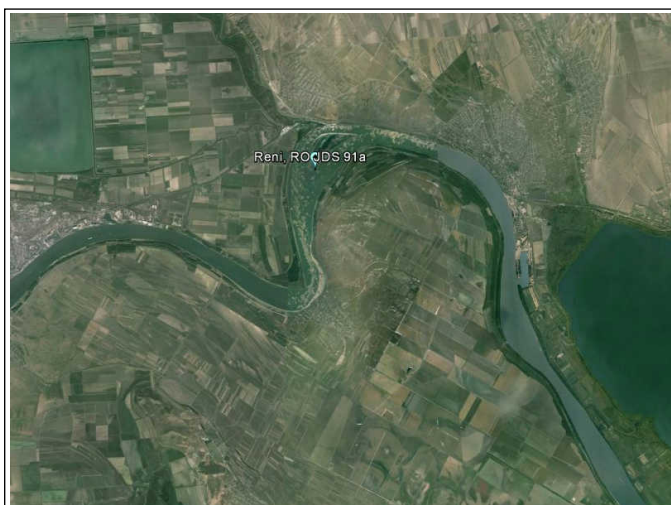


**Danube****Reni, RO JDS 91a (RO JDS91a ), 22.September 2013****FDA\_ID 217**

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

**Description of monitoring site**

angeliefert als RO JDS 92

**Assessment****Estimated assessment of the ecological status class (FÖZ)**

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

**Ecological status class, current survey, 22.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 site Reni, RO JDS 91a

Watercourse name	<b>Danube</b>	Federal state	<b>not available</b>
Monitoring site	<b>Reni, RO JDS 91a</b>	District	
Monitoring site number	<b>RO JDS91a</b>	Community	
Turnus number		Longitude (WGS 84, decimal) O	<b>28.200278</b>
sampling number		Latitude (WGS 84, decimal) N	<b>45.457722</b>
Survey-ID (FDA)	<b>217</b>	Route-ID	
Date	<b>9/22/2013</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>Eastern Wallachian Danube (375,5-100) (9)</b>	Huet-zonation	<b>bream zone</b>
Biocenotic Region	<b>Metapotamon</b>	Adapt. Reference	<b>122</b>
River km from	<b>136.0</b>	Altitude [m.a.s]	<b>1</b>
River km to	<b>132.0</b>	Ø catchment basin [km²]	<b>799,000</b>
Section length [m]	<b>4,000</b>	Catchment-class	<b>more than 10.000km²</b>
Ø channel width [m]	<b>650</b>	Slope [‰]	<b>0.01</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>2,711.0</b>
Average water depth [m]	<b>2m - 5m</b>	Lake above	<b>No</b>
Maximum water depth [m]	<b>&gt;10m</b>	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>600</b>	Flow condition	<b>MQ - mean water up to riparian vegetation</b>
pH-value		Visible depth	<b>1.5</b>
SBV		Fishing conditions	<b>moderate</b>
Water temperature [°C] (F117)		Average annual air temperature [°C]	
Conductance, 25°C [µS/cm] (F118)			
Methods used and effort			
<b>Strip-fishing, day</b>		Number of runs	<b>1</b>
Fished length [m]	<b>3,070</b>	E-devices output [kW]	<b>11</b>
Fished area [m²]	<b>9,210</b>	Output voltage	<b>600</b>
		Number of anodes	
		Number of strips/sections	<b>11</b>
and additional methods	<b>Fished area [m²]</b>	additional methods	<b>Effort [UE]</b>
E-Fishing by night	<b>4,710</b>		
drift net	<b>768,400</b>		

## Comments on survey:

wind and bad sight

DDNI trammel netting on 15 days between midth of june and midth of july

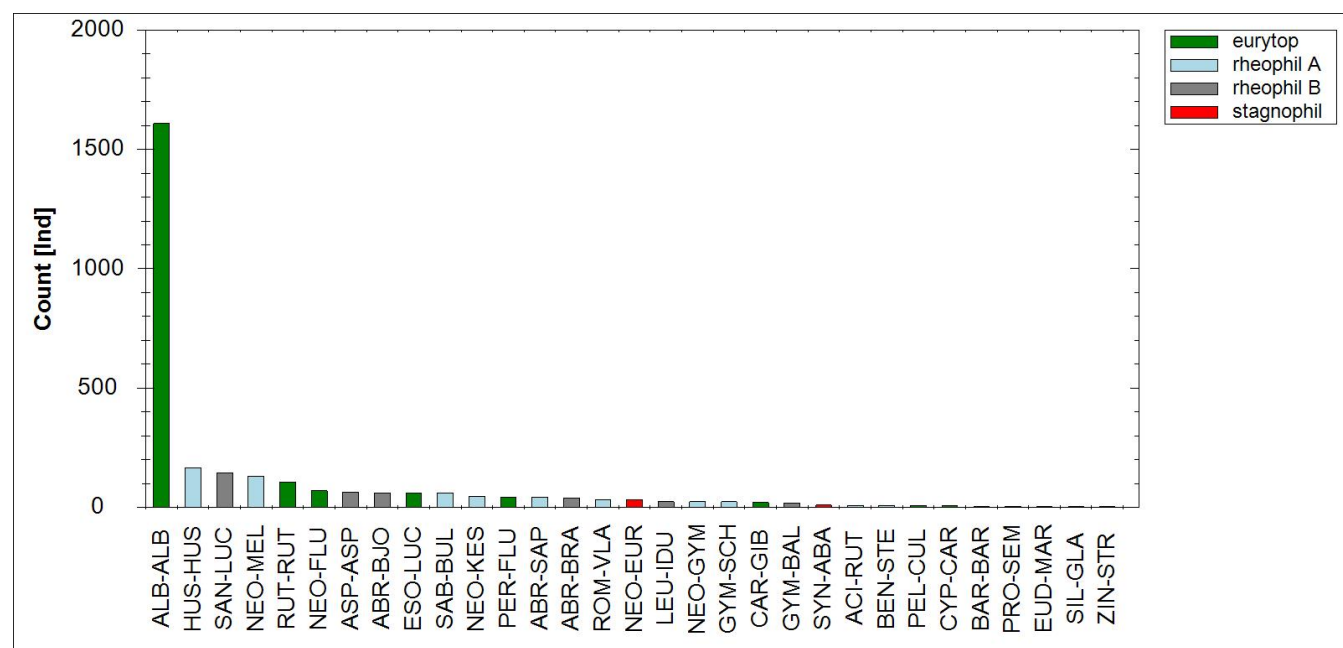
Table 2: Sampling effort at the monitoring site Reni, RO JDS 91a, September 2013

