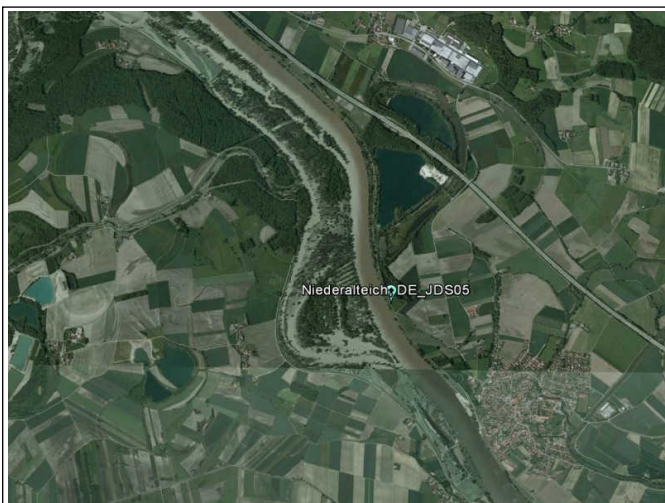


**Danube****Niederalteich, DE\_JDS05 (DE\_JDS05 ), 16.August 2013**

FDA\_ID 221



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



Pic. 2: Monitoring site Niederalteich, DE\_JDS05

**Description of monitoring site***- no data -***Assessment****Estimated assessment of the ecological status class (FÖZ)**

Biological quality element fish	Action required (3)
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**Ecological status class, current survey, 16.August 2013**

Biological quality element fish	FIA 2.09	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 siteNiederalteich, DE\_JDS05

Watercourse name	<b>Danube</b>	Federal state	<b>not availabvle</b>
Monitoring site	<b>Niederalteich, DE_JDS05</b>	District	
Monitoring site number	<b>DE_JDS05</b>	Community	
Turnus number		Longitude (WGS 84, decimal) O	<b>13.01017</b>
sampling number		Latitude (WGS 84, decimal) N	<b>48.77495</b>
Survey-ID (FDA)	<b>221</b>	Route-ID	
Date	<b>8/16/2013</b>	River-km [monitoring site]	
Contracting authority	<b>ICPDR</b>	Number of planing area	
Contractor	<b>LFU Bayern</b>	Detail waterbody	
Project manager	<b>Jörg Brandner</b>		
Reason of survey	<b>JDS 3</b>		
Fishing category			
Bioregion		Waters ordinal number	
Fish bioregion	<b>Western Alpine Foothills Danube (2581-2225) (2)</b>	Huet-zonation	<b>barbel zone</b>
Biocenotic Region	<b>Epipotamon large</b>	Adapt. Reference	<b>103</b>
River km mean	<b>2,278.0</b>	Altitude [m.a.s]	<b>305</b>
		Ø catchment basin [km²]	<b>13,020</b>
Section length [m]	<b>3,000</b>	Catchment-class	<b>more than 10.000km²</b>
Ø channel width [m]	<b>185</b>	Slope [‰]	<b>0.4</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>570.0</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>180</b>	Flow condition	<b>MNQ - mean low water</b>
pH-value		Visible depth	
SBV		Fishing conditions	<b>excellent</b>
Water temperature [°C] (F117)	<b>20.2</b>	Average annual air temperature [°C]	<b>8.6</b>
Conductance, 25°C [µS/cm] (F118)	<b>510</b>		
Methods used and effort			
<b>Strip-fishing, day</b>		Number of runs	<b>1</b>
Fished length [m]	<b>3,390</b>	E-devices output [kW]	<b>13</b>
Fished area [m²]	<b>13,140</b>	Output voltage	<b>600</b>
		Number of anodes	
		Number of strips/sections	<b>8</b>
and additional methods	<b>Fished area [m²]</b>	additional methods	<b>Effort [UE]</b>
E-Fishing by night	<b>10,080</b>		

### Comments on survey:

Befischung nur durch national team nach FIBS- Fangerfolg immer 100%, Streifenbreite Pol: 2x1,5m, Rechen: 6m

