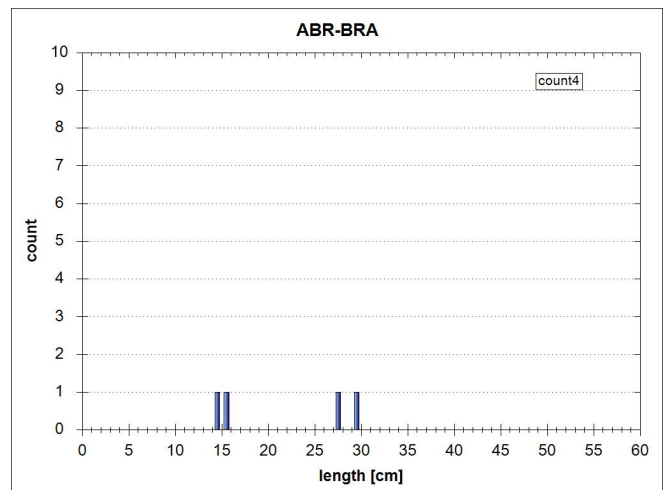


White bream (*Blicca bjoerkna*), 3

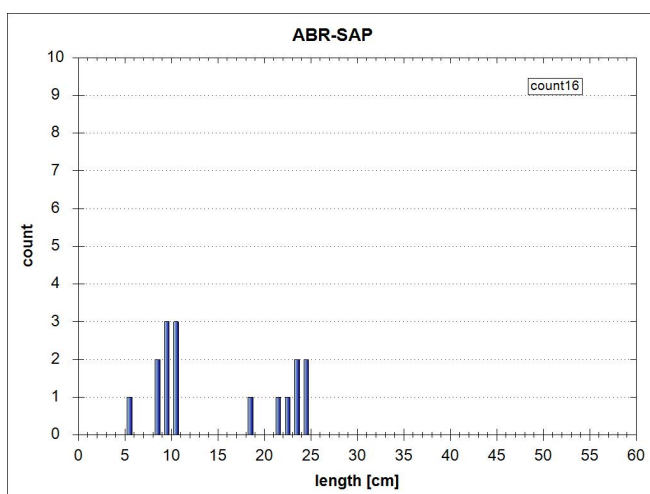
Pic. 5: Length-frequency diagram of dominant species (n>3), Sep. 2013



