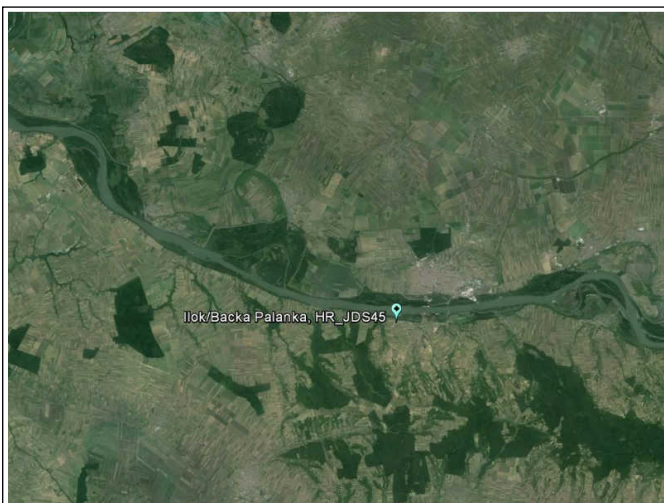
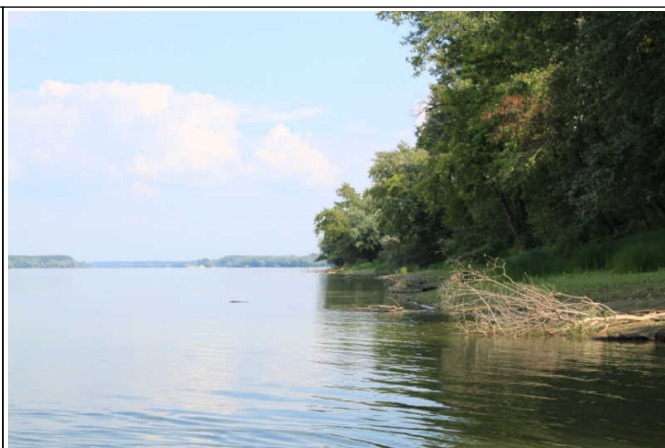


**Danube****Ilok, Backa Palanka, HR\_JDS45 (HR\_JDS45 ), 31.August 2013****FDA\_ID 232**

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



Pic. 2: Monitoring site Ilok, Backa Palanka, HR\_JDS45

**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, 31.August 2013**

Biological quality element fish	FIA 2.80	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 sitellok, Backa Palanka, HR\_JDS45

Watercourse name	<b>Danube</b>	Federal state	<b>not availabvle</b>
Monitoring site	<b>Ilok, Backa Palanka, HR_JDS45</b>	District	
Monitoring site number	<b>HR_JDS45</b>	Community	
Turnus number		Longitude (WGS 84, decimal) O	<b>19.35657</b>
sampling number		Latitude (WGS 84, decimal) N	<b>45.23059</b>
Survey-ID (FDA)	<b>232</b>	Route-ID	
Date	<b>8/31/2013</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>Pannonian Plain Danube (1497-1075) (6)</b>	Huet-zonation	<b>bream zone</b>
Biocenotic Region	<b>Metapotamon</b>	Adapt. Reference	<b>113</b>
River km from	<b>1,303.0</b>	Altitude [m.a.s]	<b>75</b>
River km to	<b>1,300.0</b>	Ø catchment basin [km²]	<b>253,000</b>
Section length [m]	<b>3,000</b>	Catchment-class	<b>more than 10.000km²</b>
Ø channel width [m]	<b>430</b>	Slope [‰]	<b>0.03</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>1,543.0</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>430</b>	Flow condition	
pH-value		Visible depth	
SBV		Fishing conditions	
Water temperature [°C] (F117)	<b>21.9</b>	Average annual air temperature [°C]	<b>11.2</b>
Conductance, 25°C [µS/cm] (F118)	<b>356</b>		
Methods used and effort			
<b>Strip-fishing, day</b>		Number of runs	<b>1</b>
Fished length [m]	<b>2,770</b>	E-devices output [kW]	<b>11</b>
Fished area [m²]	<b>8,115</b>	Output voltage	<b>600</b>
		Number of anodes	
		Number of strips/sections	<b>10</b>
and additional methods	<b>Fished area [m²]</b>	additional methods	<b>Effort [UE]</b>
E-Fishing by night	<b>4,650</b>		

