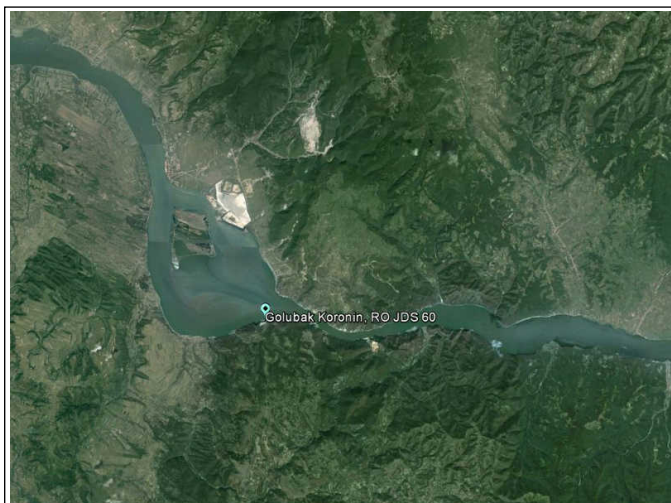


Danube**Golubak Koronin, RO JDS 60 (RO JDS 60), 08.September 2013**

FDA_ID 203



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

Description of monitoring site

angeliefert als RO JDS 62

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

Biological quality element fish	None
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Ecological status class, current survey, 08.September 2013

Biological quality element fish	FIA 2.23	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 Golubak Koronin, RO JDS 60

Watercourse name	Danube	Federal state	not available
Monitoring site	Golubak Koronin, RO JDS 60	District	
Monitoring site number	RO JDS 60	Community	
Turnus number		Longitude (WGS 84, decimal) O	21.67333
sampling number		Latitude (WGS 84, decimal) N	44.663683
Survey-ID (FDA)	203	Route-ID	
Date	9/8/2013	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	Iron Gate Danube (1075-943) (7)	Huet-zonation	barbel zone
Biocenotic Region	Metapotamon	Adapt. Reference	104
River km from	1,046.0	Altitude [m.a.s]	66
River km to	1,036.0	Ø catchment basin [km²]	571,500
Section length [m]	10,000	Catchment-class	more than 10.000km²
Ø channel width [m]	2100	Slope [‰]	0.01
Original stream character	lowland stream -river	Discharge regime	
Actual site character			
Actual impact		Reference watergauge (name, number)	
Flow [semiquant.]		Distance from source [km]	1,803.0
Average water depth [m]	2m - 5m	Lake above	No
Maximum water depth [m]	5m - 10m	Distance lake upstream [km]	
Geology	calcareous	Lake below	
Influence of sediment transport	slightly affected	Distance lake downstream [km]	
Ø wetted width [m]	2100	Flow condition	MQ - mean water up to riparian vegetation
pH-value		Visible depth	2
SBV		Fishing conditions	bad
Water temperature [°C] (F117)		Average annual air temperature [°C]	11.3
Conductance, 25°C [µS/cm] (F118)			
Methods used and effort			
Strip-fishing, day		Number of runs	1
Fished length [m]	2,660	E-devices output [kW]	11
Fished area [m²]	6,980	Output voltage	600
		Number of anodes	
		Number of strips/sections	9
and additional methods	Fished area [m²]	additional methods	Effort [UE]
E-Fishing by night	3,900		

Comments on survey:

9th of september- breakup during day fishing due to heavy storm 9.9.

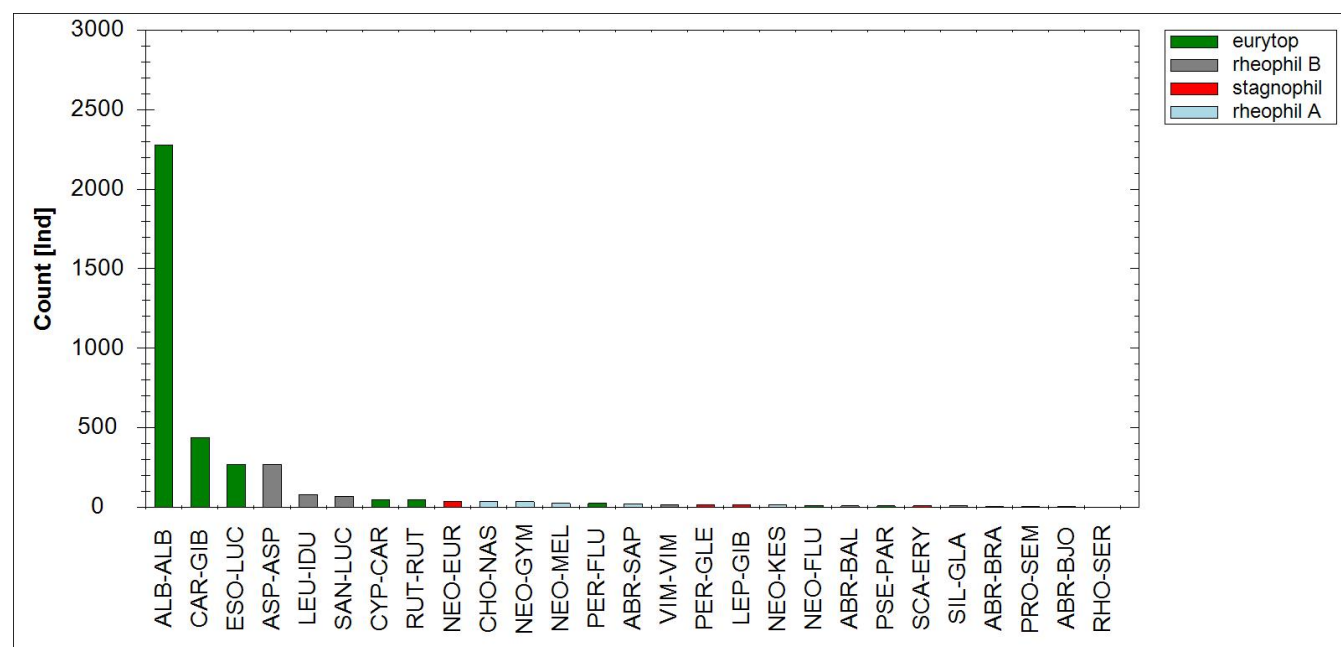
Table 2: Sampling effort at the monitoring site Golubak Koronin, RO JDS 60, September 2013

