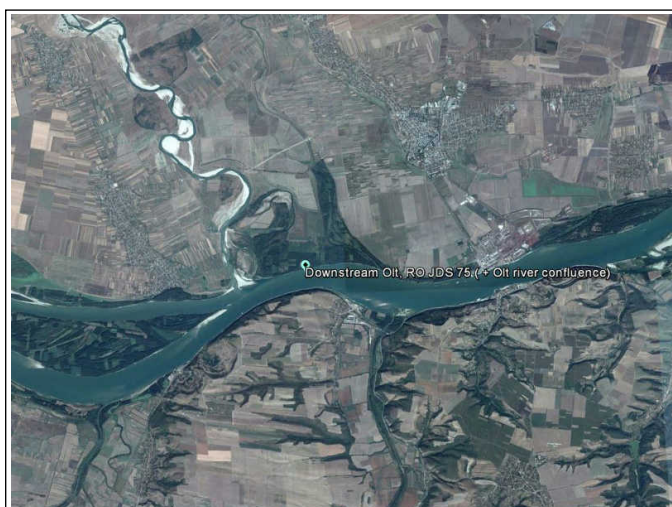


**Danube**

**Downstream Olt, RO JDS 75 ( + Olt river confluence) (RO JDS 75 ),**  
**15.September 2013**

FDA\_ID 212



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

**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, 15.September 2013**

Biological quality element fish	FIA 4.00	Class 4	Poor
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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 Downstream Olt, RO JDS 75 ( + Olt river confluence)

Watercourse name	<b>Danube</b>	Federal state	<b>not available</b>
Monitoring site	<b>Downstream Olt, RO JDS 75 ( + Olt river confluence)</b>	District	
Monitoring site number	<b>RO JDS 75</b>	Community	
Turnus number		Longitude (WGS 84, decimal) O	<b>24.821722</b>
sampling number		Latitude (WGS 84, decimal) N	<b>43.716056</b>
Survey-ID (FDA)	<b>212</b>	Route-ID	
Date	<b>9/15/2013</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>Western Pomtic Danube (943-375,5) (8)</b>	Huet-zonation	<b>bream zone</b>
Biocenotic Region	<b>Metapotamon</b>	Adapt. Reference	<b>121</b>
River km mean	<b>603.0</b>	Altitude [m.a.s]	<b>18</b>
		Ø catchment basin [km²]	<b>650,000</b>
Section length [m]	<b>2,000</b>	Catchment-class	<b>more than 10.000km²</b>
Ø channel width [m]	<b>850</b>	Slope [‰]	<b>0.04</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>2,243.0</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>850</b>	Flow condition	
pH-value		Visible depth	
SBV		Fishing conditions	
Water temperature [°C] (F117)	<b>22.3</b>	Average annual air temperature [°C]	
Conductance, 25°C [µS/cm] (F118)	<b>384</b>		
Methods used and effort			
<b>Strip-fishing, day</b>		Number of runs	<b>1</b>
Fished length [m]	<b>2,980</b>	E-devices output [kW]	<b>11</b>
Fished area [m²]	<b>8,940</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>3,615</b>		
beach seining	<b>1,500</b>		

## Comments on survey:

bei Tag: starker Wind, Fangerfolg beeinträchtigt

bei Nacht: windstill

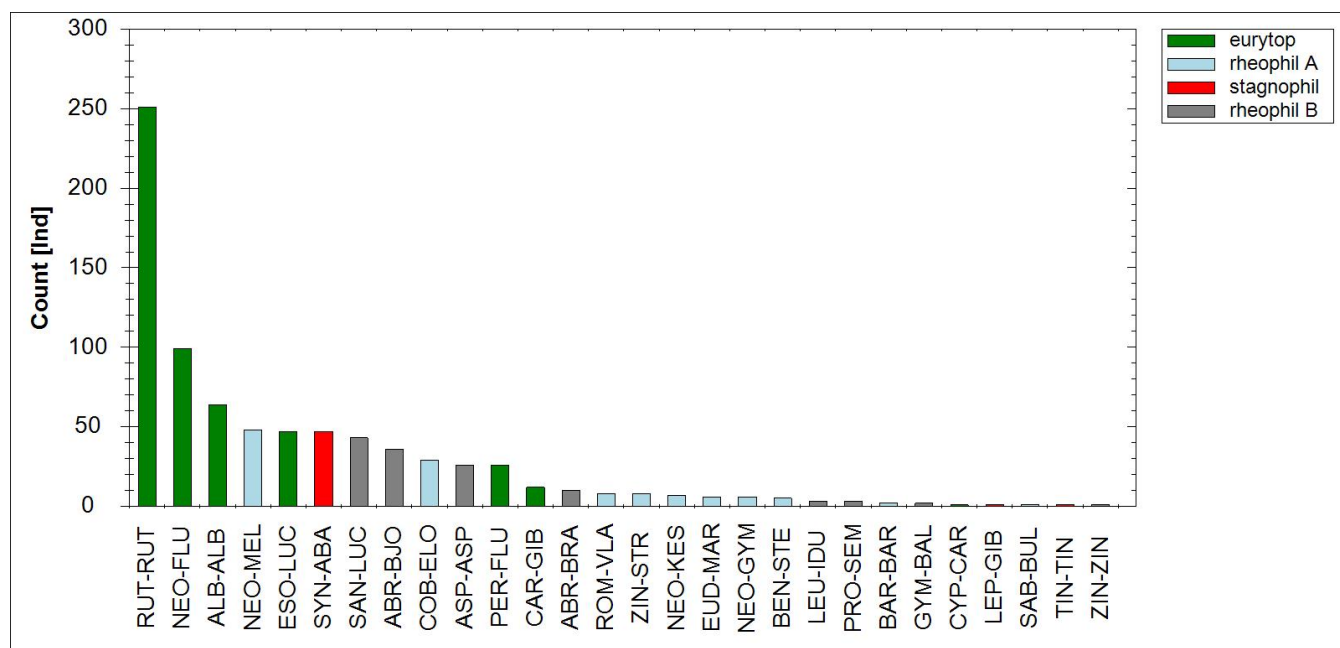
Table 2: Sampling effort at the monitoring site Downstream Olt, RO JDS 75 ( + Olt river confluence), September 2013