### Comments on survey:

Nur re. Ufer

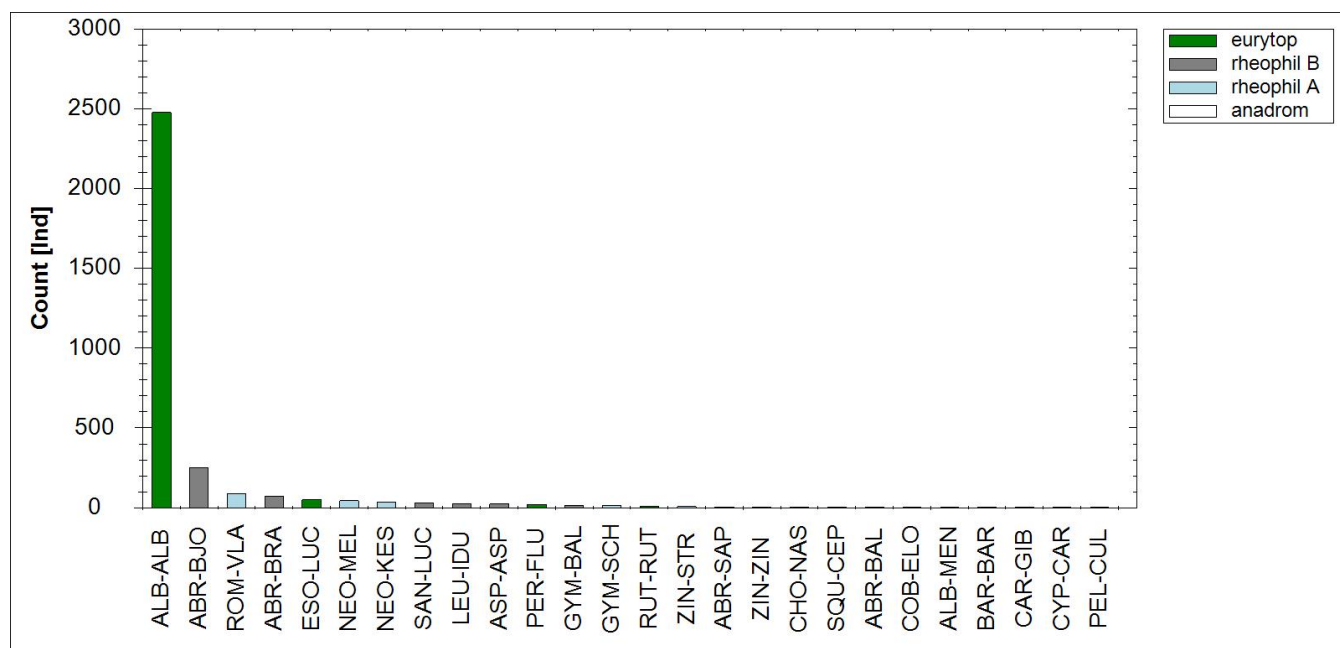
Table 2: Sampling effort at the monitoring site Ilok, Backa Palanka, HR\_JDS45, August 2013

Habitat	Str. no	DG	Length [m]	Width [m]	UE	Method
rip-rap	1	1	130	1.5		E-fishing day boat
rip-rap	11	1	120	1.5		E-fishing night
undet. middle of the river	16	1	500	3		electric beam trawl
undet. middle of the river	17	1	500	3		electric beam trawl
undet. middle of the river	18	1	500	3		electric beam trawl
undet. middle of the river	19	1	500	3		electric beam trawl
undet. middle of the river	20	1	500	3		electric beam trawl
undet. middle of the river	21	1	500	3		electric beam trawl
undet. middle of the river	22	1	500	3		electric beam trawl
undet. middle of the river	23	1	500	3		electric beam trawl
undet. middle of the river	24	1	500	3		electric beam trawl
other natural bank	2	1	300	3		E-fishing day boat
other natural bank	3	1	300	3		E-fishing day boat
other natural bank	4	1	300	3		E-fishing day boat
other natural bank	5	1	300	3		E-fishing day boat
other natural bank	6	1	300	3		E-fishing day boat
other natural bank	7	1	250	3		E-fishing day boat
other natural bank	8	1	280	3		E-fishing day boat
other natural bank	9	1	300	3		E-fishing day boat
other natural bank	10	1	310	3		E-fishing day boat
other natural bank	12	1	400	3		E-fishing night
other natural bank	13	1	330	3		E-fishing night
other natural bank	14	1	390	3		E-fishing night
other natural bank	15	1	370	3		E-fishing night

Table 3: Habitat weighting used at the monitoring site Ilok, Backa Palanka, HR\_JDS45

Habitat	%
other natural bank	90
rip-rap	10
undet. middle of the river	0

### Catch result, fish assemblage and threatening status



Pic. 3: Species ranking diagramm of catch resultsDanube, Ilok, Backa Palanka, HR\_JDS45

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	23
	Barbel	<i>Barbus barbus</i>	b	V	NT	LC	1
	Bleak	<i>Alburnus alburnus</i>	I	-	LC	LC	2,478
	Blue bream	<i>Abramis ballerus</i>	I	-	EN		2
	Bream	<i>Abramis brama</i>	b	-	LC		74
	Carp	<i>Cyprinus carpio</i>	b	-	EN	DD	1
	Chub	<i>Squalius cephalus</i>	s	-	LC	LC	3
	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	25
	Kessler's gudgeon	<i>Romanogobio kessleri</i>	b	II	EN	DD	
	Nase	<i>Chondrostoma nasus</i>	b	-	NT	LC	3
	Prussian carp	<i>Carassius gibelio</i>	I	-	LC		1
	Roach	<i>Rutilus rutilus</i>	I	-	LC	LC	7
	Tench	<i>Tinca tinca</i>	s	-	VU	LC	
	Vimba bream	<i>Vimba vimba</i>	I	-	VU	LC	
	White bream	<i>Blicca bjoerkna</i>	I	-	LC	LC	252
Esocidae	Pike	<i>Esox lucius</i>	b	-	NT		50
Gadidae	Burbot	<i>Lota lota</i>	b	-	VU		
Percidae	Danube ruffe	<i>Gymnocephalus baloni</i>	b	II; IV	VU	DD	13
	Perch	<i>Perca fluviatilis</i>	b	-	LC	LC	20
	Pikeperch	<i>Sander lucioperca</i>	b	-	NT	LC	30
	Ruffe	<i>Gymnocephalus cernuus</i>	b	-	LC	LC	
	Schraetser	<i>Gymnocephalus schraetser</i>	b	II; V	VU	VU	12
	Volga pikeperch	<i>Sander volgensis</i>	s	-	EN	DD	
	Zingel	<i>Zingel zingel</i>	s	II; V	VU	VU	5
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		5
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	
Cyprinidae	Danube bleak	<i>Alburnus mento</i>		II	LC	DD	1
	Sabre carp	<i>Pelecus cultratus</i>		II; V	NT	DD	1
	White-finned gudgeon	<i>Romanogobio vladykovi</i>		II	LC	DD	87
Percidae	Streber	<i>Zingel streber</i>		II	EN	VU	6
Gobiidae	Bighead goby	<i>Neogobius kessleri</i>		-	NE	DD	34
	Round goby	<i>Neogobius melanostomus</i>		-	NE	DD	43
Cobitidae	Danubian spined loach	<i>Cobitis elongatoides</i>		-			2