Habitat	Str. no	DG	Length [m]	Width [m]	UE	Method
rock	12	1	500	2		E-fishing day boat
rock	13	1	300	2		E-fishing day boat
rock	14	1	200	2		E-fishing day boat
other technical bank type	1	1	210	3		E-fishing day boat
other technical bank type	2	1	290	3		E-fishing night
other natural bank	1	1	210	3		E-fishing night
other natural bank	2	1	280	3		E-fishing night
other natural bank	3	1	290	3		E-fishing night
other natural bank	4	1	230	3		E-fishing night
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	300	3		E-fishing day boat
other natural bank	8	1	270	3		E-fishing day boat
other natural bank	9	1	280	3		E-fishing day boat

Table 3: Habitat weighting used at the monitoring site Golubak Koronin, RO JDS 60

Habitat	%
other natural bank	65
other technical bank type	35
rock	0

Catch result, fish assemblage and threatening status



Pic. 2: Species ranking diagram of catch results Danube, Golubak Koronin, RO JDS 60

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	269
	Barbel	<i>Barbus barbus</i>	b	V	NT	LC	
	Bitterling	<i>Rhodeus amarus</i>	s	II	VU	LC	1
	Bleak	<i>Alburnus alburnus</i>	I	-	LC	LC	2,276
	Blue bream	<i>Abramis ballerus</i>	s	-	EN		8
	Bream	<i>Abramis brama</i>	I	-	LC		7
	Carp	<i>Cyprinus carpio</i>	b	-	EN	DD	49
	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>	I	-	EN	LC	80
	Kessler's gudgeon	<i>Romanogobio kesslerii</i>	s	II	EN	DD	
	Nase	<i>Chondrostoma nasus</i>	b	-	NT	LC	35
	Prussian carp	<i>Carassius gibelio</i>	s	-	LC		438
	Roach	<i>Rutilus rutilus</i>	I	-	LC	LC	49
	Rudd	<i>Scardinius erythrophthalmus</i>	s	-	LC	LC	8
	Sabre carp	<i>Pelecus cultratus</i>	s	II; V	NT	DD	
	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	18
	White bream	<i>Blicca bjoerkna</i>	I	-	LC	LC	3
	White-finned gudgeon	<i>Romanogobio vladykovi</i>	b	II	LC	DD	
Esocidae	Pike	<i>Esox lucius</i>	b	-	NT		271
Gadidae	Burbot	<i>Lota lota</i>	s	-	VU		
Percidae	Danube ruffe	<i>Gymnocephalus baloni</i>	s	II; IV	VU	DD	
	Perch	<i>Perca fluviatilis</i>	b	-	LC	LC	25
	Pikeperch	<i>Sander lucioperca</i>	b	-	NT	LC	70
	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	
	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	8
Cobitidae	Danubian spined loach	<i>Cobitis elongatoides</i>	b	-			
	Weatherfish	<i>Misgurnus fossilis</i>	s	II	CR	NT	
Balitoridae	Danube bream	<i>Abramis sapa</i>	b	-	EN		22
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	

Family	English name	Scient. name of species	Reference fish assemblage	FHH	Red List	IUCN	Count
Clupeidae	Azov shad	<i>Alosa tanaica</i>	s				
	Pontic shad	<i>Alosa immaculata</i>	s	-			
Cyprinidae	Stone moroko	<i>Pseudorasbora parva</i>		-	NE		8
Gobiidae	Bighead goby	<i>Neogobius kessleri</i>		-	NE	DD	14
	Chinese sleeper	<i>Perccottus glenii</i>		-			15
	Monkey goby	<i>Neogobius fluviatilis</i>		-	NE	DD	12
	Mushroom goby	<i>Neogobius eurycephalus</i>		-			36
	Racer goby	<i>Neogobius gymnotrachelus</i>		-	NE	DD	35
	Round goby	<i>Neogobius melanostomus</i>		-	NE	DD	25
	Tubenose goby	<i>Proterorhinus semilunaris</i>		-	EN	LC	7
Centrarchidae	Pumkinseed	<i>Lepomis gibbosus</i>		-	NE		14

Observed:: reference fish assemblage 18Taxa :: 47Taxa

Taxa complete 27

Count species of reference fish assemblage 3,637

Total count 3,803

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)