Habitat	Str. no	DG	Length [m]	Width [m]	UE	Method
rock	23	1	50	30		beach seining
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	470	2		electric beam trawl
sand/mud bar	7	1	300	3		E-fishing day boat
sand/mud bar	8	1	320	3		E-fishing day boat
sand/mud bar	14	1	290	3		E-fishing night
other natural bank	1	1	330	3		E-fishing day boat
other natural bank	2	1	230	3		E-fishing day boat
other natural bank	3	1	250	3		E-fishing day boat
other natural bank	4	1	300	3		E-fishing day boat
other natural bank	5	1	250	3		E-fishing day boat
other natural bank	6	1	300	3		E-fishing day boat
other natural bank	9	1	300	3		E-fishing day boat
other natural bank	10	1	400	3		E-fishing day boat
other natural bank	13	1	300	3		E-fishing night
other natural bank	15	1	150	1.5		E-fishing night
indefinite waterside	11	1	270	3		E-fishing night
indefinite waterside	12	1	270	3		E-fishing night

Table 3: Habitat weighting used at the monitoring site Downstream Olt, RO JDS 75 ( + Olt river confluence)

Habitat	%
indefinite waterside	35
other natural bank	50
rock	0
sand/mud bar	15
undet. middle of the river	0

## Catch result, fish assemblage and threatening status



Pic. 2: Species ranking diagramm of catch resultsDanube, Downstream Olt, RO JDS 75 ( + Olt river confluence)

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	-			47
Petromyzontidae	Ukrainian lamprey	<i>Eudontomyzon mariae</i>	s	II	VU	DD	6
Cyprinidae	Asp	<i>Aspius aspius</i>	b	II	EN	DD	26
	Barbel	<i>Barbus barbus</i>	b	V	NT	LC	2
	Bitterling	<i>Rhodeus amarus</i>	b	II	VU	LC	
	Bleak	<i>Alburnus alburnus</i>	I	-	LC	LC	64
	Blue bream	<i>Abramis ballerus</i>	b	-	EN		
	Bream	<i>Abramis brama</i>	I	-	LC		10
	Carp	<i>Cyprinus carpio</i>	b	-	EN	DD	1
	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	
	Danubian gudgeon	<i>Romanogobio uranoscopus</i>	s	II	CR	DD	
	Gudgeon	<i>Gobio gobio</i>	s	-	LC	LC	
	Ide	<i>Leuciscus idus</i>	b	-	EN	LC	3
	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		12
	Roach	<i>Rutilus rutilus</i>	I	-	LC	LC	251
	Rudd	<i>Scardinius erythrophthalmus</i>	s	-	LC	LC	
	Sabre carp	<i>Pelecus cultratus</i>	b	II; V	NT	DD	
	Sunbleak	<i>Leucaspis delineatus</i>	s	-	EN	LC	
	Tench	<i>Tinca tinca</i>	s	-	VU	LC	1
	Vimba bream	<i>Vimba vimba</i>	b	-	VU	LC	
	White bream	<i>Blicca bjoerkna</i>	I	-	LC	LC	36
	White-finned gudgeon	<i>Romanogobio vladykovi</i>	I	II	LC	DD	8
Esocidae	Pike	<i>Esox lucius</i>	b	-	NT		47
Gadidae	Burbot	<i>Lota lota</i>	s	-	VU		
Percidae	Danube ruffe	<i>Gymnocephalus baloni</i>	s	II; IV	VU	DD	2
	Perch	<i>Perca fluviatilis</i>	b	-	LC	LC	26
	Pikeperch	<i>Sander lucioperca</i>	b	-	NT	LC	43
	Ruffe	<i>Gymnocephalus cernuus</i>	s	-	LC	LC	
	Schraetser	<i>Gymnocephalus schraetser</i>	b	II; V	VU	VU	
	Streber	<i>Zingel streber</i>	s	II	EN	VU	8
	Volga pikeperch	<i>Sander volgensis</i>	s	-	EN	DD	
	Zingel	<i>Zingel zingel</i>	b	II; V	VU	VU	1
Siluridae	Wels catfish	<i>Silurus glanis</i>	b	-	VU	LC	
Gobiidae	Bighead goby	<i>Neogobius kessleri</i>	s	-	NE	DD	7
	Monkey goby	<i>Neogobius fluviatilis</i>	I	-	NE	DD	99
	Racer goby	<i>Neogobius gymnotrachelus</i>	s	-	NE	DD	6
	Round goby	<i>Neogobius melanostomus</i>	s	-	NE	DD	48
	Tubenose goby	<i>Proterorhinus semilunaris</i>	b	-	EN	LC	3
Cobitidae	Balkan loach	<i>Sabanejewia balcanica</i>	s	II	EN	DD	
	Bulgarian golden loach	<i>Sabanejewia bulgarica</i>	s				1