Observed:: reference fish assemblage 19Taxa :: 34Taxa

Taxa complete 26

Count species of reference fish assemblage 3,005

Total count 3,179

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

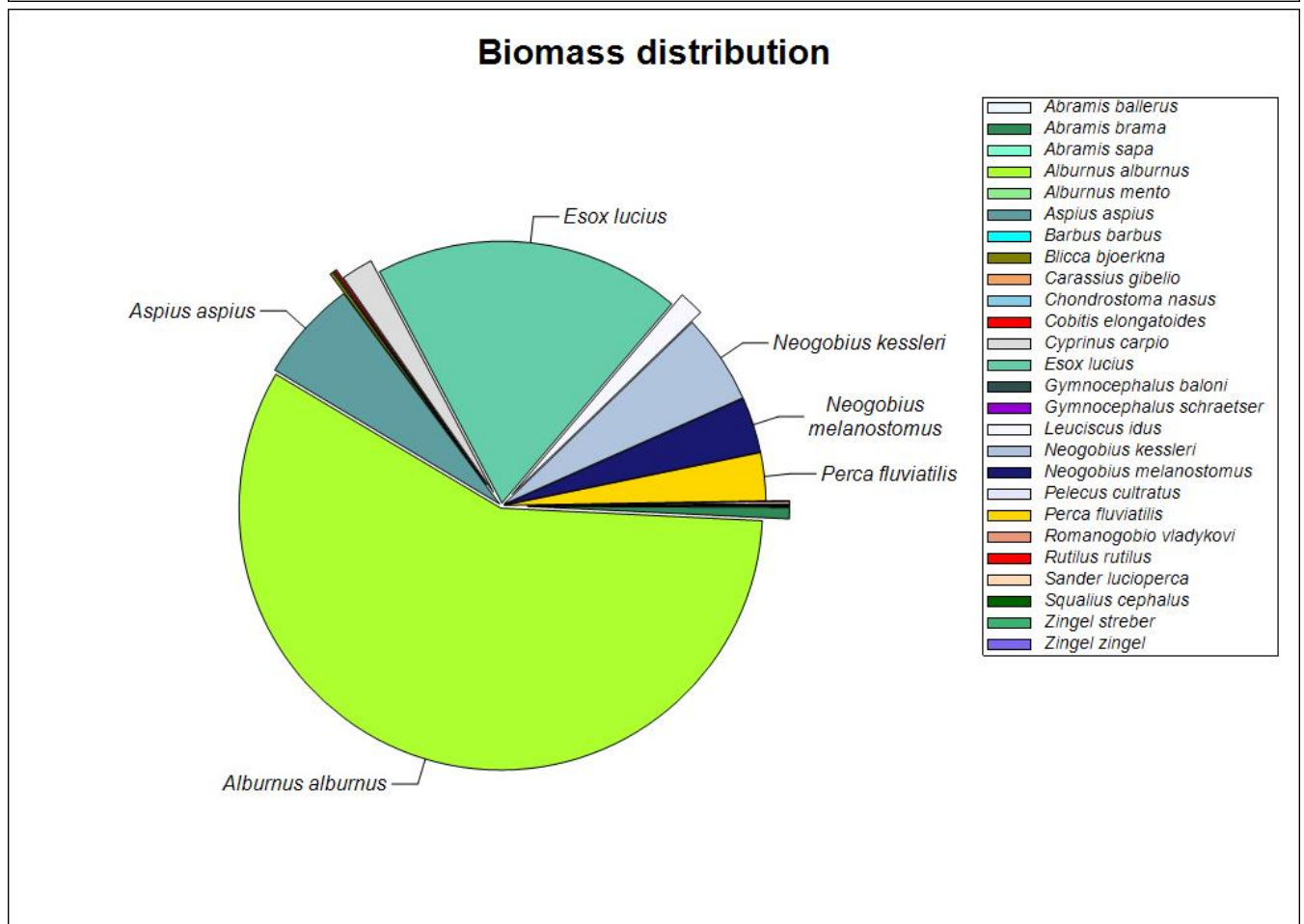
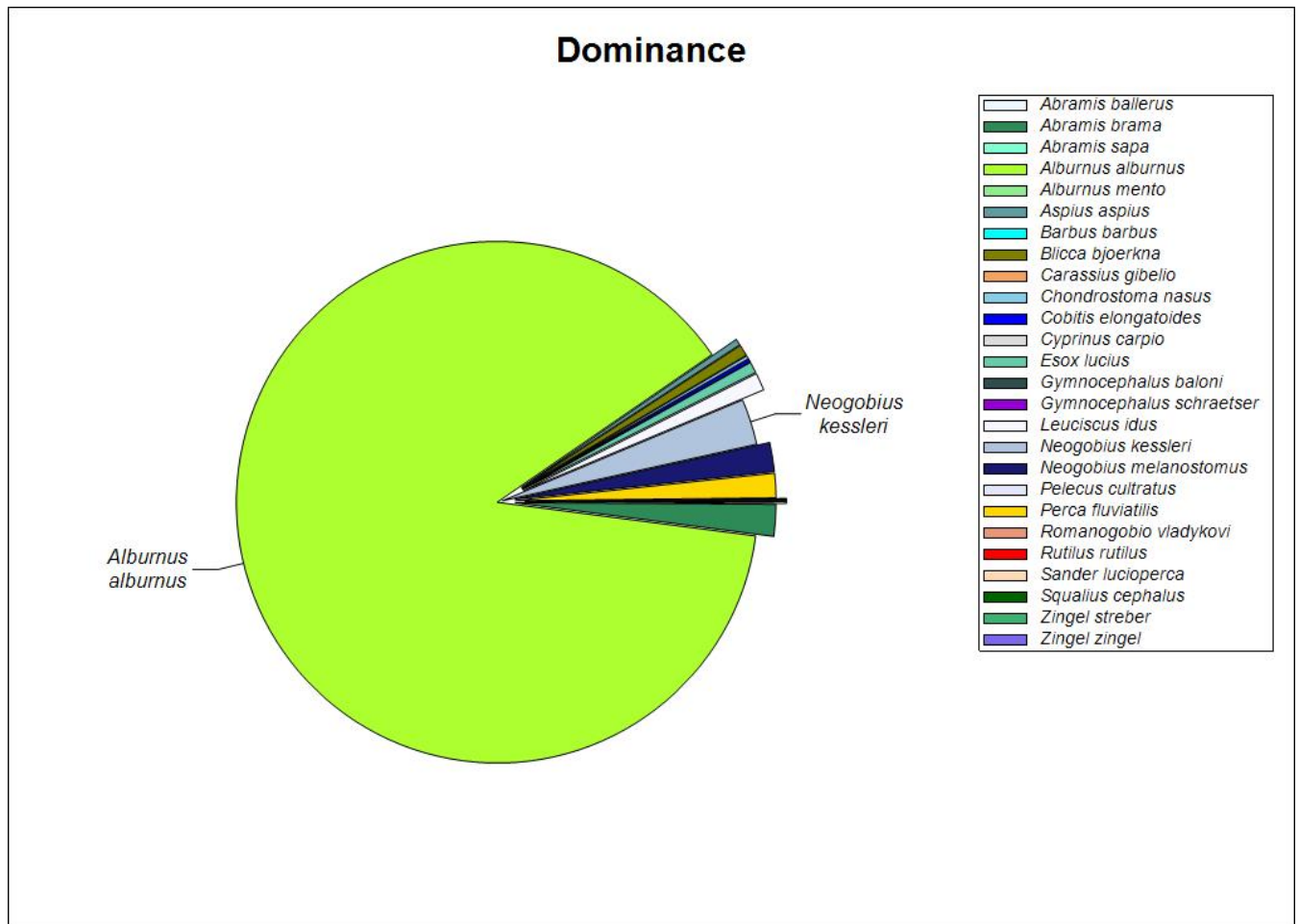
Table 5: abundance and biomass (e-fishings)Danube, Ilok, Backa Palanka, HR\_JDS45,  
8/31/2013