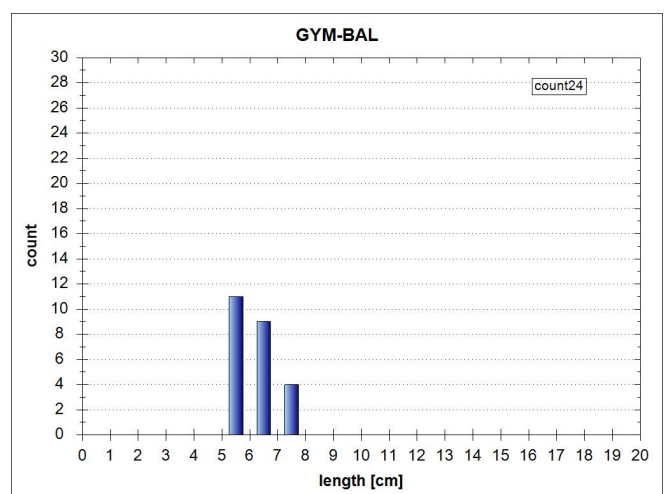
Asp (*Aspius aspius*), 1



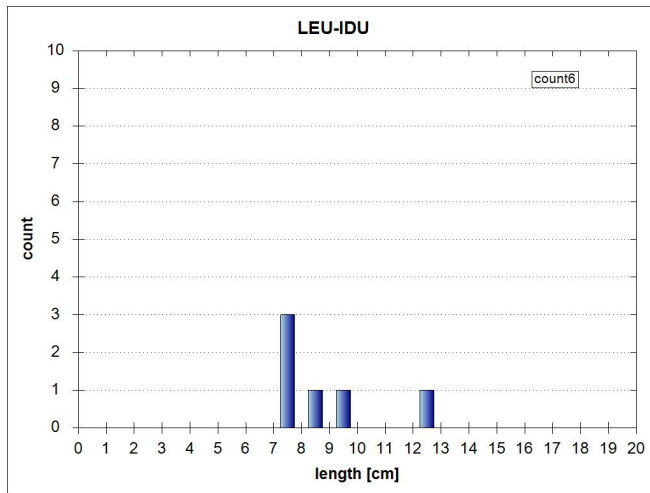
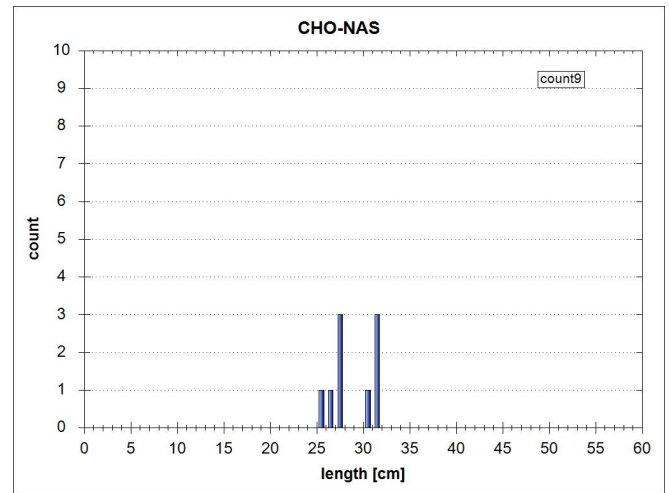
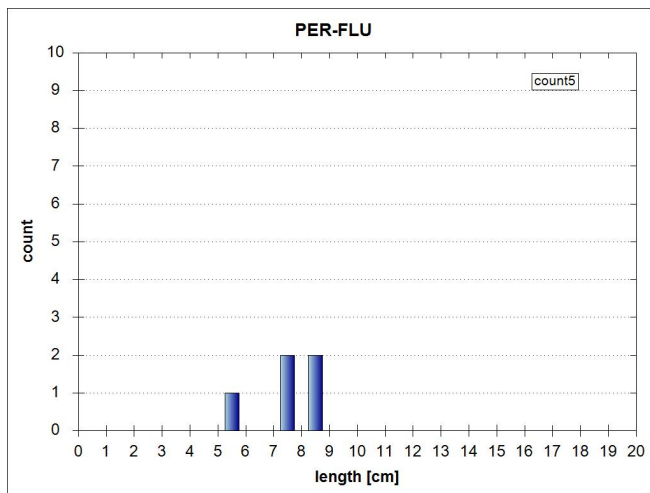
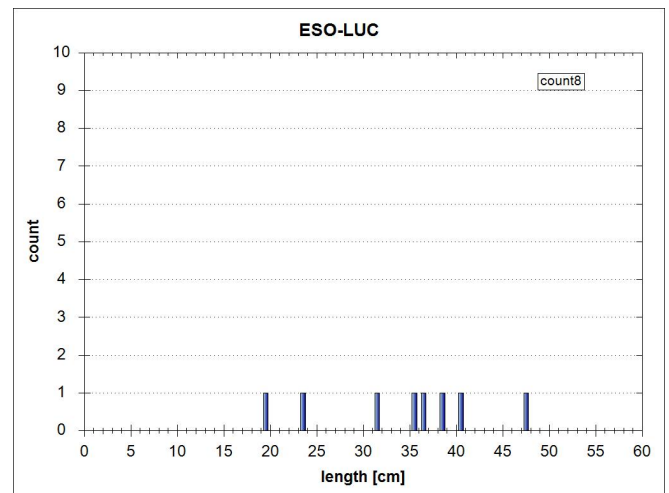
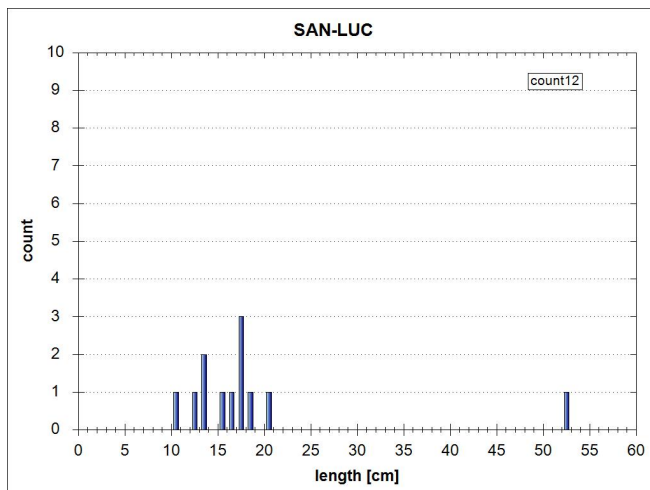
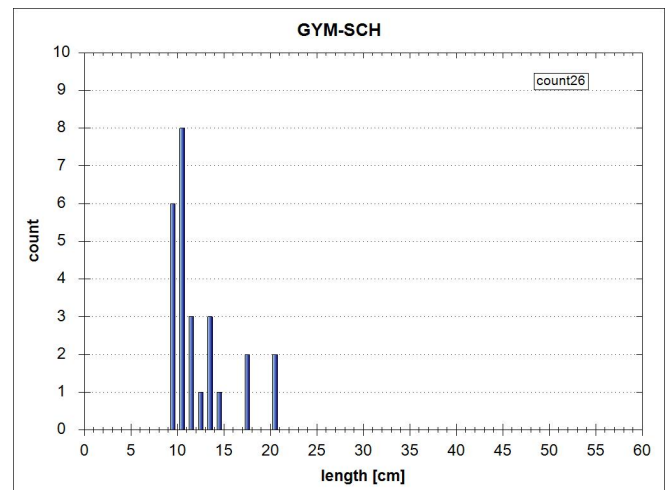
Bream (*Abramis brama*), 3