Family	English name	Scient. name of species	Reference fish assemblage	FFH	Red List	IUCN	Count
	Danubian spined loach	<i>Cobitis elongatoides</i>	b	-			29
	Weatherfish	<i>Misgurnus fossilis</i>	s	II	CR	NT	
Balitoridae	Danube bream	<i>Abramis sapa</i>	I	-	EN		
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	Azov shad	<i>Alosa tanaica</i>	s				
	European mud-minnow	<i>Umbra krameri</i>	s	II	CR	VU	
	Pontic shad	<i>Alosa immaculata</i>	s	-			
Gobiidae	Stellate tadpole-goby	<i>Benthophilus stellatus</i>					5
Centrarchidae	Pumpkinseed	<i>Lepomis gibbosus</i>		-	NE		1

Observed:: reference fish assemblage 26Taxa :: 56Taxa

Taxa complete 28

Count species of reference fish assemblage 787

Total count 793

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)

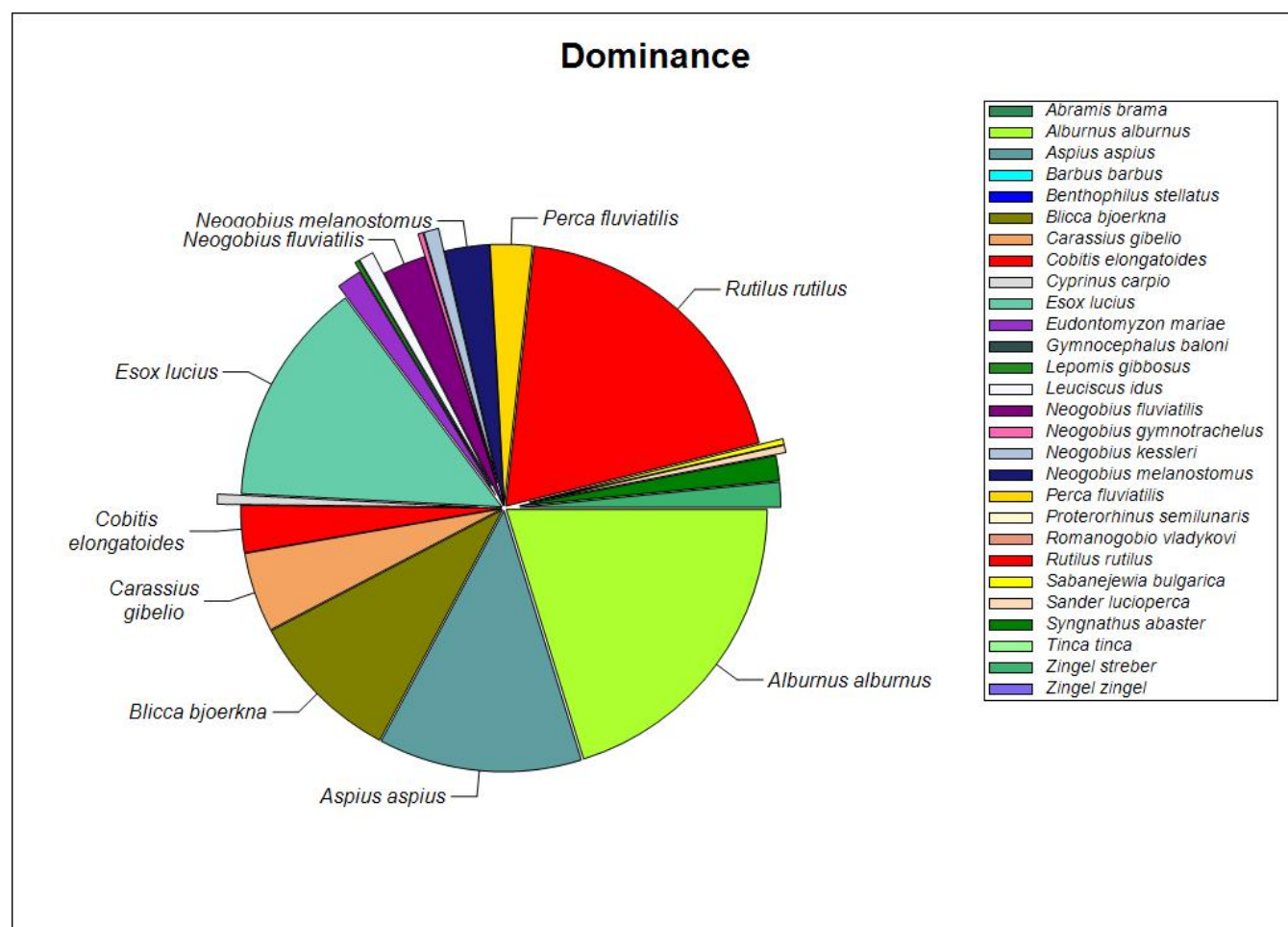
- II Species listed in Annex II of the FFH- Directive (nature reserves have to be set out for this species)
- IV Species listed in Annex IV of the FFH- Directive (strict protection of animals and plants)
- V Species listed in Annex V of the FFH- Directive (species whose collection and use is subject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