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	23	100.8		7.2		18.7	71.2	2	b
Barbel	BAR-BAR	1	0.0		0.0	0.0	15.9	0.0	4	b
Bighead goby	NEO-KES	34	729.3		6.3		8.4	8.7	2	
Bleak	ALB-ALB	2,478	22,688.4		65.8		6.7	2.9	1	l
Blue bream	ABR-BAL	2	25.6		0.1		7.1	2.7	4	l
Bream	ABR-BRA	74	504.2		0.8		6.0	1.6	1	b
Carp	CYP-CAR	1	1.1		2.2		50.0	1,974.2	4	b
Chub	SQU-CEP	3	25.6		0.0		19.0	0.2	4	s
Danube bleak	ALB-MEN	1	0.0		0.0	0.0	18.6	0.0	4	
Danube bream	ABR-SAP	5	0.0		0.0	0.0	9.8	0.0	3	b
Danube ruffe	GYM-BAL	13	0.0		0.0	0.0	6.3	0.0	3	b
Danubian spined loach	COB-ELO	2	51.3		0.2		7.3	3.2	4	
Ide	LEU-IDU	25	279.0		1.8		10.7	6.3	3	b
Nase	CHO-NAS	3	51.3		0.1		13.8	2.0	4	b
Perch	PER-FLU	20	388.4		3.4		8.4	8.7	3	b
Pike	ESO-LUC	50	174.6		21.6		26.9	123.8	2	b
Pikeperch	SAN-LUC	30	11.4		0.2		18.2	16.4	3	b
Prussian carp	CAR-GIB	1	0.0		0.0	0.0	4.1	0.0	4	l
Roach	RUT-RUT	7	5.7		0.0		13.1	4.9	3	l
Round goby	NEO-MEL	43	461.5		3.9		7.5	8.5	2	
Sabre carp	PEL-CUL	1	0.0		0.0	0.0	27.0	0.0	4	
Schraetser	GYM-SCH	12	0.0		0.0	0.0	10.2	0.0	3	b
Streber	ZIN-STR	6	2.3		0.1		14.6	42.3	3	
White bream	ABR-BJO	252	179.5		0.2		14.6	1.3	1	l
White-finned gudgeon	ROM-VLA	87	0.0		0.0	0.0	7.8	0.0	1	
Zingel	ZIN-ZIN	5	0.0		0.0	0.0	16.6	0.0	3	s