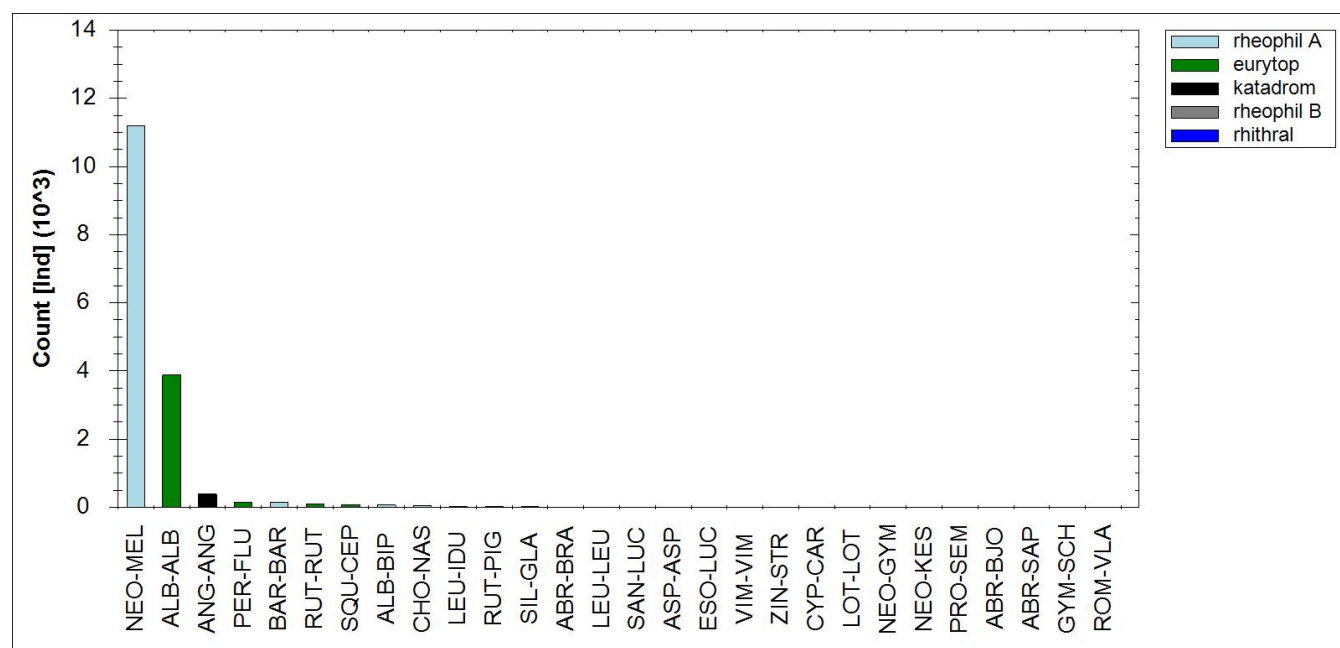
Table 2: Sampling effort at the monitoring site Niederaltelch, DE\_JDS05, August 2013

Habitat	Str. no	DG	Length [m]	Width [m]	UE	Method
rip-rap	1	1	300	3		E-fishing day boat
rip-rap	5	1	300	3		E-fishing day boat
rip-rap	6	1	450	3		E-fishing day boat
rip-rap	11	1	500	6		E-fishing night
groin	2	1	650	3		E-fishing day boat
groin	3	1	200	3		E-fishing day boat
groin	4	1	500	3		E-fishing day boat
gravel bar	7	1	240	6		E-fishing day boat
gravel bar	8	1	750	6		E-fishing day boat
gravel bar	9	1	700	6		E-fishing night
gravel bar	10	1	480	6		E-fishing night

Table 3: Habitat weighting used at the monitoring site Niederaltelch, DE\_JDS05

Habitat	%
gravel bar	20
groin	20
rip-rap	60

### Catch result, fish assemblage and threatening status



Pic. 3: Species ranking diagram of catch results Danube, Niederaltelch, DE\_JDS05