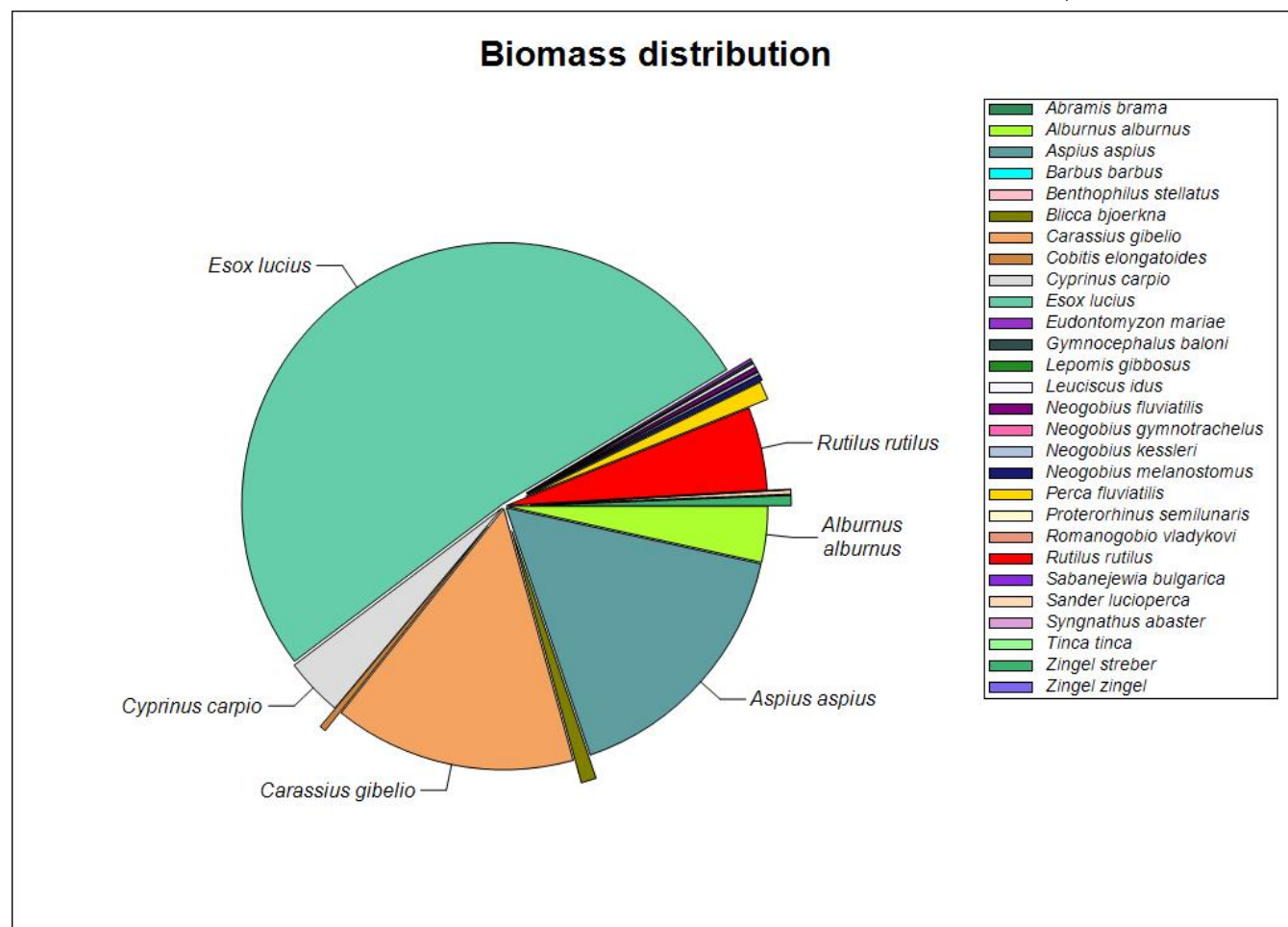
Table 5: abundance and biomass (e-fishings) Danube, Downstream Olt, RO JDS 75 ( + Olt river confluence), 9/15/2013

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	26	96.3		6.0		18.2	62.3	2	b
Barbel	BAR-BAR	2	0.0		0.0	0.0	24.5	0.0	3	b
Bighead goby	NEO-KES	7	7.1		0.1		7.1	10.2	3	s
Black-striped pipefish	SYN-ABA	47	11.8		0.0		8.4	0.8	1	s
Bleak	ALB-ALB	64	154.6		1.3		8.0	8.2	2	I
Bream	ABR-BRA	10	0.0		0.0	0.0	8.4	0.0	3	I
Bulgarian golden loach	SAB-BUL	1	2.7		0.0		8.5	3.3	4	s