Habitat	Str. no	DG	Length [m]	Width [m]	UE	Method
rip-rap	1	1	170	3		E-fishing day boat
rip-rap	2	1	240	3		E-fishing day boat
rip-rap	3	1	300	3		E-fishing day boat
rip-rap	4	1	370	3		E-fishing night
rock	22	1	500	96		drift net
rock	23	1	500	96		drift net
rock	24	1	500	96		drift net
rock	25	1	500	96		drift net
rock	26	1	500	96		drift net
rock	27	1	500	96		drift net
rock	28	1	500	96		drift net
rock	29	1	500	96		drift net
rock	30	1	500	96		drift net
rock	31	1	500	96		drift net
rock	32	1	500	96		drift net
rock	33	1	500	96		drift net
rock	34	1	500	96		drift net
rock	35	1	500	96		drift net
rock	36	1	500	96		drift net
rock	37	1	500	96		drift net
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
riffle	38	1	200	2		drift net
riffle	39	1	300	3		E-fishing day boat
other natural bank	1	1	370	3		E-fishing day boat
other natural bank	2	1	300	3		E-fishing day boat
indefinite waterside	1	1	330	3		E-fishing day boat
indefinite waterside	2	1	280	3		E-fishing day boat
indefinite waterside	3	1	270	3		E-fishing day boat
indefinite waterside	4	1	260	3		E-fishing day boat
indefinite waterside	5	1	250	3		E-fishing day boat
indefinite waterside	6	1	330	3		E-fishing night
indefinite waterside	7	1	290	3		E-fishing night
indefinite waterside	8	1	280	3		E-fishing night
indefinite waterside	9	1	300	3		E-fishing night

Table 3: Habitat weighting used at the monitoring site Reni, RO JDS 91a

Habitat	%
indefinite waterside	60
other natural bank	10
riffle	0
rip-rap	30
rock	0
undet. middle of the river	0

### Catch result, fish assemblage and threatening status



Pic. 2: Species ranking diagramm of catch results Danube, Reni, RO JDS 91a

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
Syngnathidae	Black-striped pipefish	<i>Syngnathus abaster</i>	s	-			9
Petromyzontidae	Ukrainian lamprey	<i>Eudontomyzon mariae</i>	s	II	VU	DD	2
Salmonidae	Black Sea trout	<i>Salmo labrax</i>	s	-			
Cyprinidae	Asp	<i>Aspius aspius</i>	b	II	EN	DD	63
	Barbel	<i>Barbus barbus</i>	I	V	NT	LC	3
	Bitterling	<i>Rhodeus amarus</i>	b	II	VU	LC	
	Bleak	<i>Alburnus alburnus</i>	I	-	LC	LC	1,609
	Blue bream	<i>Abramis ballerus</i>	b	-	EN		
	Bream	<i>Abramis brama</i>	I	-	LC		38
	Carp	<i>Cyprinus carpio</i>	b	-	EN	DD	6
	Chub	<i>Squalius cephalus</i>	s	-	LC	LC	
	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	
	Ide	<i>Leuciscus idus</i>	b	-	EN	LC	24
	Kessler's gudgeon	<i>Romanogobio kesslerii</i>	s	II	EN	DD	
	Nase	<i>Chondrostoma nasus</i>	s	-	NT	LC	
	Prussian carp	<i>Carassius gibelio</i>	b	-	LC		20
	Roach	<i>Rutilus rutilus</i>	I	-	LC	LC	105
	Rudd	<i>Scardinius erythrophthalmus</i>	b	-	LC	LC	
	Sabre carp	<i>Pelecus cultratus</i>	b	II; V	NT	DD	8
	Sunbleak	<i>Leucaspisus delineatus</i>	s	-	EN	LC	
	Tench	<i>Tinca tinca</i>	b	-	VU	LC	
	Vimba bream	<i>Vimba vimba</i>	b	-	VU	LC	
	White bream	<i>Blicca bjoerkna</i>	I	-	LC	LC	61
	White-finned gudgeon	<i>Romanogobio vladykovi</i>	b	II	LC	DD	32
Esocidae	Pike	<i>Esox lucius</i>	b	-	NT		61
Gadidae	Burbot	<i>Lota lota</i>	s	-	VU		
Percidae	Danube ruffe	<i>Gymnocephalus baloni</i>	s	II; IV	VU	DD	19
	Perch	<i>Perca fluviatilis</i>	b	-	LC	LC	43
	Pikeperch	<i>Sander lucioperca</i>	b	-	NT	LC	145
	Ruffe	<i>Gymnocephalus cernuus</i>	s	-	LC	LC	
	Schraetser	<i>Gymnocephalus schraetser</i>	s	II; V	VU	VU	23
	Streber	<i>Zingel streber</i>	s	II	EN	VU	2
	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	2
Gobiidae	Beardless tadpole goby	<i>Benthophiloides brauneri</i>	s	-			
	Bighead goby	<i>Neogobius kessleri</i>	b	-	NE	DD	46
	Monkey goby	<i>Neogobius fluviatilis</i>	b	-	NE	DD	70
	Mushroom goby	<i>Neogobius eurycephalus</i>	s	-			31
	Racer goby	<i>Neogobius gymnotrachelus</i>	s	-	NE	DD	24
	Round goby	<i>Neogobius melanostomus</i>	s	-	NE	DD	131
	Stellate tadpole-goby	<i>Benthophilus stellatus</i>	s				8
	Tubenose goby	<i>Proterorhinus semilunaris</i>	b	-	EN	LC	3