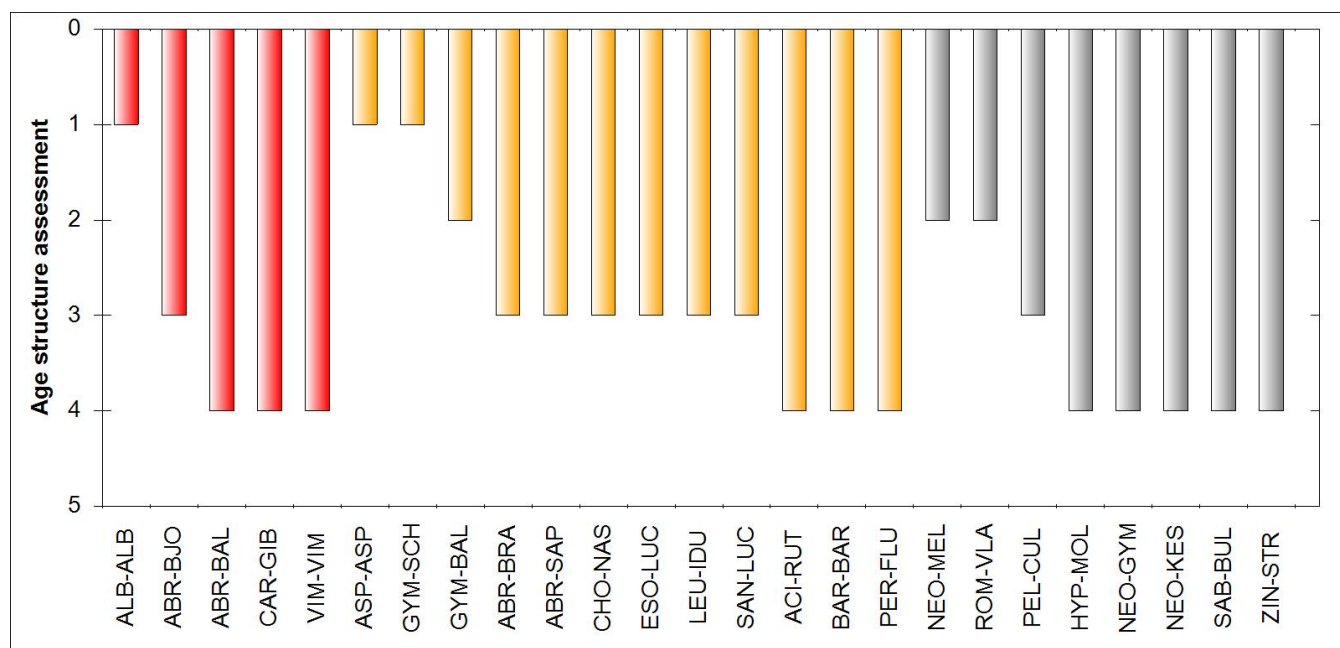
Danube bream (*Abramis sapa*), 3



Danube ruffe (*Gymnocephalus baloni*), 2

Ide (*Leuciscus idus*), 3Nase (*Chondrostoma nasus*), 3Perch (*Perca fluviatilis*), 4Pike (*Esox lucius*), 3Pikeperch (*Sander lucioperca*), 3Schraetser (*Gymnocephalus schraetser*), 1

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, Belegish, RS_JDS50, 9/3/2013

Rating					
Stock data	Abundance Ind/ha	Biomass kg/ha			ko-criterion biomass
	711.5	33.4		ko-crit	4
1. Species	Reference fish assemblage	actual (current)	Ratio/Deviation	Partial rating	
Species					
Dominant species	7	5	71%	3.0	
Subdominant species	19	12	63%	2.0	
Rare species	8	0	0%	5.0	
				3.3	
Ecological guilds					
Flow	5	3	2	3.0	
Reproduction	6	4	2	3.0	
				3.0	
Species diversity & guilds overall					3.0
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	7	5		3.7	
Subdominant species	19	12		3.6	
					3.7
Fishindex Austria without active ko-criterion					3.01
Biological quality element fish		FIA 4.00	Class 4	Poor	

Date of Assessment:3/3/2014

Comment BAW-IGF

- no comment -

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

Recommended improvements with priority ranking if possible;