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
Carp	CYP-CAR	1	4.7		1.3		26.0	282.1	4	b
Danube ruffe	GYM-BAL	2	0.0		0.0	0.0	7.3	0.0	4	s
Danubian spined loach	COB-ELO	29	22.4		0.1		9.9	6.4	2	b
Ide	LEU-IDU	3	7.1		0.1		11.3	12.3	4	b
Monkey goby	NEO-FLU	99	20.3		0.1		5.2	4.8	1	l
Perch	PER-FLU	26	19.8		0.4		10.8	20.9	2	b
Pike	ESO-LUC	47	106.7		19.0		28.1	178.2	3	b
Pikeperch	SAN-LUC	43	3.5		0.1		18.5	28.1	3	b
Prussian carp	CAR-GIB	12	37.7		5.5		18.6	146.4	2	b
Pumkinseed	LEP-GIB	1	2.0		0.1		11.5	22.3	4	
Racer goby	NEO-GYM	6	2.4		0.0		6.3	6.0	3	s
Roach	RUT-RUT	251	148.3		1.9		4.8	12.7	1	l
Round goby	NEO-MEL	48	21.2		0.1		7.4	5.7	2	s
Stellate tadpole-goby	BEN-STE	5	0.0		0.0	0.0	3.2	0.0	2	
Streber	ZIN-STR	8	11.8		0.2		14.6	19.5	3	s
Tench	TIN-TIN	1	0.0		0.0	0.0	5.5	0.0	4	s
Tubenose goby	PRO-SEM	3	0.0		0.0	0.0	3.8	0.0	3	b
Ukrainian lamprey	EUD-MAR	6	11.8		0.1		14.0	5.9	3	s
White bream	ABR-BJO	36	73.0		0.4		10.3	4.7	3	l
White-finned gudgeon	ROM-VLA	8	0.0		0.0	0.0	4.9	0.0	3	l
Zingel	ZIN-ZIN	1	0.0		0.0	0.0	23.0	0.0	4	b
26 species of 56		Total	793	765.2	36.8					







Pic. 3: Dominance und Biomass distribution

Shannon-Index: 2.449

Equitability: 0.735

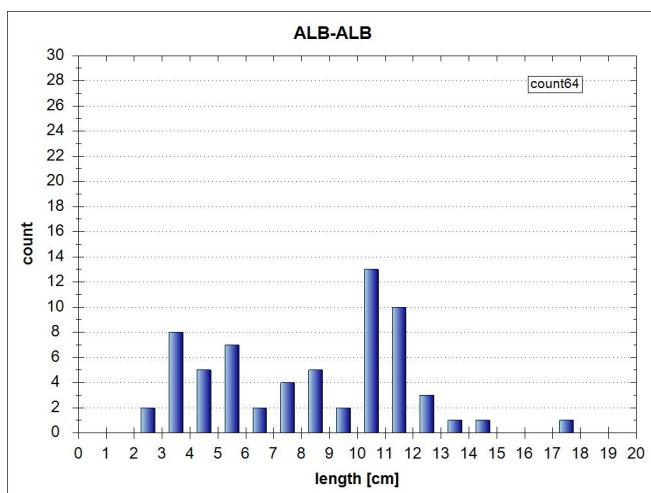
**Biometrics and catch rate**

Table 6: biometrics of each species and catch specific parameters

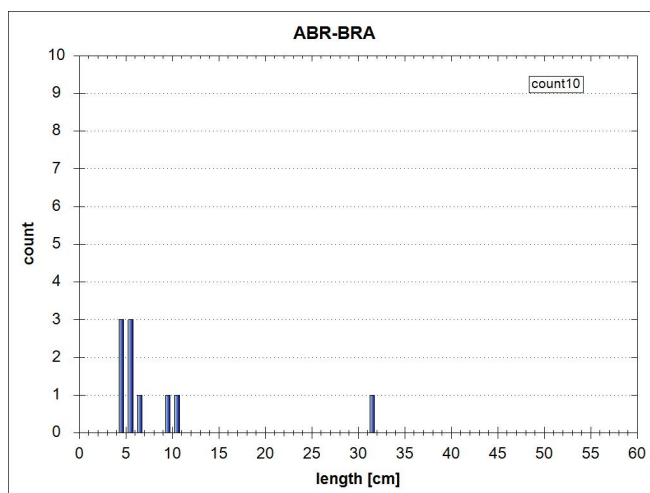
Fish species	Lt [cm]			n	Statist. Method	Catch- Probability [%]	Catch-effectivity		
	Min	Max					Min	MW	Max
Asp	9.8	18.2	53.0	26			0.10	0.28	1.00
Barbel	19.0	24.5	30.1	2			0.25	0.47	0.70
Bighead goby	5.0	7.1	10.5	7			0.10	0.41	0.60
Black-striped pipefish	6.5	8.4	12.0	47			0.15	0.66	0.70
Bleak	2.0	8.0	17.5	64			0.10	0.30	0.60
Bream	4.0	8.4	31.0	10			0.70	0.70	0.70
Bulgarian golden loach	8.5	8.5	8.5	1			0.30	0.30	0.30
Carp	26.0	26.0	26.0	1			0.15	0.15	0.15
Danube ruffe	7.0	7.3	7.5	2			0.10	0.15	0.20
Danubian spined loach	6.0	9.9	13.5	29			0.15	0.54	0.70
Ide	10.5	11.3	12.0	3			0.10	0.17	0.20
Monkey goby	1.8	5.2	13.5	99			0.20	0.64	0.70
Perch	6.5	10.8	18.5	26			0.15	0.31	0.70
Pike	16.0	28.1	60.0	47			0.10	0.28	0.70
Pikeperch	11.0	18.5	27.0	43			0.20	0.29	0.70
Prussian carp	13.5	18.6	27.0	12			0.15	0.27	0.70

Fish species	Lt [cm]		n	Statist.	Catch-	Catch-effectivity		
	Min	Max		Method	Probability [%]	Min	MW	Max
Pumkinseed	11.5	11.5	1			0.35	0.35	0.35
Racer goby	4.0	6.3	6			0.30	0.60	0.70
Roach	2.0	4.8	251			0.10	0.61	0.70
Round goby	3.4	7.4	48			0.10	0.42	0.70
Stellate tadpole-goby	2.2	3.2	5			0.70	0.70	0.70
Streber	13.0	14.6	8			0.10	0.36	0.70
Tench	5.5	5.5	1			0.60	0.60	0.60
Tube-nose goby	3.5	3.8	3			0.60	0.67	0.70
Ukrainian lamprey	10.0	14.0	6			0.10	0.38	0.60
White bream	4.0	10.3	36			0.15	0.20	0.40
White-finned gudgeon	1.5	4.9	8			0.60	0.67	0.70
Zingel	23.0	23.0	1			0.70	0.70	0.70
28 species		Sum	793					