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	
Salmonidae	Brown trout	<i>Salmo trutta fario</i>	s	-	NT		
	Danube salmon	<i>Hucho hucho</i>	s	II; V	EN	EN	
Thymallidae	Greyling	<i>Thymallus thymallus</i>	s	V	VU	LC	
Cyprinidae	Asp	<i>Aspius aspius</i>	b	II	EN	DD	5
	Barbel	<i>Barbus barbus</i>	I	V	NT	LC	144
	Bitterling	<i>Rhodeus amarus</i>	s	II	VU	LC	
	Bleak	<i>Alburnus alburnus</i>	I	-	LC	LC	3,885
	Blue bream	<i>Abramis ballerus</i>	s	-	EN		
	Bream	<i>Abramis brama</i>	I	-	LC		9
	Carp	<i>Cyprinus carpio</i>	b	-	EN	DD	4
	Chub	<i>Squalius cephalus</i>	I	-	LC	LC	74
	Crucian carp	<i>Carassius carassius</i>	s	-	EN	LC	
	Dace	<i>Leuciscus leuciscus</i>	b	-	NT	LC	6
	Danube roach	<i>Rutilus pigus</i>	b	II; V	EN	DD	23
	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	23
	Minnow	<i>Phoxinus phoxinus</i>	s	-	NT	LC	
	Nase	<i>Chondrostoma nasus</i>	I	-	NT	LC	48
	Prussian carp	<i>Carassius gibelio</i>	s	-	LC		
	Roach	<i>Rutilus rutilus</i>	I	-	LC	LC	94
	Rudd	<i>Scardinius erythrophthalmus</i>	s	-	LC	LC	
	Sabre carp	<i>Pelecus cultratus</i>	s	II; V	NT	DD	
	Spirlin	<i>Alburnoides bipunctatus</i>	s	-	LC	LC	71
	Tench	<i>Tinca tinca</i>	s	-	VU	LC	
	Vimba bream	<i>Vimba vimba</i>	s	-	VU	LC	5
	White bream	<i>Blicca bjoerkna</i>	b	-	LC	LC	2
	White-finned gudgeon	<i>Romanogobio vladykovi</i>	b	II	LC	DD	1
Esocidae	Pike	<i>Esox lucius</i>	b	-	NT		5
Gadidae	Burbot	<i>Lota lota</i>	s	-	VU		4
Percidae	Perch	<i>Perca fluviatilis</i>	I	-	LC	LC	146
	Pikeperch	<i>Sander lucioperca</i>	s	-	NT	LC	6
	Ruffe	<i>Gymnocephalus cernuus</i>	b	-	LC	LC	
	Schraetser	<i>Gymnocephalus schraetser</i>	s	II; V	VU	VU	1
	Streber	<i>Zingel streber</i>	s	II	EN	VU	5
	Zingel	<i>Zingel zingel</i>	s	II; V	VU	VU	
Siluridae	Wels catfish	<i>Silurus glanis</i>	s	-	VU	LC	16
Cottidae	Bullhead	<i>Cottus gobio</i>	s	II	NT	LC	
Cobitidae	Spined loach	<i>Cobitis taenia</i>	s	II	VU	LC	
	Weatherfish	<i>Misgurnus fossilis</i>	s	II	CR	NT	
Balitoridae	Danube bream	<i>Abramis sapa</i>	s	-	EN		2
	Stone loach	<i>Barbatula barbatula</i>	s	-	LC	LC	
Gobiidae	Bighead goby	<i>Neogobius kessleri</i>		-	NE	DD	4
	Racer goby	<i>Neogobius gymnotrachelus</i>		-	NE	DD	4

Family	English name	Scient. name of species	Reference fish assemblage	FHH	Red List	IUCN	Count
	Round goby	<i>Neogobius melanostomus</i>		-	NE	DD	11,200
	Tubenose goby	<i>Proterorhinus semilunaris</i>		-	EN	LC	4
Anguillidae	Eel	<i>Anguilla anguilla</i>		-	RE		389