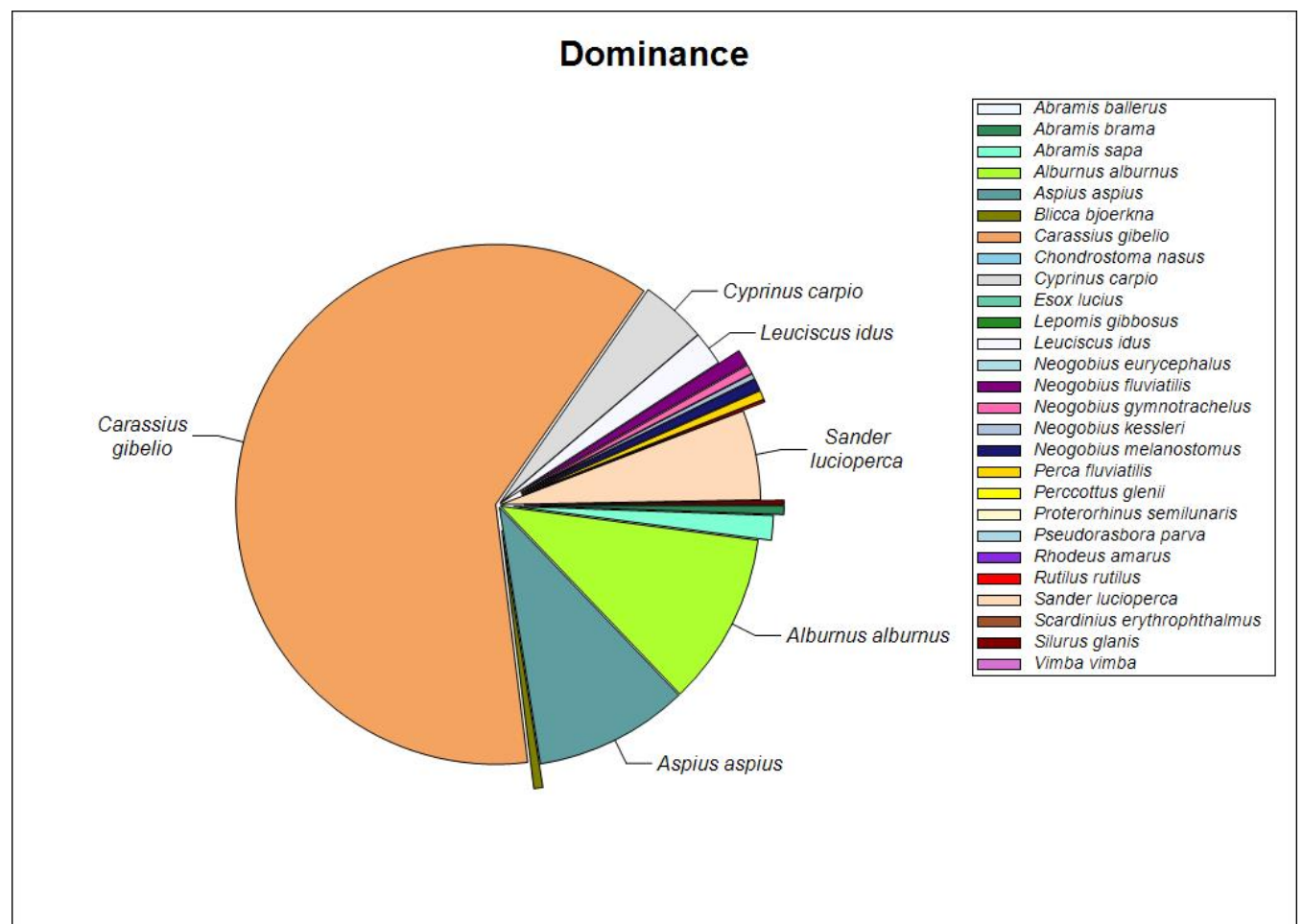
- II Species listed in Annex II of the FFH- Directive (nature reserves have to be set out for this species)
- IV Species listed in Annex IV of the FFH- Directive (strict protection of animals and plants)
- V Species listed in Annex V of the FFH- Directive (species whose collection and use is subject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