19 species of 34

Total 3,179 25,680.0

113.9



Pic. 4: Dominance und Biomass distribution

Shannon-Index: 1.027

Equitability: 0.315

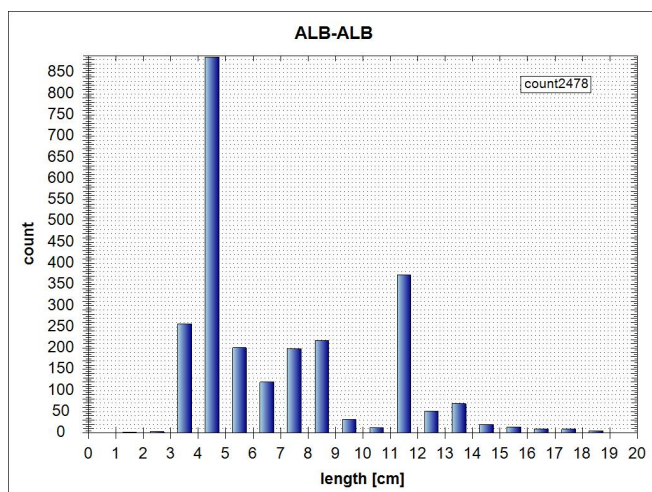
**Biometrics and catch rate**

Table 6: biometrics of each species and catch specific parameters

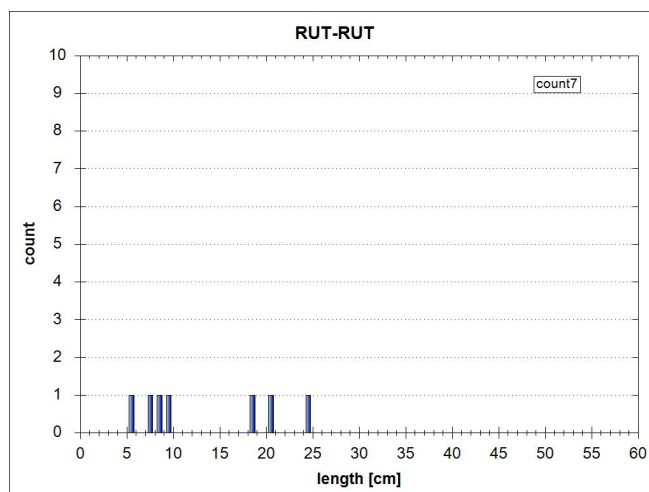
Fish species	Lt [cm]			n	Statist. Method	Catch- Probability [%]	Catch-effectivity		
	Min		Max				Min	MW	Max
Asp	9.5	18.7	37.0	23			0.20	0.27	0.50
Barbel	15.9	15.9	15.9	1			0.70	0.70	0.70
Bighead goby	6.0	8.4	15.0	34			0.20	0.22	0.40
Bleak	1.4	6.7	18.0	2,478			0.01	0.16	0.50
Blue bream	7.0	7.1	7.1	2			0.20	0.45	0.70
Bream	1.8	6.0	18.0	74			0.10	0.45	0.70
Carp	50.0	50.0	50.0	1			1.00	1.00	1.00
Chub	2.5	19.0	28.5	3			0.20	0.40	0.50
Danube bleak	18.6	18.6	18.6	1			0.70	0.70	0.70
Danube bream	6.3	9.8	16.7	5			0.40	0.52	0.70
Danube ruffe	5.4	6.3	7.0	13			0.30	0.58	0.70
Danubian spined loach	5.0	7.3	9.5	2			0.20	0.20	0.20
Ide	5.0	10.7	26.0	25			0.10	0.23	0.50
Nase	5.5	13.8	29.0	3			0.20	0.30	0.50
Perch	6.0	8.4	10.0	20			0.20	0.24	0.40
Pike	9.0	26.9	50.0	50			0.20	0.47	0.60
Pikeperch	9.9	18.2	52.5	30			0.20	0.41	0.70
Prussian carp	4.1	4.1	4.1	1			0.70	0.70	0.70
Roach	5.5	13.1	24.0	7			0.20	0.39	0.50
Round goby	2.2	7.5	12.0	43			0.20	0.43	0.70
Sabre carp	27.0	27.0	27.0	1			0.50	0.50	0.50
Schraetser	8.5	10.2	15.0	12			0.20	0.27	0.30
Streber	12.8	14.6	18.0	6			0.50	0.67	0.70
White bream	3.5	14.6	55.0	252			0.10	0.29	0.70
White-finned gudgeon	1.1	7.8	15.0	87			0.20	0.47	0.70
Zingel	8.1	16.6	24.2	5			0.70	0.70	0.70
26 species			Sum	3,179					