Observed:: reference fish assemblage 23Taxa :: 43Taxa

Taxa complete 28

Count species of reference fish assemblage 4,579

Total count 16,180

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)

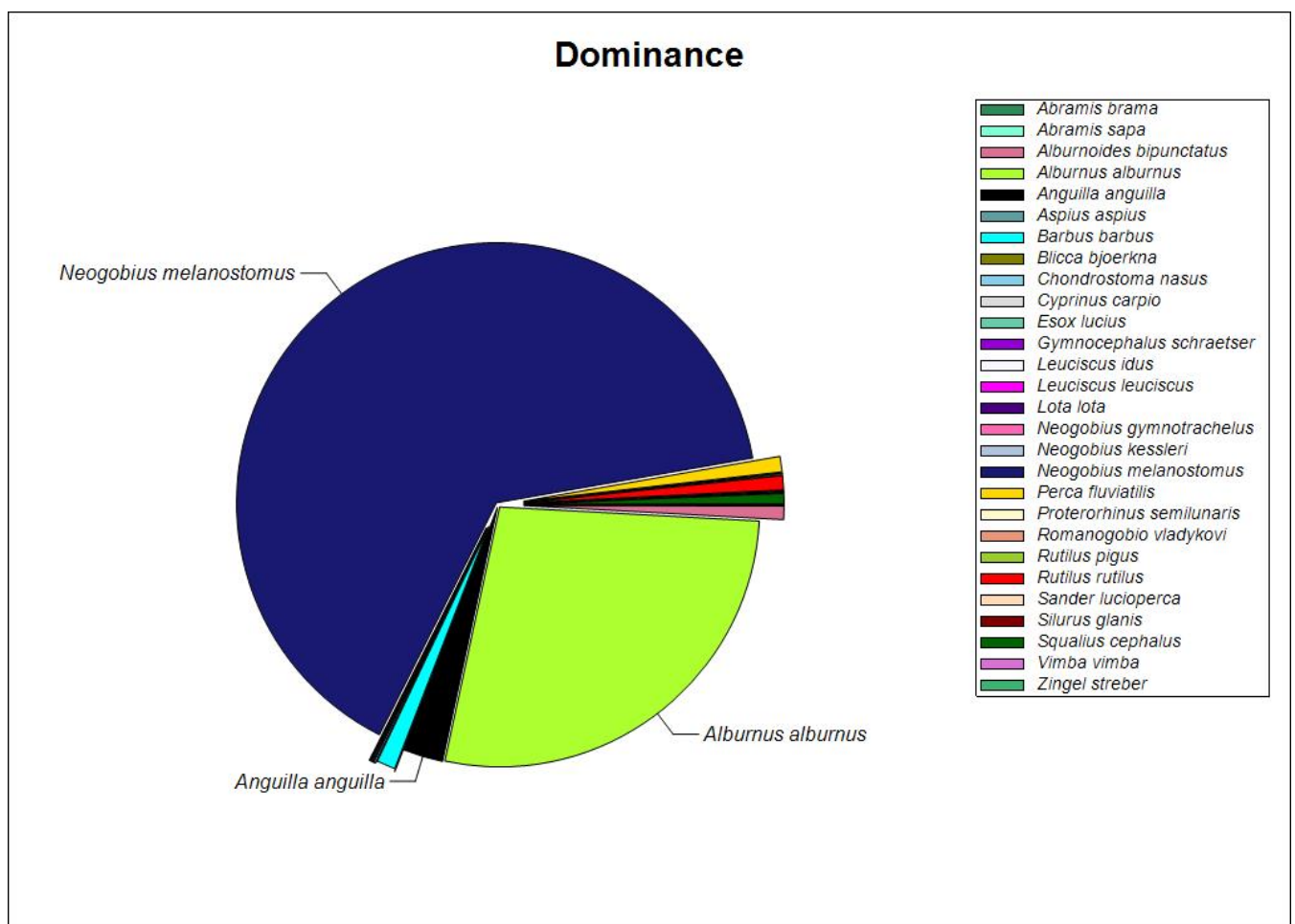
- RE Regionally extinct
- CR Critically endangered
- EN Endangered
- VU Vulnerable
- NT Near threatened
- LR Lower risk
- LC Least concern
- DD Available data is not sufficient for classification (data deficient)
- NE Not evaluated, usually widespread and replicating alien species