Family	English name	Scient. name of species	Reference fish assemblage	FFH	Red List	IUCN	Count
Gasterosteidae	Threespine stickleback	<i>Gasterosteus aculeatus</i>	s	-	NE	LC	
Cobitidae	Balkan loach	<i>Sabanejewia balcanica</i>	s	II	EN	DD	
	Bulgarian golden loach	<i>Sabanejewia bulgarica</i>	s				60
	Danubian spined loach	<i>Cobitis elongatoides</i>	s	-			
	Weatherfish	<i>Misgurnus fossilis</i>	s	II	CR	NT	
Balitoridae	Danube bream	<i>Abramis sapa</i>	I	-	EN		42
Anguillidae	Eel	<i>Anquilla anguilla</i>	s	-	RE		
Acipenseridae	Danube sturgeon	<i>Acipenser gueldenstaedtii</i>	b	V	RE	EN	
	Fringebarbel sturgeon	<i>Acipenser nudiiventris</i>	s	V	RE	EN	
	Giant sturgeon	<i>Huso huso</i>	b	V	RE	EN	166
	Starry sturgeon	<i>Acipenser stellatus</i>	b	V	RE	EN	
	Sterlet	<i>Acipenser ruthenus</i>	b	V	CR	VU	8
Clupeidae	Azov shad	<i>Alosa tanaica</i>	s				
	Black Sea sprat	<i>Clupeonella cultriventris</i>	s				
	European mud-minnow	<i>Umbra krameri</i>	s	II	CR	VU	
	Pontic shad	<i>Alosa immaculata</i>	s	-			

Observed:: reference fish assemblage 31Taxa :: 61Taxa

Taxa complete 31

Count species of reference fish assemblage 2,864

Total count 2,864

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, Reni, RO JDS 91a, 9/22/2013

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	63	58.1		5.2		18.2	89.9	2	b
Barbel	BAR-BAR	3	0.0		0.0	0.0	21.0	0.0	4	I
Bighead goby	NEO-KES	46	176.2		1.9		8.3	10.8	1	b
Black-striped pipefish	SYN-ABA	9	31.9		0.0		11.5	0.6	3	s
Bleak	ALB-ALB	1,609	1,978.3		14.8		9.1	7.5	1	I

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	38	16.1		0.4		14.3	27.5	2	l
Bulgarian golden loach	SAB-BUL	60	0.0		0.0	0.0	5.7	0.0	1	s
Carp	CYP-CAR	6	0.0		0.0	0.0	23.8	0.0	3	b
Danube bream	ABR-SAP	42	0.0		0.0	0.0	10.4	0.0	3	l
Danube ruffe	GYM-BAL	19	92.7		0.5		6.4	4.9	2	s
Giant sturgeon	HUS-HUS	166	0.0		0.0	0.0	19.7	0.0	3	b
Ide	LEU-IDU	24	2.6		0.0		10.4	7.5	3	b
Monkey goby	NEO-FLU	70	100.7		0.5		6.3	5.3	2	b
Mushroom goby	NEO-EUR	31	0.0		0.0	0.0	8.8	0.0	1	s
Perch	PER-FLU	43	160.7		1.9		9.5	11.6	2	b
Pike	ESO-LUC	61	70.5		16.5		31.2	234.5	3	b
Pikeperch	SAN-LUC	145	103.8		4.0		18.6	38.0	2	b
Prussian carp	CAR-GIB	20	42.0		1.0		11.2	23.3	3	b
Racer goby	NEO-GYM	24	1.5		0.0		6.0	4.4	2	s
Roach	RUT-RUT	105	110.9		1.2		9.7	11.0	1	l
Round goby	NEO-MEL	131	182.6		1.3		7.2	7.3	1	s
Sabre carp	PEL-CUL	8	31.3		0.4		13.4	11.8	3	b
Schraetser	GYM-SCH	23	0.0		0.0	0.0	8.4	0.0	2	s
Stellate tadpole-goby	BEN-STE	8	6.6		0.0		4.9	3.8	3	s
Sterlet	ACI-RUT	8	0.0		0.0	0.0	37.5	0.0	3	b
Streber	ZIN-STR	2	0.0		0.0	0.0	6.9	0.0	4	s
Tubenose goby	PRO-SEM	3	0.0		0.0	0.0	3.7	0.0	3	b
Ukrainian lamprey	EUD-MAR	2	0.0		0.0	0.0	14.8	0.0	4	s
Wels catfish	SIL-GLA	2	0.0		0.0	0.0	27.8	0.0	3	b
White bream	ABR-BJO	61	8.0		0.1		12.9	10.1	2	l
White-finned gudgeon	ROM-VLA	32	0.0		0.0	0.0	6.1	0.0	2	b