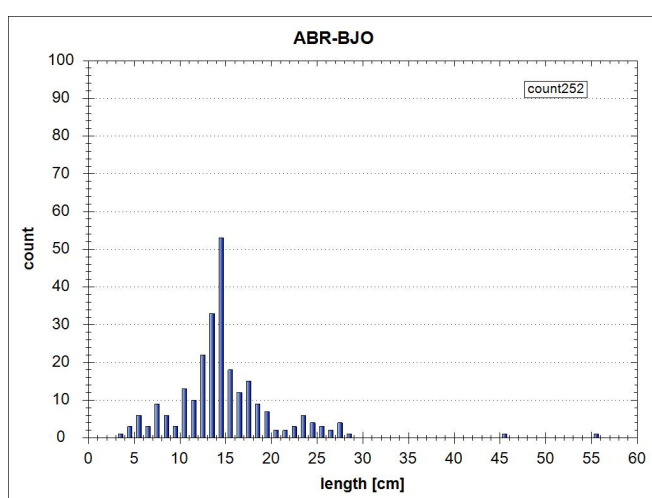
# Population structure of dominant species and subdominant species (total catch)



Bleak (*Alburnus alburnus*), 1

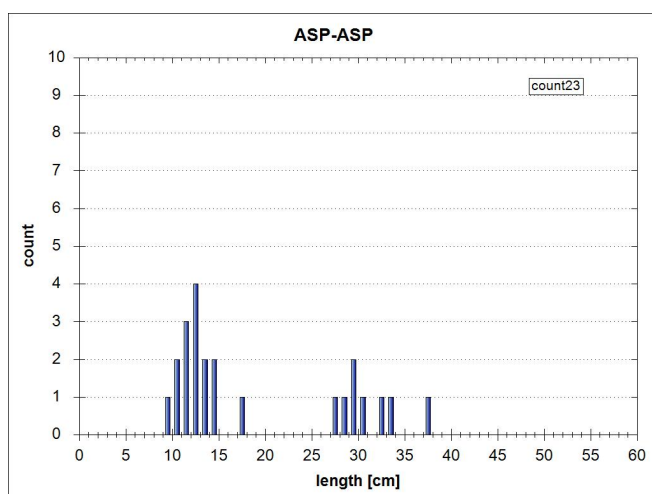


Roach (*Rutilus rutilus*), 3

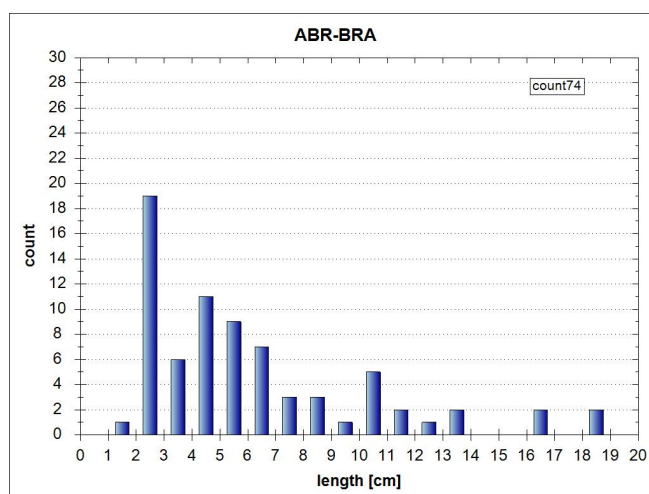


White bream (*Blicca bjoerkna*), 1