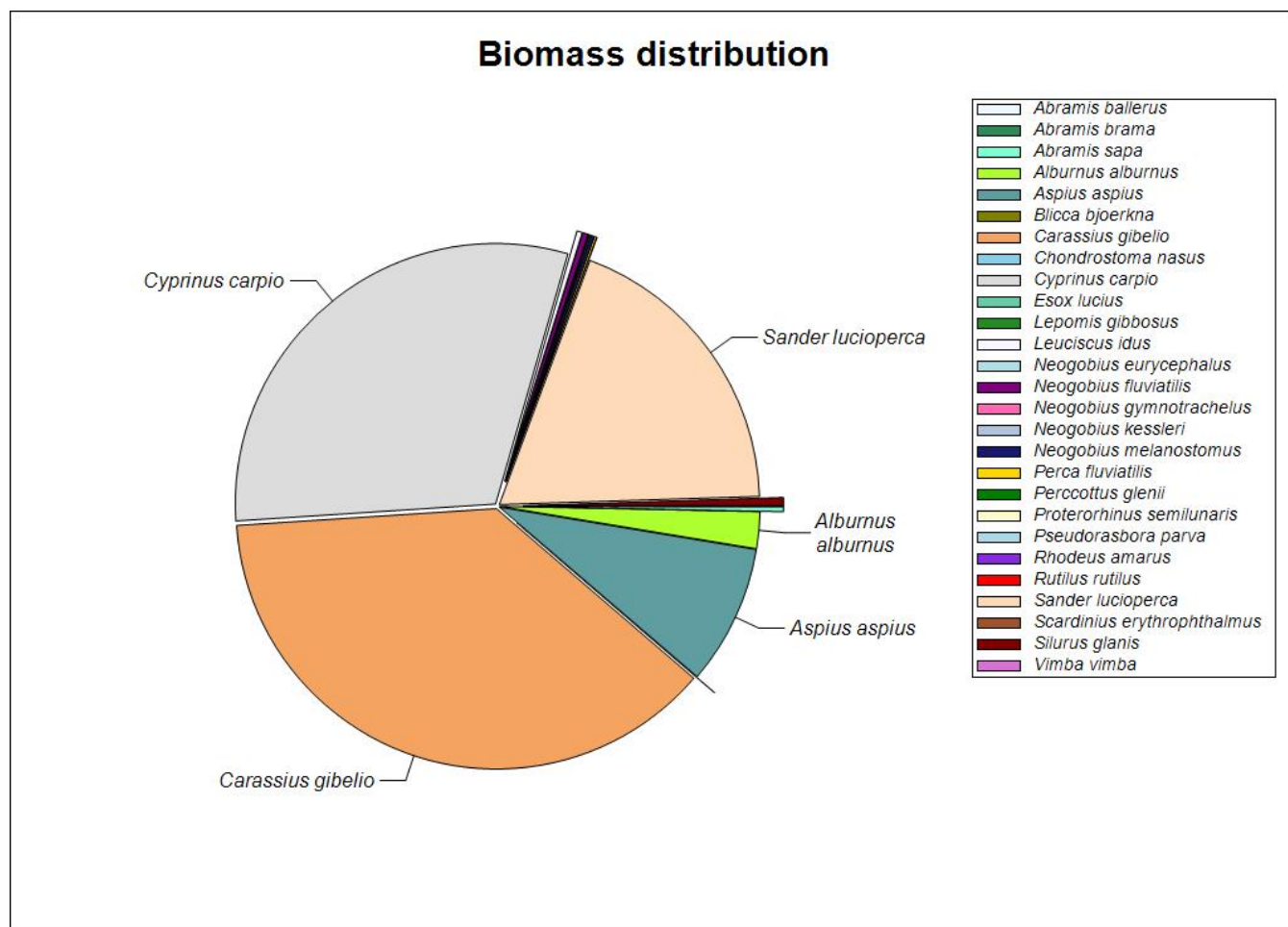
Abundance and biomass

Table 5: abundance and biomass (e-fishings)Danube, Golubak Koronin, RO JDS 60, 9/8/2013

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	269	255.5		10.5		11.1	41.2	3	b
Bighead goby	NEO-KES	14	8.7		0.1		8.7	12.9	2	
Bitterling	RHO-SER	1	0.0		0.0	0.0	5.0	0.0	4	s
Bleak	ALB-ALB	2,276	286.4		2.8		8.8	9.7	1	I
Blue bream	ABR-BAL	8	0.0		0.0	0.0	10.0	0.0	3	s
Bream	ABR-BRA	7	14.9		0.0		7.5	1.2	3	I
Carp	CYP-CAR	49	109.4		37.1		18.5	339.3	2	b
Chinese sleeper	PER-GLE	15	0.0		0.0	0.0	5.1	0.0	2	
Danube bream	ABR-SAP	22	40.8		0.4		9.9	9.3	3	b
Ide	LEU-IDU	80	56.0		0.4		9.3	7.3	3	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	Refere nce fish assem blage
Monkey goby	NEO-FLU	12	25.6		0.4		7.8	15.9	3	
Mushroom goby	NEO-EUR	36	0.0		0.0	0.0	8.1	0.0	2	
Nase	CHO-NAS	35	0.0		0.0	0.0	9.5	0.0	3	b
Perch	PER-FLU	25	14.9		0.2		10.7	11.3	3	b
Pike	ESO-LUC	271	0.0		0.0	0.0	8.9	0.0	2	b
Pikeperch	SAN-LUC	70	148.5		22.9		20.9	154.3	2	b
Prussian carp	CAR-GIB	438	1,638.7		45.8		8.7	28.0	3	s
Pumkinseed	LEP-GIB	14	0.0		0.0	0.0	7.3	0.0	3	
Racer goby	NEO-GYM	35	14.9		0.1		8.3	6.1	2	
Roach	RUT-RUT	49	3.7		0.0		10.2	7.3	2	l
Round goby	NEO-MEL	25	18.5		0.2		7.5	12.3	3	
Rudd	SCA-ERY	8	0.0		0.0	0.0	10.1	0.0	3	s
Stone moroko	PSE-PAR	8	0.0		0.0	0.0	6.6	0.0	2	
Tubenose goby	PRO-SEM	7	0.0		0.0	0.0	5.1	0.0	2	
Vimba bream	VIM-VIM	18	0.0		0.0	0.0	13.0	0.0	2	b
Wels catfish	SIL-GLA	8	7.5		0.6		19.8	81.3	3	b
White bream	ABR-BJO	3	14.9		0.0		7.7	1.7	4	l
18 species of 47	Total	3,803	2,658.9		121.6					