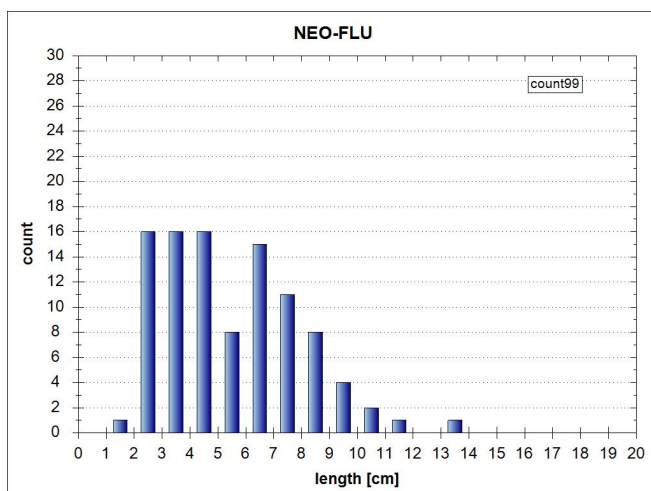
### Population structure of dominant species and subdominant species (total catch)



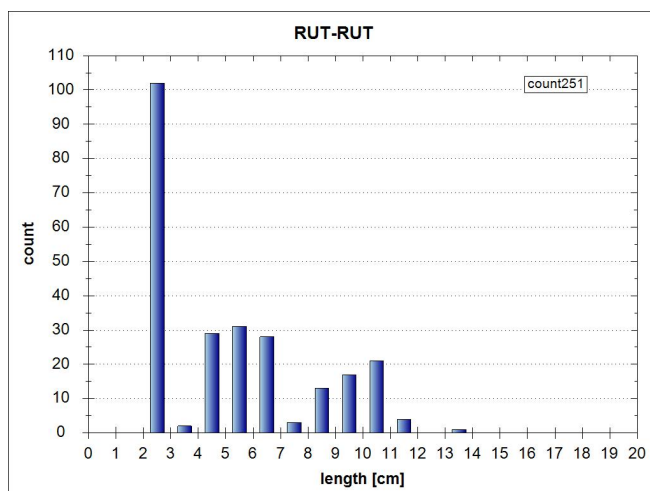
Bleak (*Alburnus alburnus*), 2



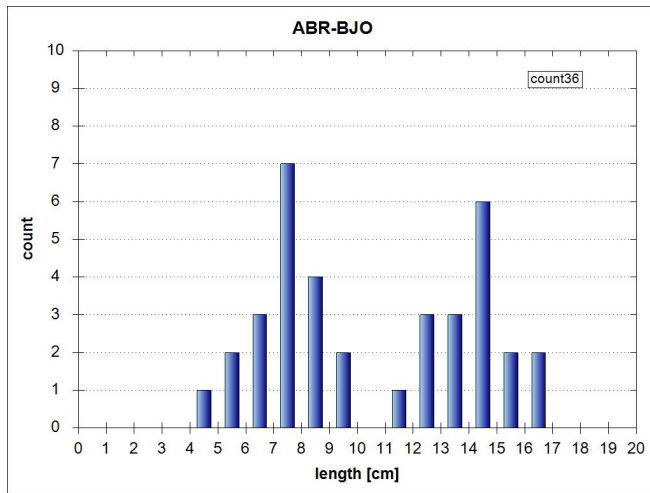
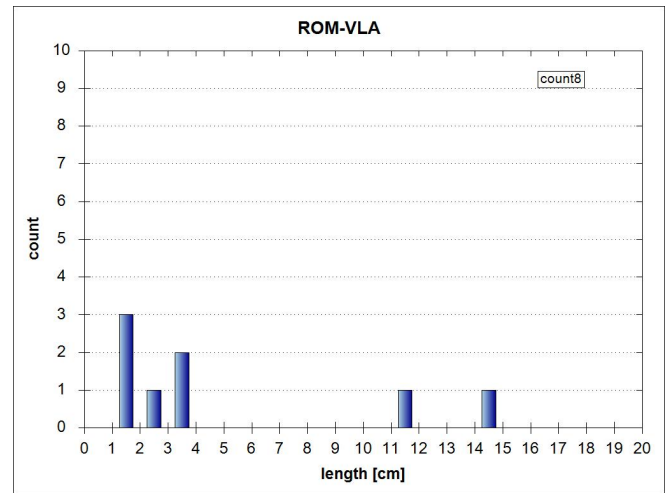
Bream (*Abramis brama*), 3