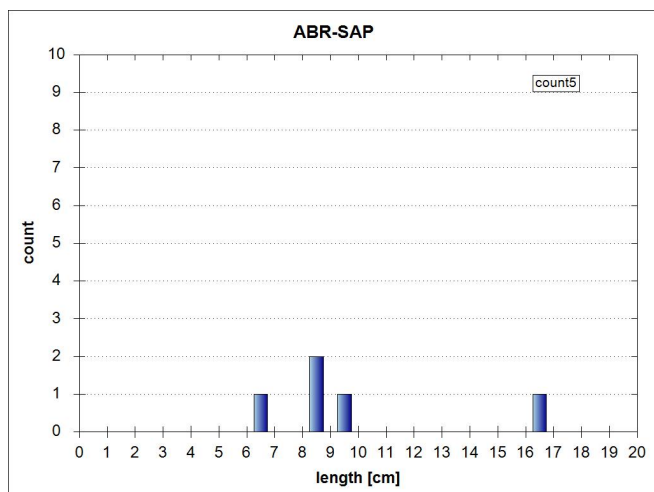
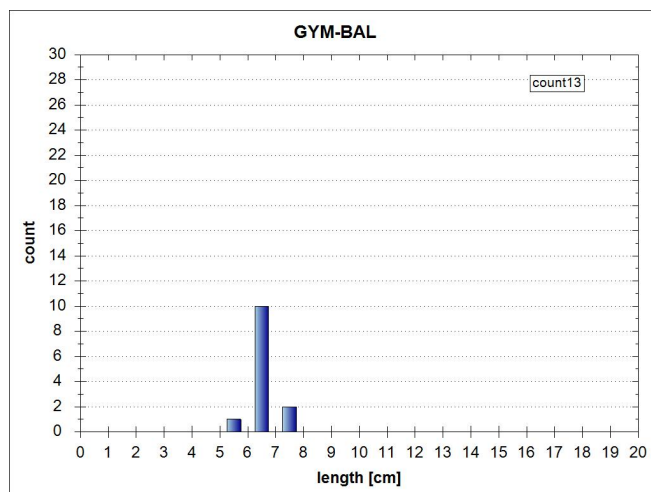
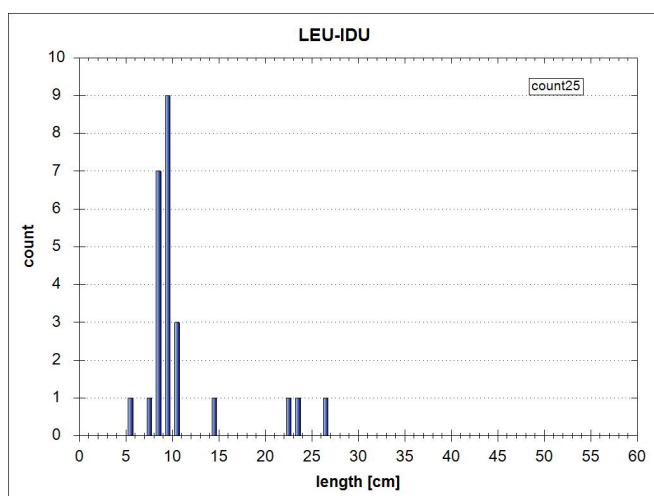
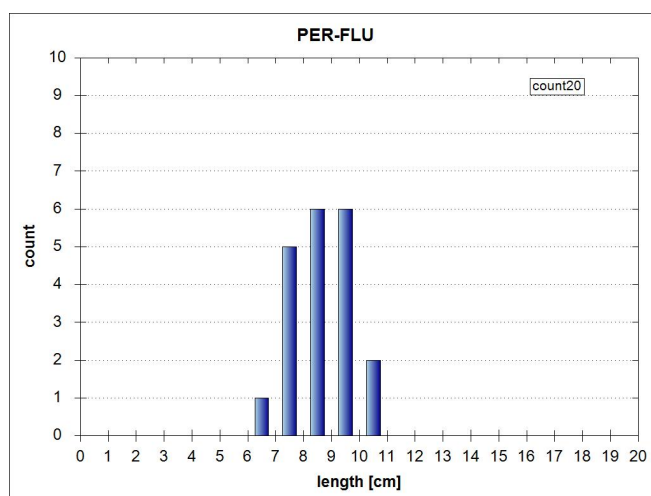
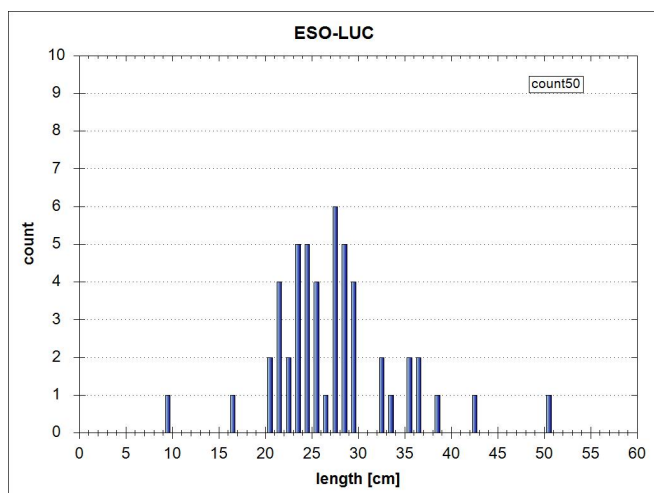
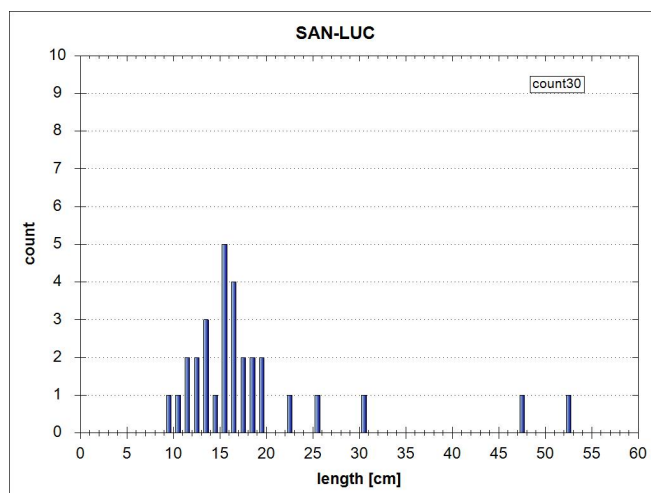
Pic. 5: Length-frequency diagram of dominant species (n>3), Aug. 2013