Pic. 3: Dominance und Biomass distribution

Shannon-Index: 1.614

Equitability: 0.490

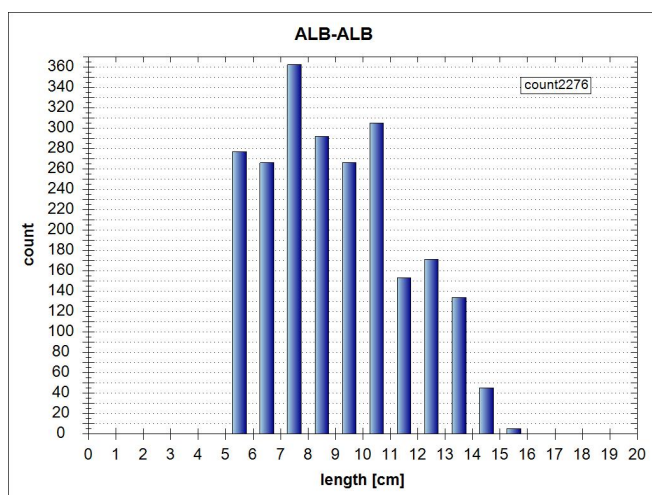
Biometrics and catch rate

Table 6: biometrics of each species and catch specific parameters

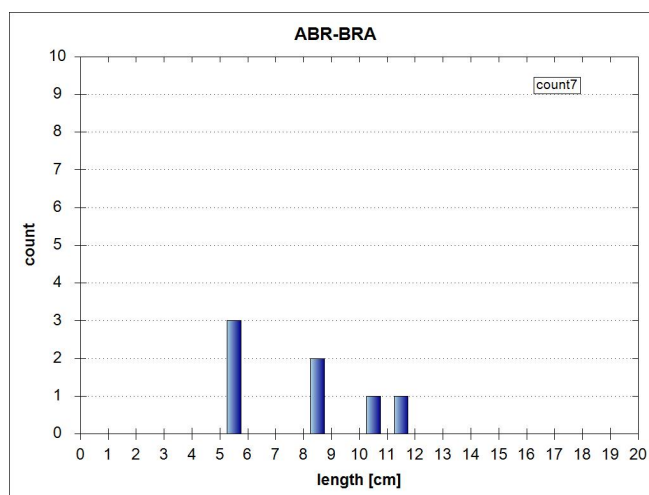
Fish species	Lt [cm]			n	Statist. Method	Catch- Probability [%]	Catch-effectivity		
	Min	Max					Min	MW	Max
Asp	5.0	11.1	55.0	269			0.10	0.38	0.70
Bighead goby	6.0	8.7	10.0	14			0.30	0.48	0.50
Bitterling	5.0	5.0	5.0	1			0.20	0.20	0.20
Bleak	5.0	8.8	15.5	2,276			0.05	0.49	0.50
Blue bream	7.0	10.0	12.5	8			0.30	0.45	0.50
Bream	5.0	7.5	11.0	7			0.10	0.21	0.30
Carp	5.5	18.5	65.0	49			0.10	0.33	0.50
Chinese sleeper	4.0	5.1	6.0	15			0.50	0.50	0.50
Danube bream	8.0	9.9	12.0	22			0.10	0.24	0.50
Ide	7.0	9.3	14.5	80			0.10	0.38	0.50
Monkey goby	5.0	7.8	14.0	12			0.30	0.48	0.70
Mushroom goby	6.0	8.1	10.5	36			0.50	0.50	0.50
Nase	8.5	9.5	10.5	35			0.50	0.50	0.50
Perch	8.0	10.7	15.0	25			0.10	0.35	0.50
Pike	5.0	8.9	40.0	271			0.20	0.50	0.50
Pikeperch	4.2	20.9	52.0	70			0.15	0.25	0.50

Fish species	Lt [cm]		n	Statist.	Catch-	Catch-effectivity		
	Min	Max		Method	Probability [%]	Min	MW	Max
Prussian carp	1.2	8.7	40.0	438		0.02	0.22	0.70
Pumkinseed	3.0	7.3	13.0	14		0.50	0.50	0.50
Racer goby	7.0	8.3	11.5	35		0.20	0.44	0.50
Roach	6.0	10.2	16.0	49		0.30	0.49	0.50
Round goby	6.0	7.5	9.5	25		0.30	0.49	0.50
Rudd	8.5	10.1	13.0	8		0.30	0.48	0.50
Stone moroko	5.0	6.6	8.0	8		0.20	0.43	0.50
Tubenose goby	4.5	5.1	6.0	7		0.50	0.50	0.50
Vimba bream	10.0	13.0	21.0	18		0.20	0.48	0.50
Wels catfish	12.0	19.8	40.0	8		0.40	0.48	0.50
White bream	5.0	7.7	12.0	3		0.10	0.20	0.30
27 species		Sum	3,803					