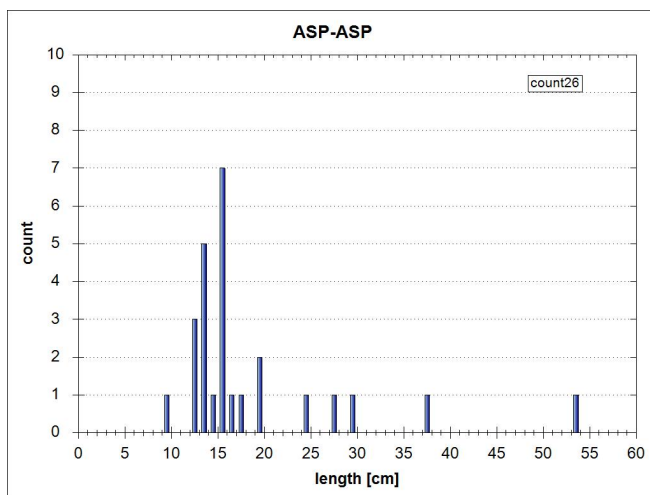
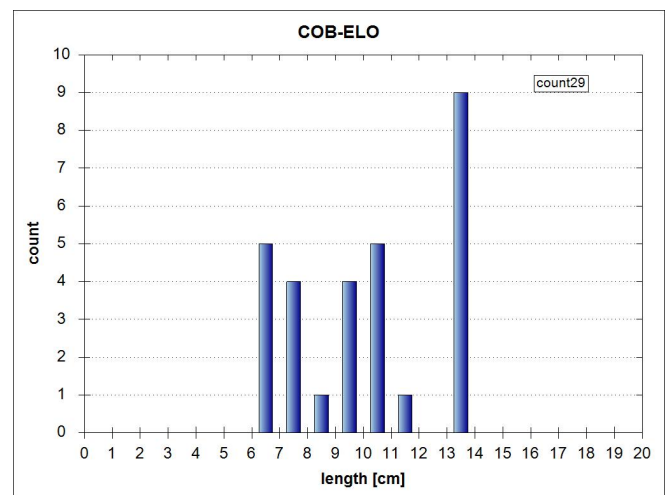
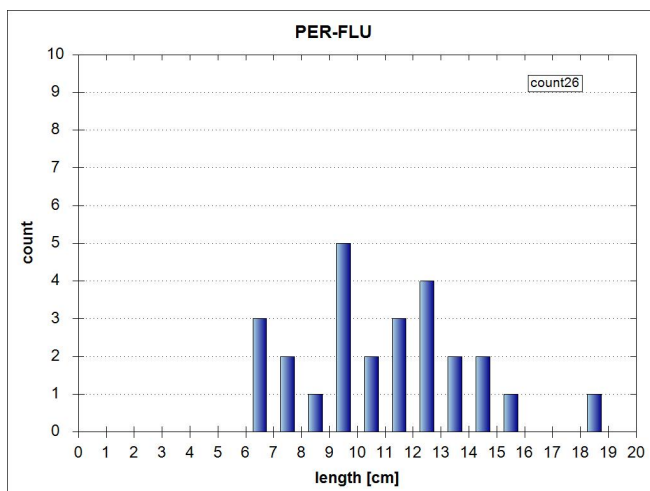
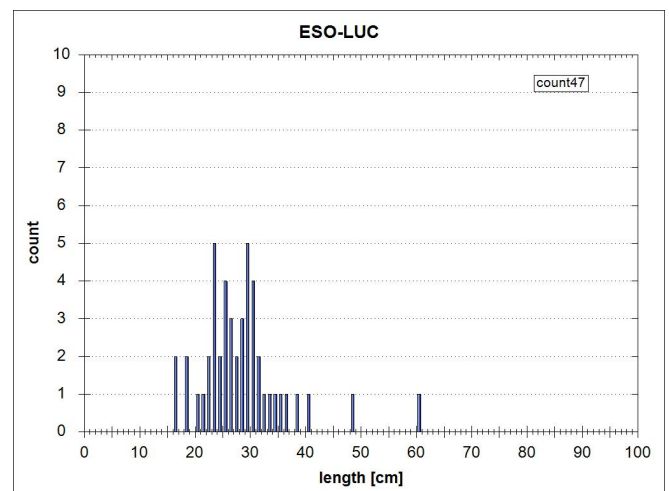
Monkey goby (*Neogobius fluviatilis*), 1