31 species of 61

Total

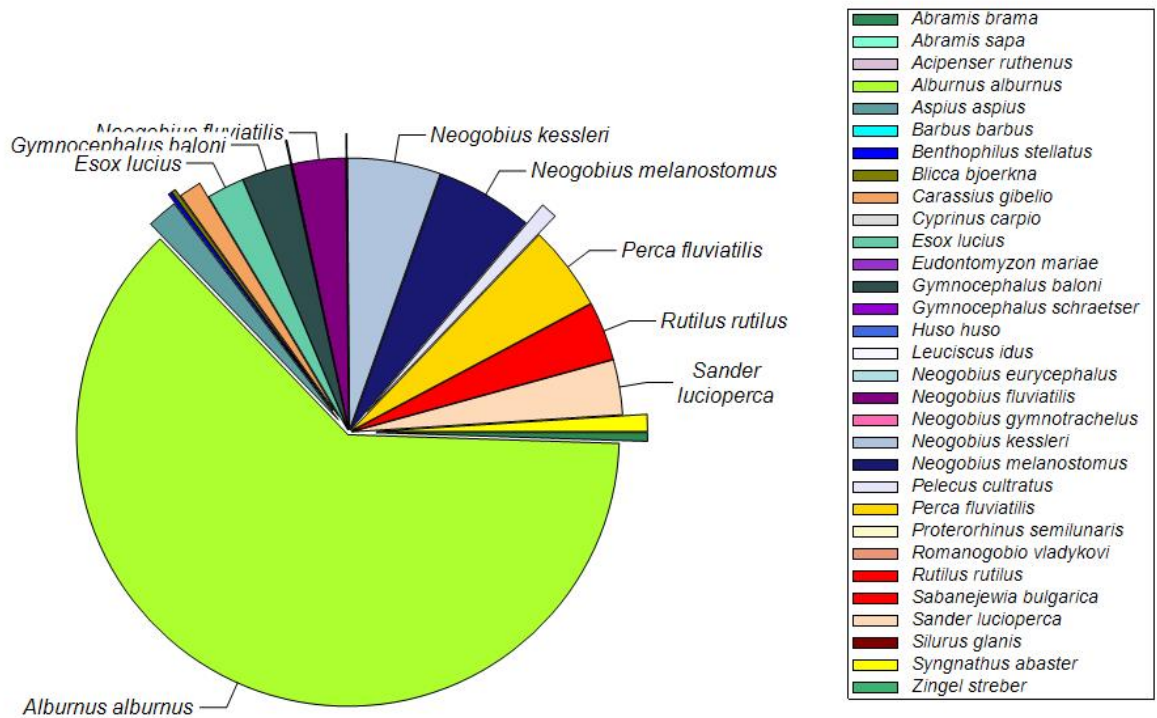
2,864

3,174.5

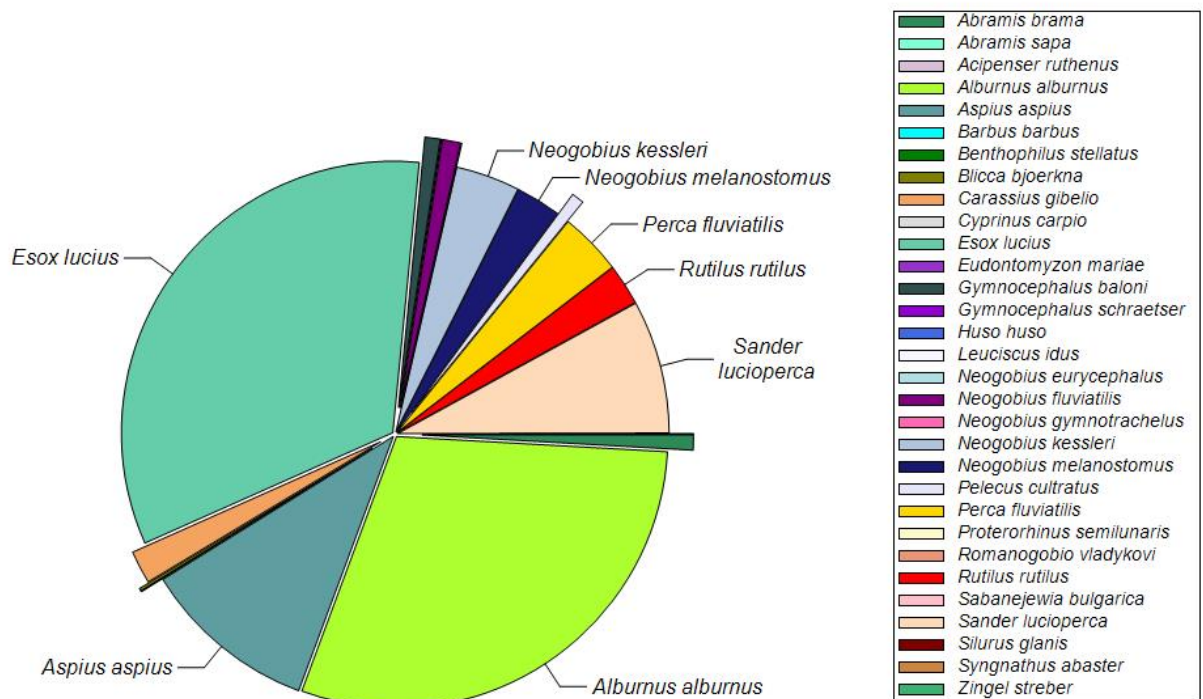
49.8



### Dominance



### Biomass distribution



Pic. 3: Dominance und Biomass distribution

Shannon-Index: 1.967

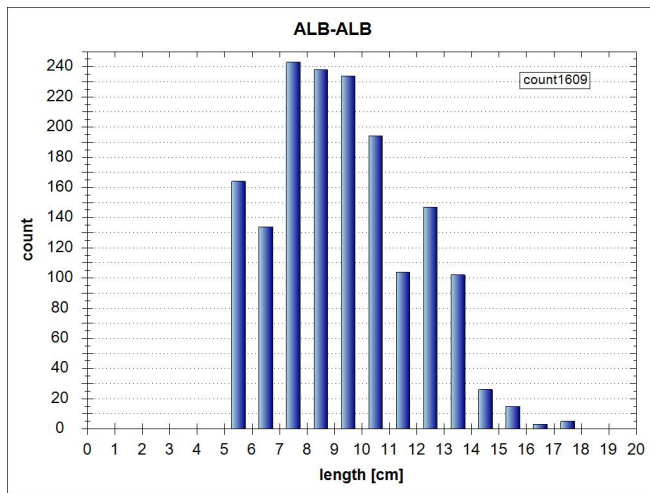
Equitability: 0.573

**Biometrics and catch rate**

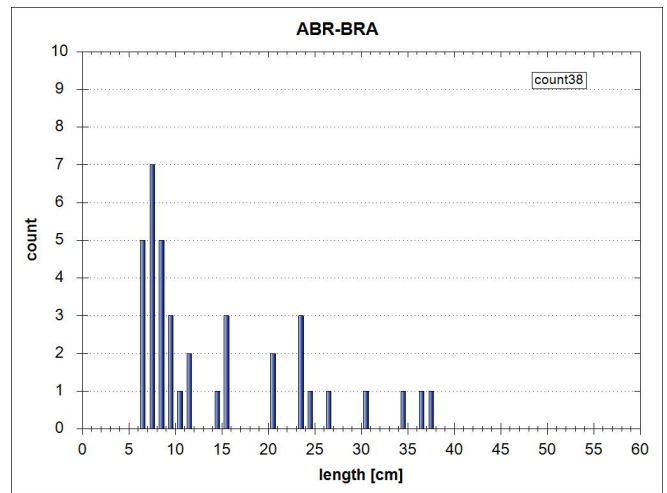
Table 6: biometrics of each species and catch specific parameters