## Abundance and biomass

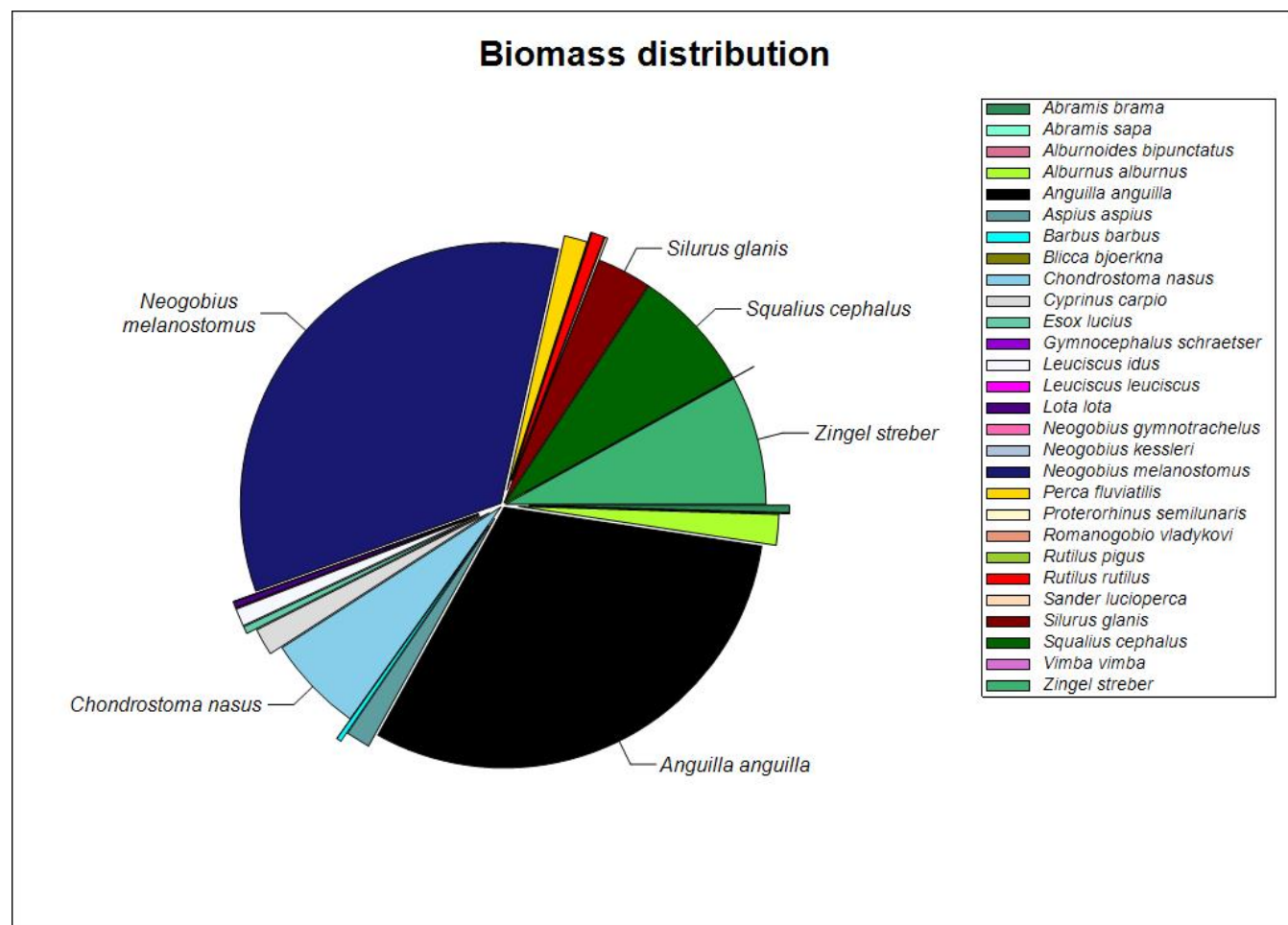
Table 5: abundance and biomass (e-fishings) Danube, Niederaltich, DE\_JDS05, 8/16/2013