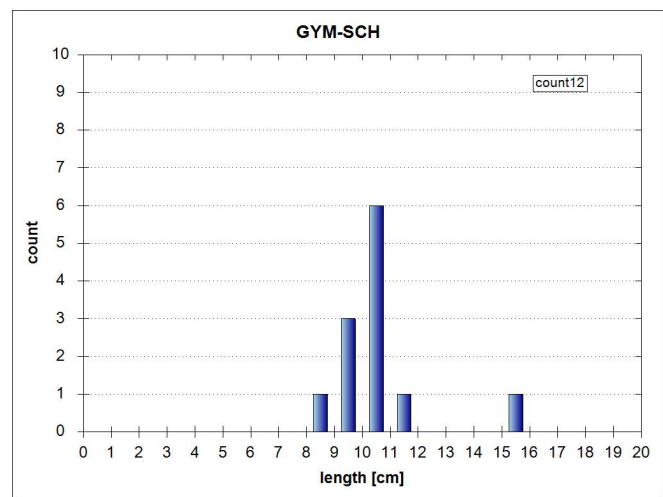


Asp (*Aspius aspius*), 2



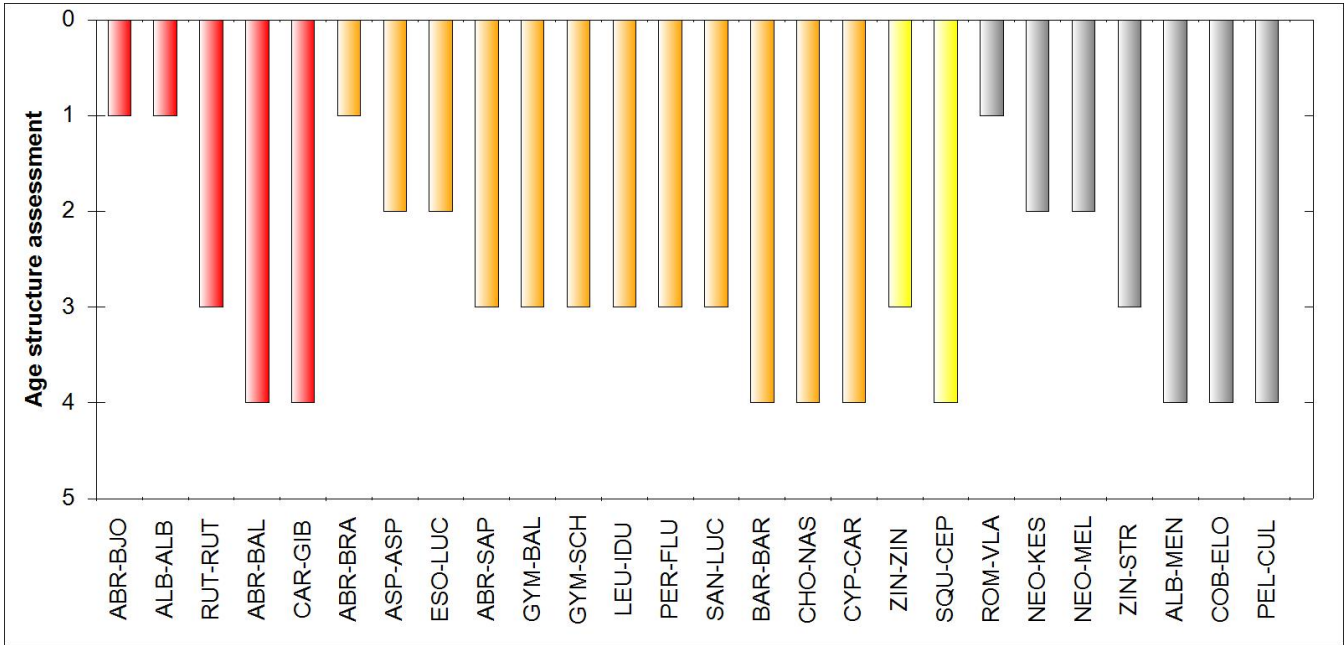
Bream (*Abramis brama*), 1

Danube bream (*Abramis sapo*), 3Danube ruffe (*Gymnocephalus baloni*), 3Ide (*Leuciscus idus*), 3Perch (*Perca fluviatilis*), 3Pike (*Esox lucius*), 2Pikeperch (*Sander lucioperca*), 3



Schraetser (*Gymnocephalus schraetser*), 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, Ilok, Backa Palanka, HR\_JDS45, 8/31/2013

Rating					
Stock data	Abundance Ind/ha	Biomass kg/ha			ko-criterion biomass
	24,435.7	103.4			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	7	5	71%	3.0	
Subdominant species	19	12	63%	2.0	
Rare species	8	2	25%	2.0	
				2.3	
<b>Ecological guilds</b>					
Flow	5	3	2	3.0	
Reproduction	6	3	3	4.0	
				3.5	
<b>Species diversity &amp; guilds overall</b>					<b>2.8</b>
<b>2. Dominance</b>	<b>Reference fish assemblage</b>	<b>actual (current)</b>	<b>Difference</b>		
<b>Fish region index</b>	6.4	6.4	0.0		<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	7	5		3.3	
Subdominant species	19	12		3.7	
					<b>3.4</b>
Fishindex Austria without active ko-criterion					2.80
<b>Biological quality element fish</b>		<b>FIA 2.80</b>	<b>Class 3</b>	<b>Moderate</b>	

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;*