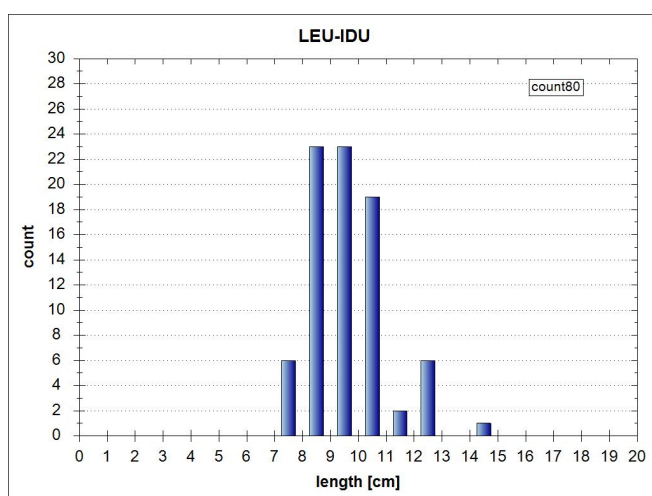
Population structure of dominant species and subdominant species (total catch)



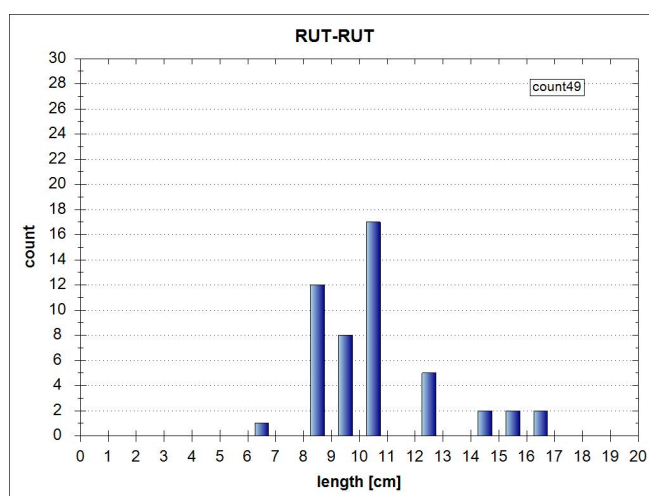
Bleak (*Alburnus alburnus*), 1



Bream (*Abramis brama*), 3

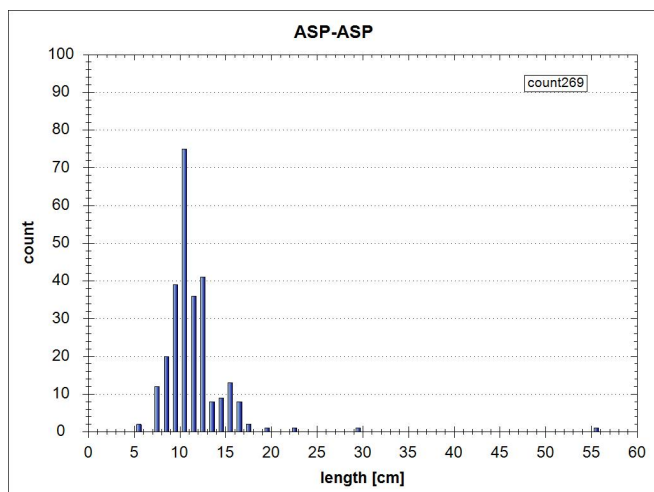
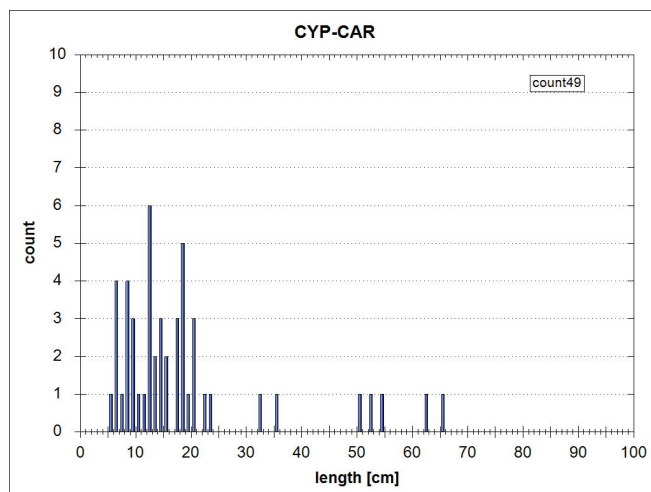
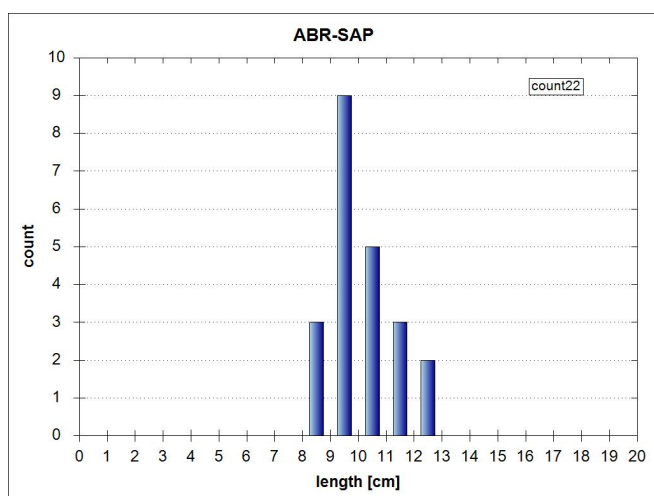
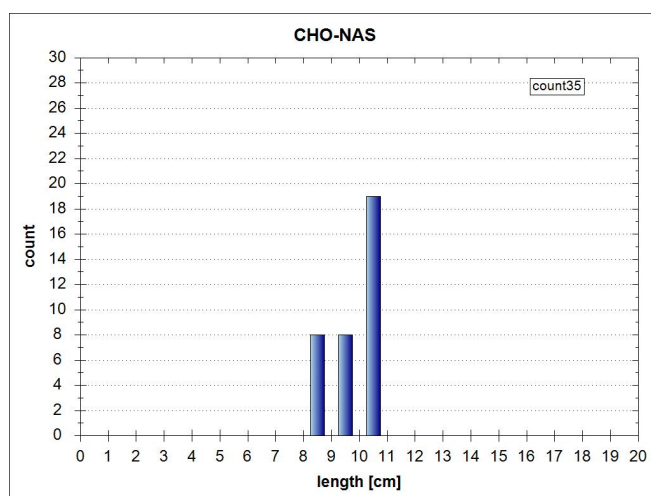
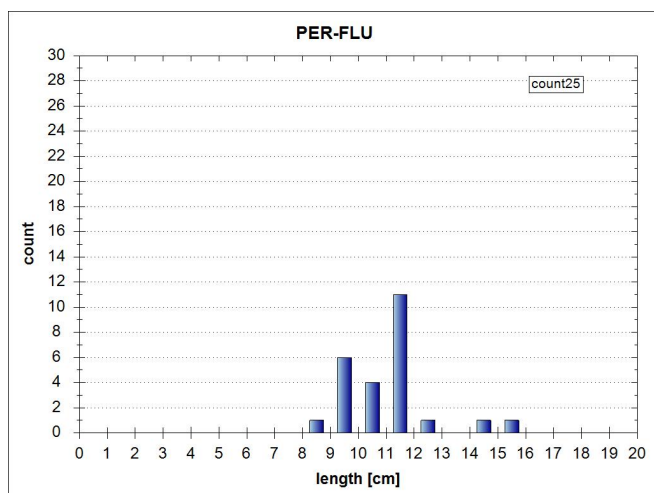
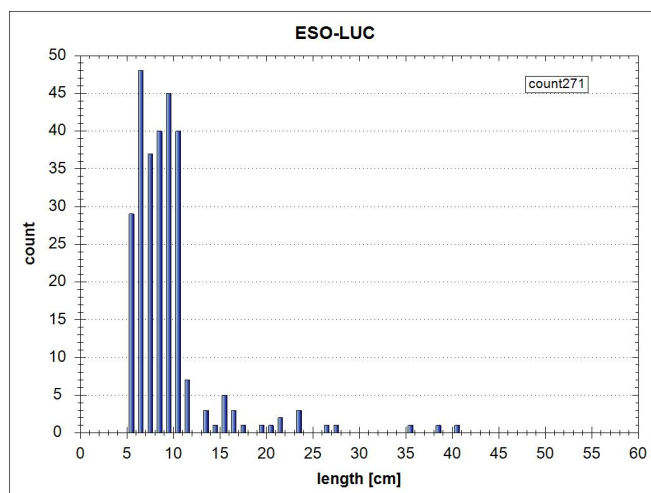