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	5	3.5		5.6		60.0	1,614.1	4	b
Barbel	BAR-BAR	144	168.2		1.1		9.3	6.2	1	I
Bighead goby	NEO-KES	4	7.4		0.0		7.5	5.3	4	
Bleak	ALB-ALB	3,885	4,034.9		7.1		4.7	1.8	1	I
Bream	ABR-BRA	9	1.9		1.7		38.9	856.7	3	I
Burbot	LOT-LOT	4	3.1		1.4		42.5	449.2	4	s
Carp	CYP-CAR	4	1.9		6.3		60.0	3,372.0	4	b
Chub	SQU-CEP	74	92.7		28.5		27.0	307.3	2	I
Dace	LEU-LEU	6	8.4		0.0		7.6	3.7	3	b
Danube bream	ABR-SAP	2	1.9		0.0		9.5	0.4	4	s
Danube roach	RUT-PIG	23	14.7		0.1		13.0	5.4	2	b
Eel	ANG-ANG	389	365.7		114.2		48.8	312.2	3	
Ide	LEU-IDU	23	11.6		4.1		25.9	351.7	3	b
Nase	CHO-NAS	48	15.9		22.5		34.5	1,419.9	3	I
Perch	PER-FLU	146	140.1		5.3		12.7	38.0	1	I
Pike	ESO-LUC	5	5.6		1.7		29.0	300.2	3	b
Pikeperch	SAN-LUC	6	7.0		0.6		20.8	85.9	3	s
Racer goby	NEO-GYM	4	3.3		0.0		6.6	4.5	4	

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
Roach	RUT-RUT	94	127.3		3.0		11.3	23.4	2	I
Round goby	NEO-MEL	11,200	9,499.8		126.6		8.8	13.3	1	
Schraetser	GYM-SCH	1	0.0		0.0	0.0	15.3	0.0	4	s
Spirlin	ALB-BIP	71	122.9		0.2		4.9	1.4	1	s
Streber	ZIN-STR	5	1.3		29.8		15.2	22,769.6	3	s
Tubenose goby	PRO-SEM	4	4.7		0.0		5.8	2.2	3	
Vimba bream	VIM-VIM	5	3.7		0.1		16.8	15.6	3	s
Wels catfish	SIL-GLA	16	13.0		12.5		50.9	965.5	2	s
White bream	ABR-BJO	2	0.5		0.0		20.0	38.9	4	b
White-finned gudgeon	ROM-VLA	1	0.0		0.0	0.0	15.0	0.0	4	b
23 species of 44		Total	16,180	14,661.0		372.3				