Fish species	Lt [cm]		n	Statist.	Catch-	Catch-effectivity		
	Min	Max		Method	Probability [%]	Min	MW	Max
Asp	10.0	18.2	46.0	63		0.20	0.52	0.70
Barbel	7.5	21.0	46.0	3		0.20	0.40	0.50
Bighead goby	6.0	8.3	13.0	46		0.10	0.34	0.70
Black-striped pipefish	8.3	11.5	15.3	9		0.10	0.38	0.70
Bleak	5.0	9.1	17.0	1,609		0.05	0.42	0.50
Bream	6.1	14.3	37.0	38		0.20	0.46	0.70
Bulgarian golden loach	3.0	5.7	8.0	60		0.70	0.70	0.70
Carp	12.0	23.8	40.0	6		0.20	0.43	0.70
Danube bream	6.3	10.4	13.0	42		0.20	0.40	0.70
Danube ruffe	4.7	6.4	9.5	19		0.10	0.31	0.70
Giant sturgeon	16.1	19.7	48.0	166		0.70	0.70	0.70
Ide	6.5	10.4	32.5	24		0.20	0.49	0.50
Monkey goby	2.0	6.3	10.5	70		0.10	0.48	0.70
Mushroom goby	7.0	8.8	12.0	31		0.50	0.50	0.50
Perch	6.0	9.5	16.0	43		0.10	0.32	0.50
Pike	17.0	31.2	55.0	61		0.20	0.44	0.70
Pikeperch	8.4	18.6	50.0	145		0.20	0.36	0.70
Prussian carp	6.0	11.2	20.5	20		0.10	0.39	0.70
Racer goby	4.5	6.0	7.0	24		0.30	0.49	0.70
Roach	5.5	9.7	19.0	105		0.10	0.32	0.70
Round goby	2.0	7.2	12.0	131		0.10	0.44	0.70
Sabre carp	9.0	13.4	15.0	8		0.25	0.30	0.50
Schraetser	7.1	8.4	10.5	23		0.30	0.66	0.70
Stellate tadpole-goby	3.3	4.9	6.5	8		0.20	0.64	0.70
Sterlet	17.2	37.5	57.5	8		0.70	0.70	0.70
Streber	6.6	6.9	7.2	2		0.70	0.70	0.70
Tubenose goby	3.2	3.7	4.0	3		0.70	0.70	0.70
Ukrainian lamprey	14.5	14.8	15.0	2		0.50	0.50	0.50
Wels catfish	18.5	27.8	37.0	2		0.50	0.60	0.70
White bream	5.0	12.9	24.0	61		0.20	0.41	0.70
White-finned gudgeon	2.4	6.1	10.0	32		0.30	0.67	0.70
31 species		Sum	2,864					

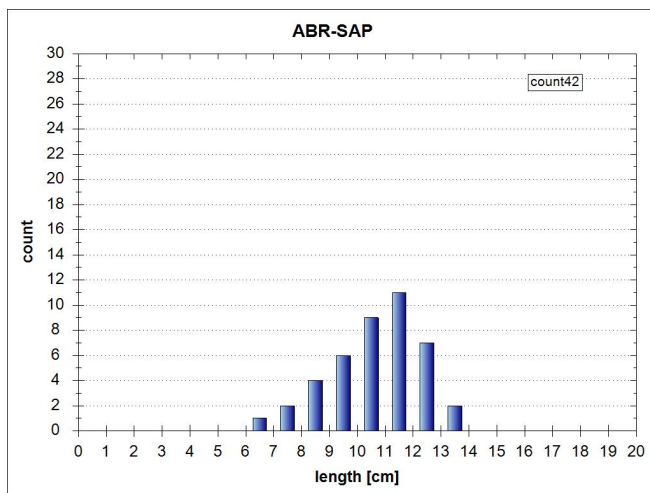
# Population structure of dominant species and subdominant species (total catch)