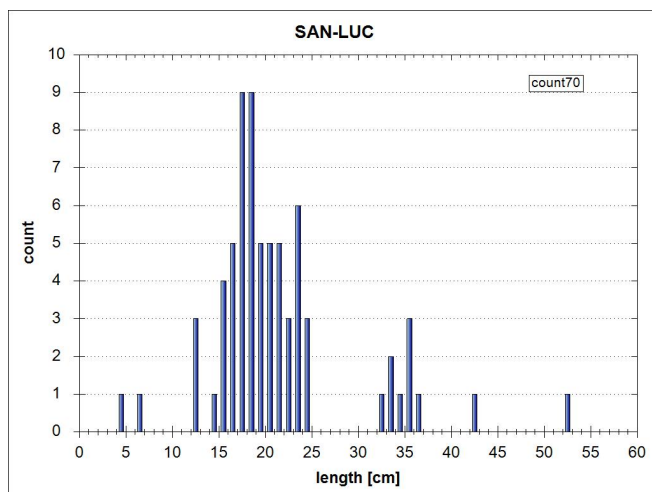
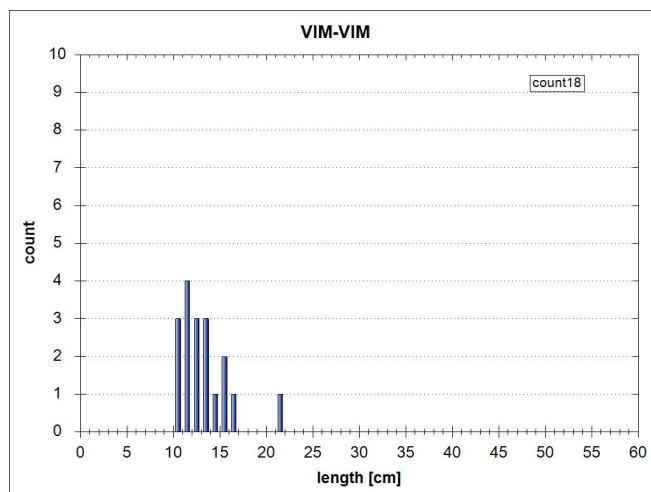
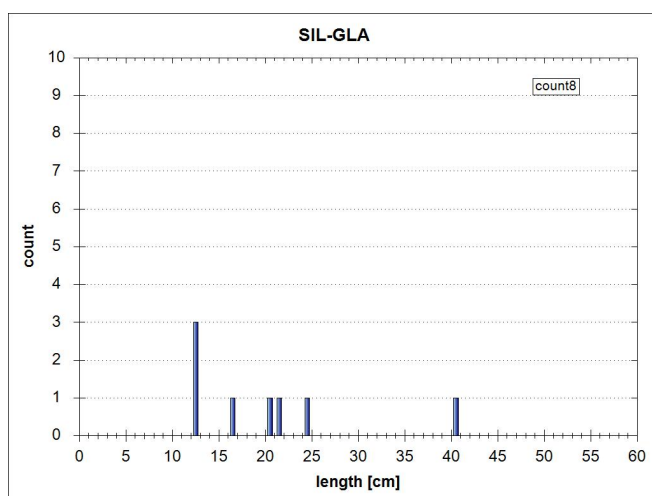
Ide (*Leuciscus idus*), 3