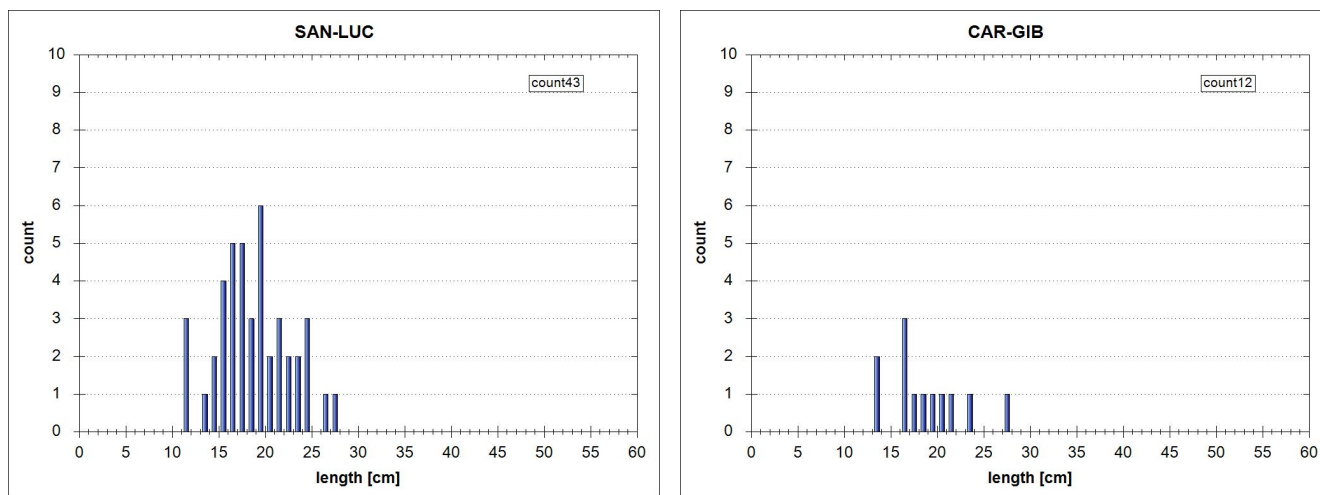


Roach (*Rutilus rutilus*), 1

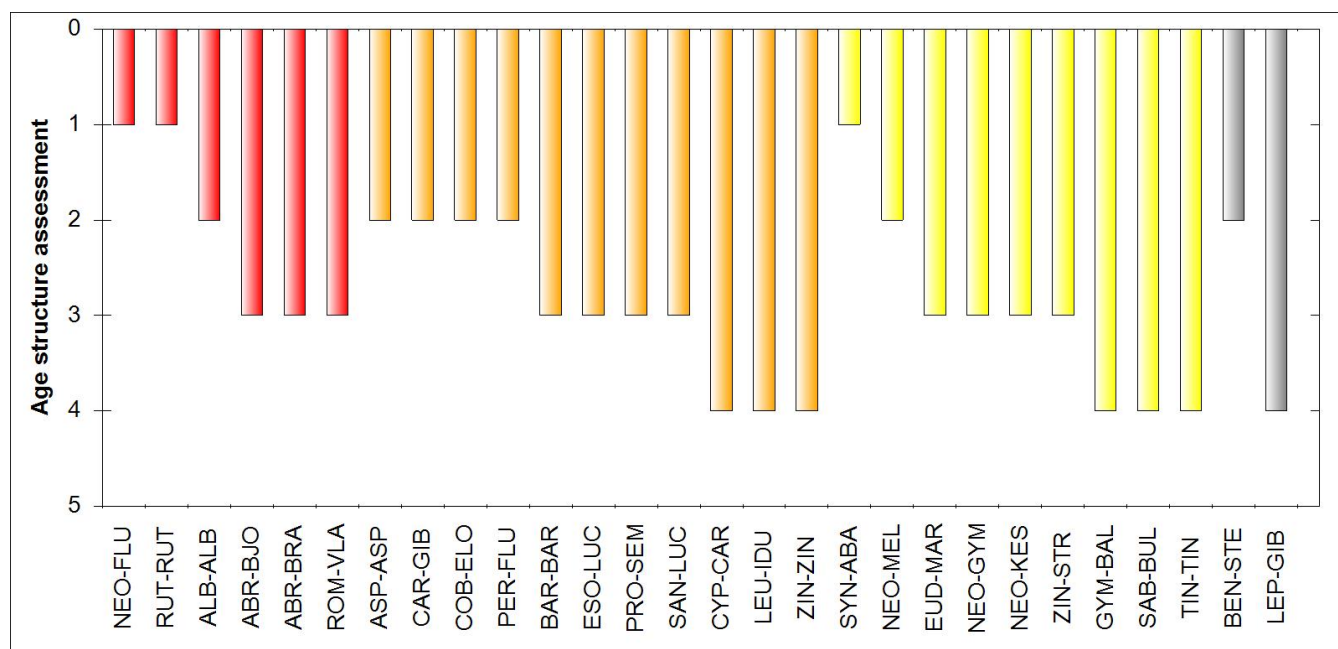
White bream (*Blicca bjoerkna*), 3White-finned gudgeon (*Romanogobio vladkovi*), 3

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

Asp (*Aspius aspius*), 2Danubian spined loach (*Cobitis elongatoides*), 2Perch (*Perca fluviatilis*), 2Pike (*Esox lucius*), 3

Pikeperch (*Sander lucioperca*), 3Prussian carp (*Carassius gibelio*), 2

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



Pic. 6: 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, Downstream Olt, RO JDS 75 ( + Olt river confluence), 9/15/2013

Rating					
Stock data	Abundance Ind/ha	Biomass kg/ha			ko-criterion biomass
	763.0	36.7		ko-crit	4

1. Species	Reference fish assemblage	actual (current)	Ratio/Deviation	Partial rating	
<b>Species</b>					
Dominant species	8	7	88%	3.0	
Subdominant species	16	10	63%	2.0	
Rare species	32	9	28%	2.0	
				2.3	
<b>Ecological guilds</b>					
Flow	6	4	2	3.0	
Reproduction	7	4	3	4.0	
				3.5	
<b>Species diversity &amp; guilds overall</b>					<b>2.8</b>

2. Dominance	Reference fish assemblage	actual (current)	Difference		
<b>Fish region index</b>	6.5	6.4	0.1		<b>1.0</b>

3. Population structure	Reference fish assemblage	actual (current)		Partial rating (1-5)	
Dominant species	8	7		2.5	
Subdominant species	16	10		3.8	
					<b>2.9</b>

Fishindex Austria without active ko-criterion				<b>2.55</b>
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<b>Biological quality element fish</b>	<b>FIA 4.00</b>	<b>Class 4</b>	<b>Poor</b>
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Date of Assessment:3/4/2014

Comment BAW-IGF

- no comment -

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

*Recommended improvements with priority ranking if possible;*