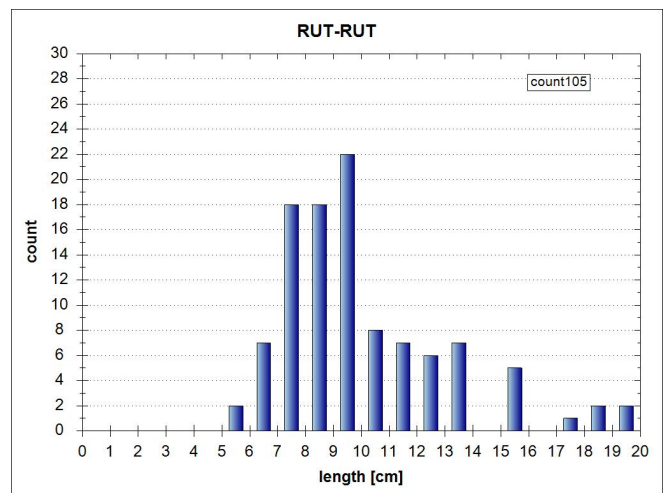
Bleak (*Alburnus alburnus*), 1



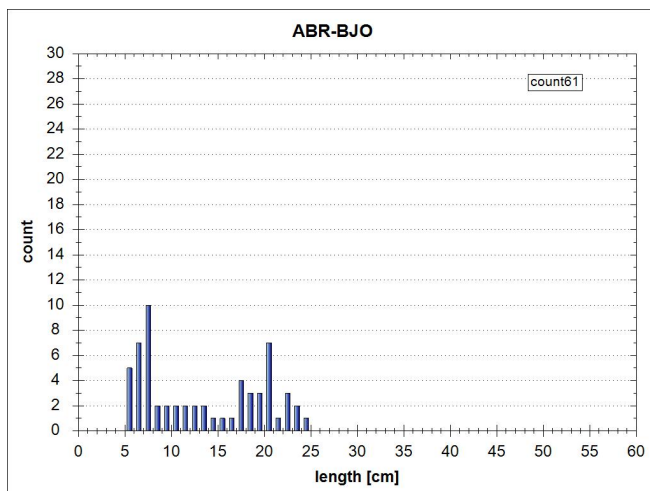
Bream (*Abramis brama*), 2



Danube bream (*Abramis sapa*), 3

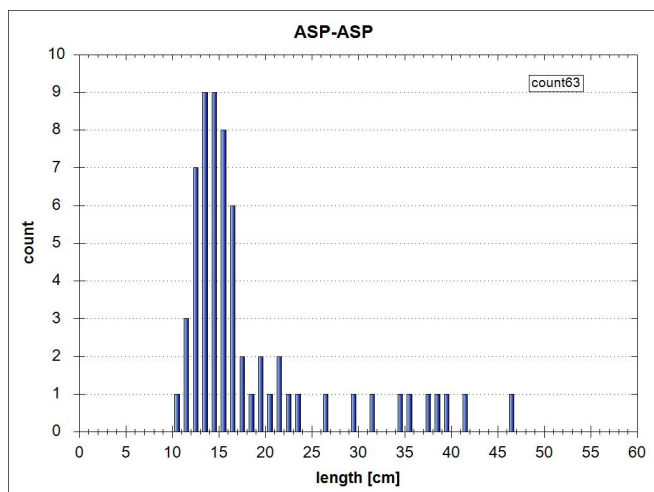
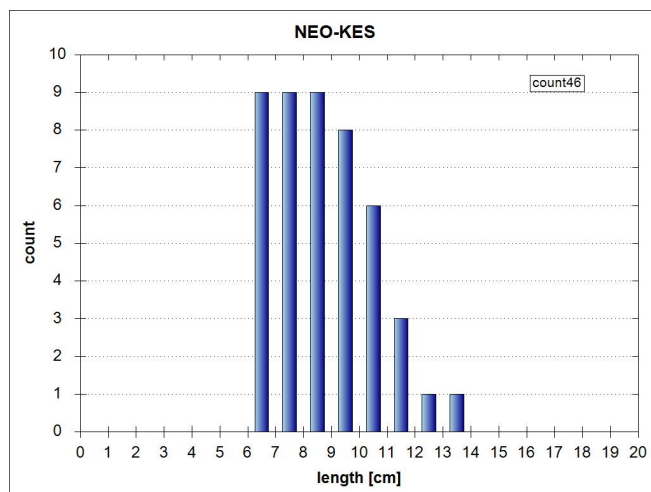
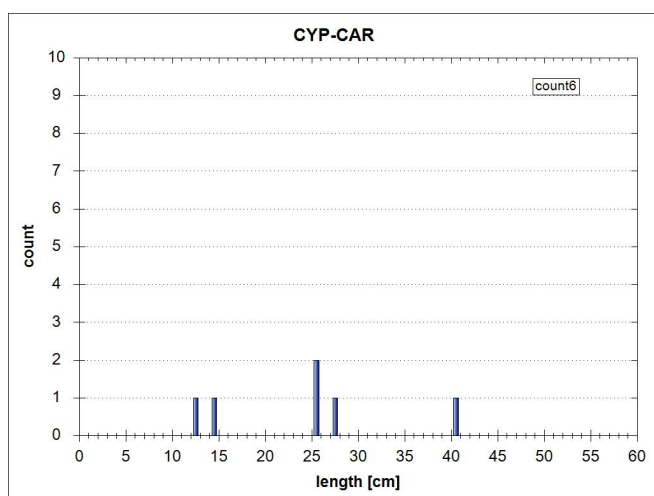
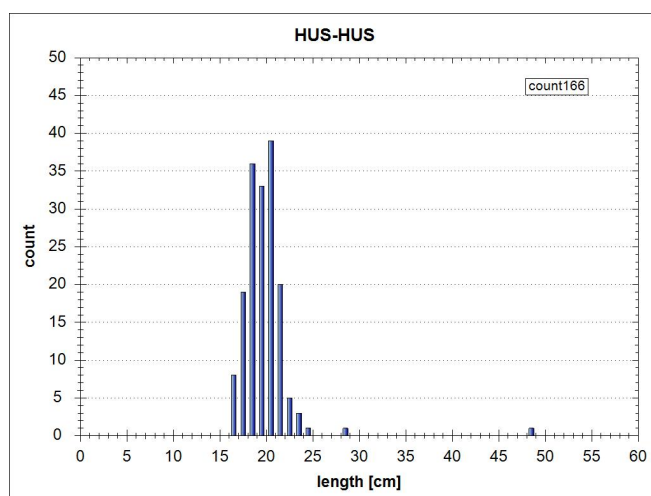
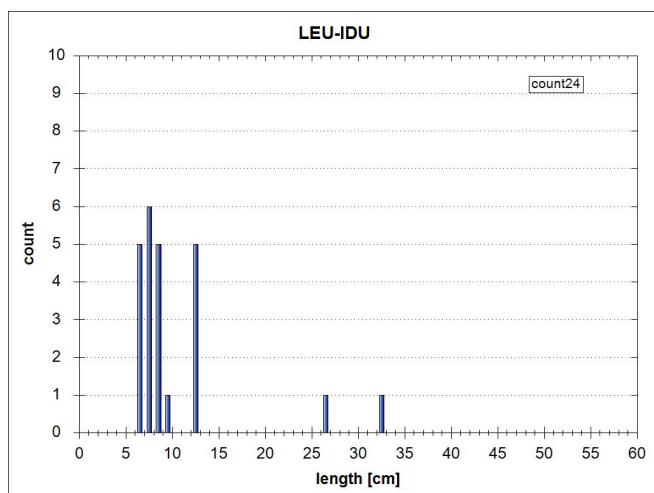
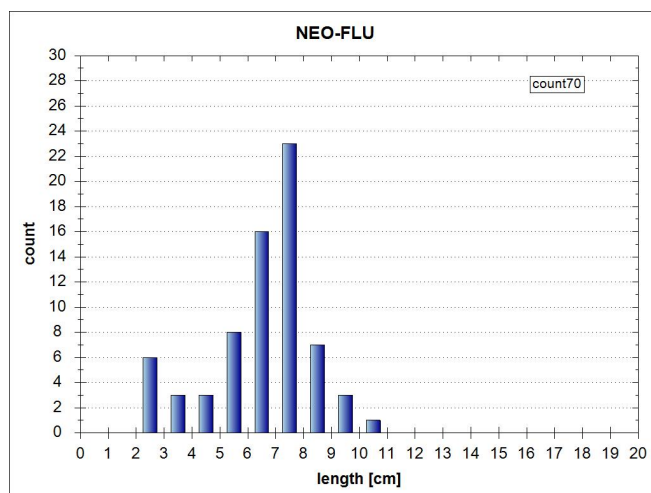