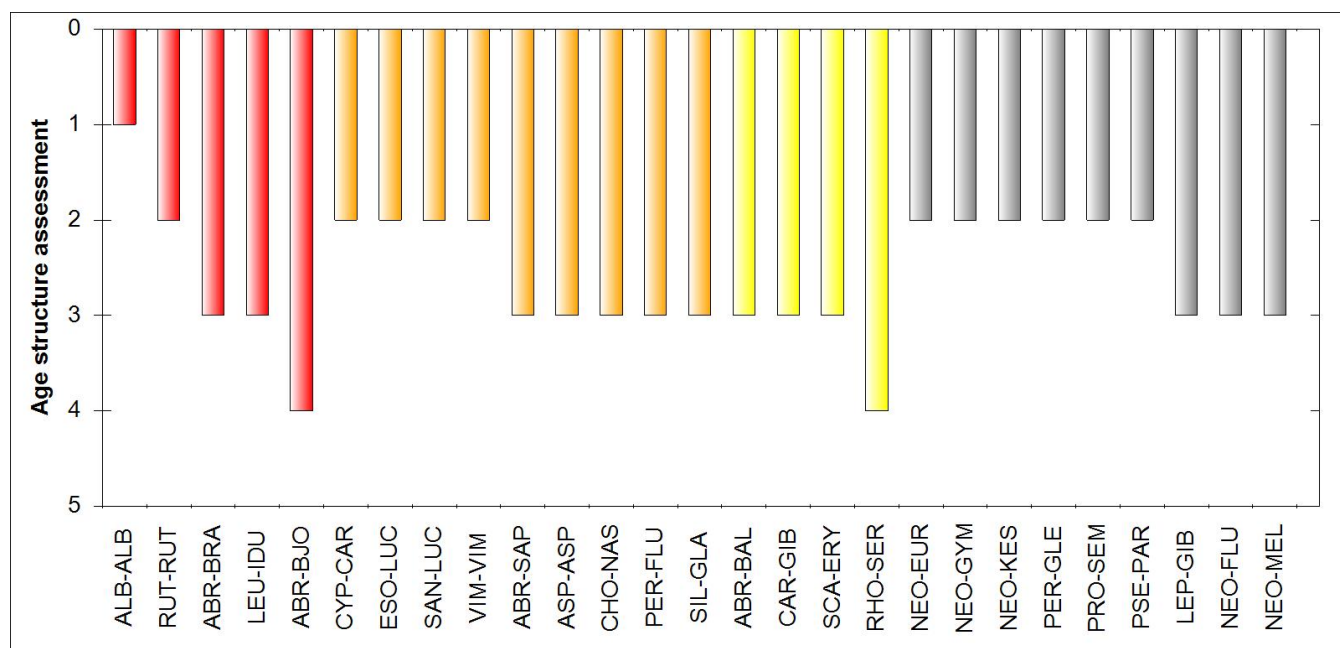
Roach (*Rutilus rutilus*), 2

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

Asp (*Aspius aspius*), 3Carp (*Cyprinus carpio*), 2Danube bream (*Abramis sapo*), 3Nase (*Chondrostoma nasus*), 3Perch (*Perca fluviatilis*), 3Pike (*Esox lucius*), 2

Pikeperch (*Sander lucioperca*), 2Vimba bream (*Vimba vimba*), 2Wels catfish (*Silurus glanis*), 3

Pic. 5: Length-frequency diagram of subdominant species (n>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, Golubak Koronin, RO JDS 60, 9/8/2013

Rating					
Stock data	Abundance Ind/ha	Biomass kg/ha			ko-criterion biomass
	2,591.3	120.8			OK
1. Species	Reference fish assemblage	actual (current)	Ratio/Deviation	Partial rating	
Species					
Dominant species	5	5	100%	1.0	
Subdominant species	14	9	64%	2.0	
Rare species	28	4	14%	3.0	
				2.0	
Ecological guilds					
Flow	6	4	2	3.0	
Reproduction	6	4	2	3.0	
				3.0	
Species diversity & guilds overall					1.9
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	5	5		2.6	
Subdominant species	14	9		3.4	
					2.9
Fishindex Austria without active ko-criterion					2.23
Biological quality element fish		FIA 2.23	Class 2	Good	

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;