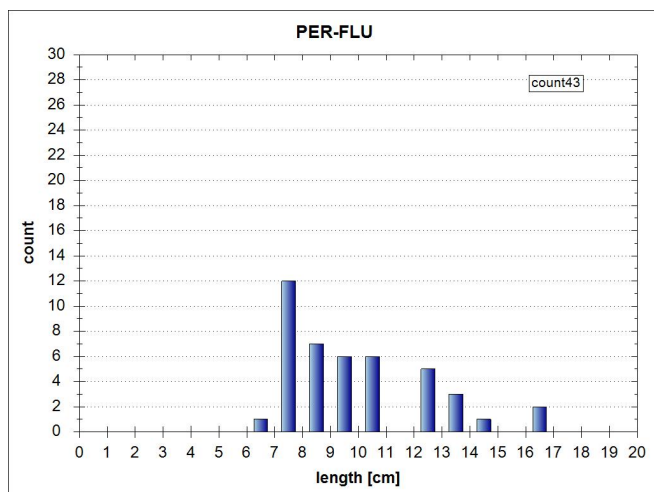
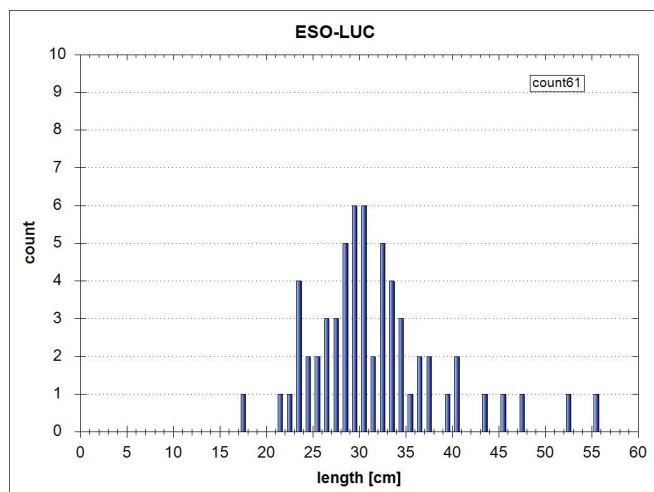
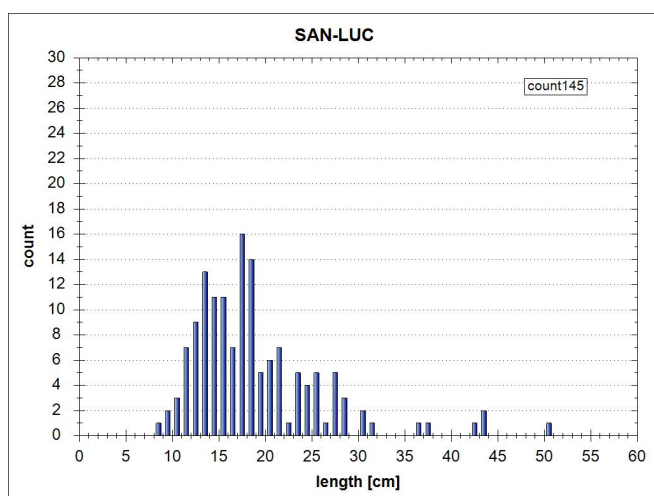
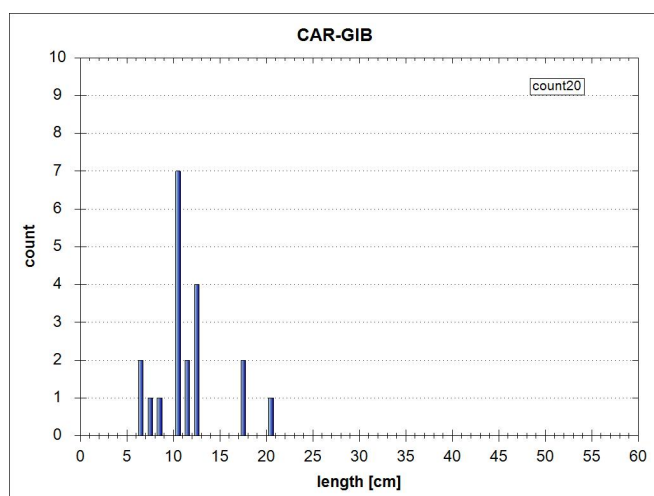
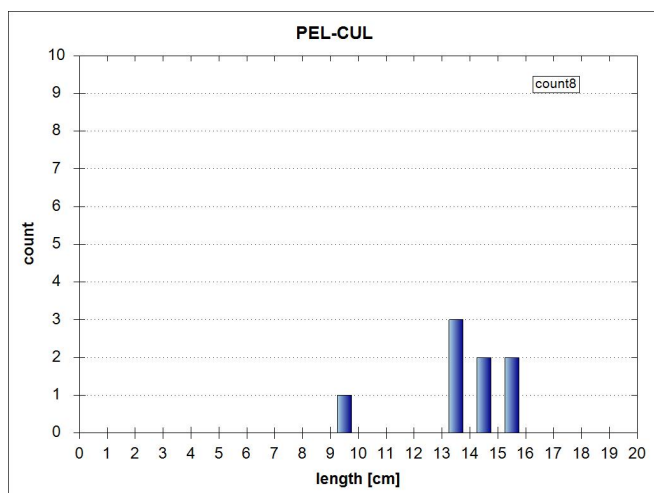
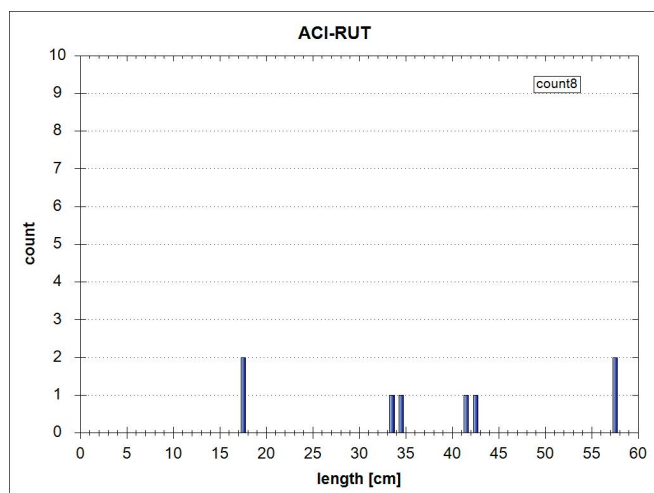
Roach (*Rutilus rutilus*), 1

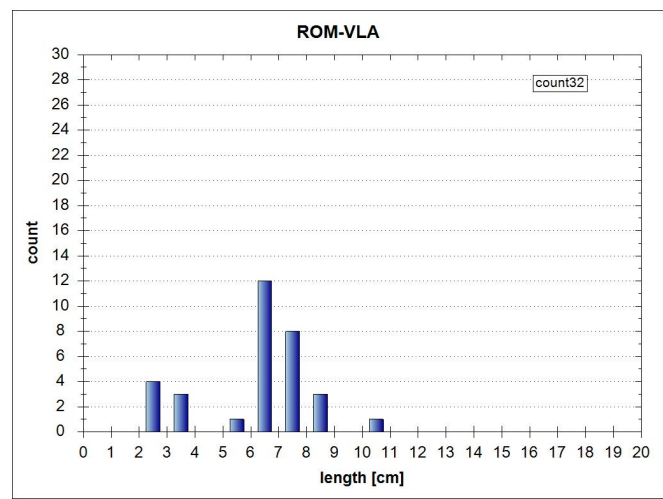


White bream (*Blicca bjoerkna*), 2

Pic. 4: Length-frequency diagram of dominant species (n>3), Sep. 2013

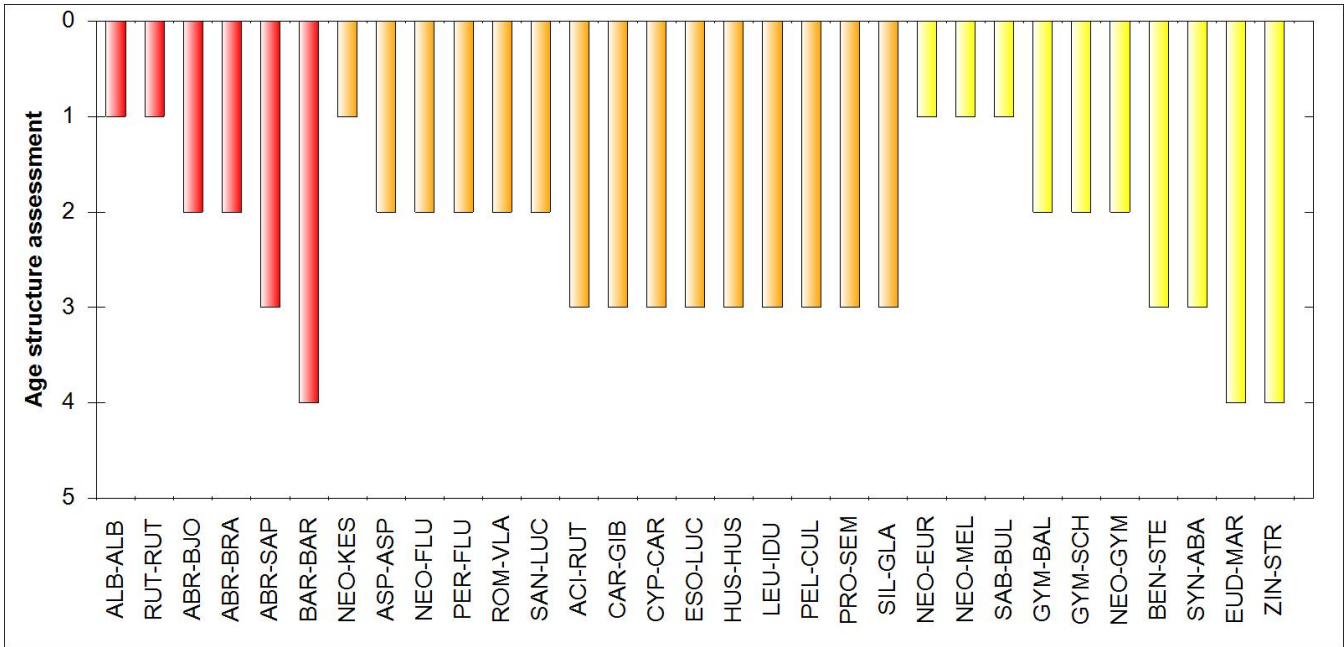
Asp (*Aspius aspius*), 2Bighead goby (*Neogobius kessleri*), 1Carp (*Cyprinus carpio*), 3Giant sturgeon (*Huso huso*), 3Ide (*Leuciscus idus*), 3Monkey goby (*Neogobius fluviatilis*), 2

Perch (*Perca fluviatilis*), 2Pike (*Esox lucius*), 3Pikeperch (*Sander lucioperca*), 2Prussian carp (*Carassius gibelio*), 3Sabre carp (*Pelecus cultratus*), 3Sterlet (*Acipenser ruthenus*), 3



White-finned gudgeon (*Romanogobio vladkovii*), 2

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



Pic. 6: 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, Reni, RO JDS 91a, 9/22/2013

Rating					
Stock data	Abundance Ind/ha	Biomass kg/ha			ko-criterion biomass
	3,174.6	49.8		ko-crit	4
<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	6	6	100%	1.0	
Subdominant species	23	15	65%	2.0	
Rare species	32	10	31%	2.0	
				1.7	
<b>Ecological guilds</b>					
Flow	7	4	3	4.0	
Reproduction	7	5	2	3.0	
				3.5	
<b>Species diversity &amp; guilds overall</b>					<b>1.9</b>
<b>2. Dominance</b>	<b>Reference fish assemblage</b>	<b>actual (current)</b>	<b>Difference</b>		
<b>Fish region index</b>	6.5	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	6	6		2.2	
Subdominant species	23	15		3.4	
					<b>2.6</b>
Fishindex Austria without active ko-criterion					<b>2.08</b>
<b>Biological quality element fish</b>		<b>FIA 4.00</b>	<b>Class 4</b>	<b>Poor</b>	

Date of Assessment:3/18/2014

Comment BAW-IGF

- no comment -

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

*Recommended improvements with priority ranking if possible;*