Pic. 4: Dominance und Biomass distribution

Shannon-Index: 0.926

Equitability: 0.278

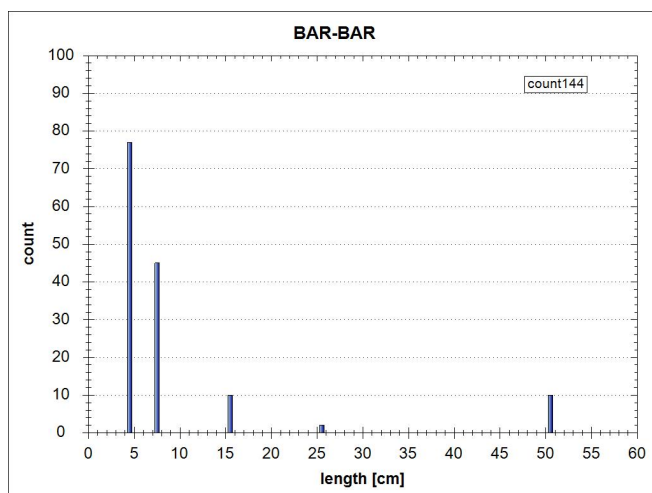
**Biometrics and catch rate**

Table 6: biometrics of each species and catch specific parameters

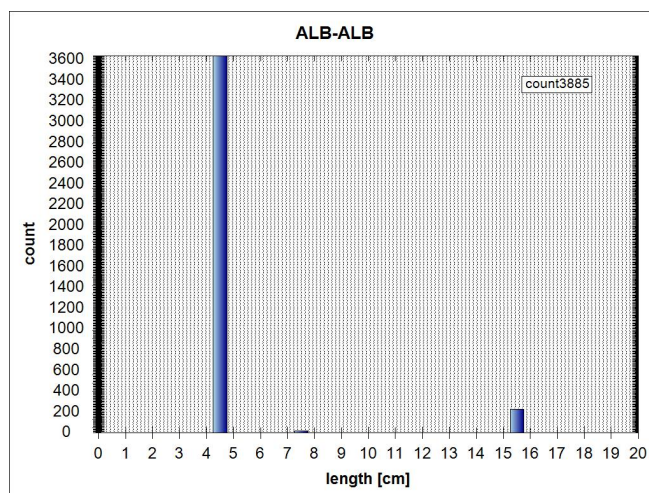
Fish species	Lt [cm]		n	Statist. Method	Catch-Probability [%]	Catch-effectivity		
	Min	Max				Min	MW	Max
Asp	60.0	60.0	5			1.00	1.00	1.00
Barbel	4.0	9.3	144			1.00	1.00	1.00
Bighead goby	7.5	7.5	4			1.00	1.00	1.00
Bleak	4.0	4.7	3,885			1.00	1.00	1.00
Bream	15.0	38.9	9			1.00	1.00	1.00
Burbot	35.0	42.5	4			1.00	1.00	1.00
Carp	60.0	60.0	4			1.00	1.00	1.00
Chub	4.0	27.0	74			1.00	1.00	1.00
Dace	4.0	7.6	6			1.00	1.00	1.00
Danube bream	4.0	9.5	2			1.00	1.00	1.00
Danube roach	7.5	13.0	23			1.00	1.00	1.00
Eel	25.0	48.8	389			1.00	1.00	1.00
Ide	7.5	25.9	23			1.00	1.00	1.00
Nase	4.0	34.5	48			1.00	1.00	1.00
Perch	7.5	12.7	146			1.00	1.00	1.00
Pike	15.0	29.0	5			1.00	1.00	1.00

Fish species	Lt [cm]		n	Statist.	Catch-	Catch-effectivity		
	Min	Max		Method	Probability [%]	Min	MW	Max
Pikeperch	15.0	20.8	50.0	6		1.00	1.00	1.00
Racer goby	4.0	6.6	7.5	4		1.00	1.00	1.00
Roach	4.0	11.3	25.0	94		1.00	1.00	1.00
Round goby	4.0	8.8	15.0	11,200		1.00	1.00	1.00
Schraetser	15.3	15.3	15.3	1		1.00	1.00	1.00
Spirlin	4.0	4.9	15.0	71		1.00	1.00	1.00
Streber	12.0	15.2	16.7	5		1.00	1.00	1.00
Tube-nose goby	4.0	5.8	7.5	4		1.00	1.00	1.00
Vimba bream	4.0	16.8	35.0	5		1.00	1.00	1.00
Wels catfish	15.0	50.9	70.0	16		1.00	1.00	1.00
White bream	15.0	20.0	25.0	2		1.00	1.00	1.00
White-finned gudgeon	15.0	15.0	15.0	1		1.00	1.00	1.00
28 species		Sum	16,180					

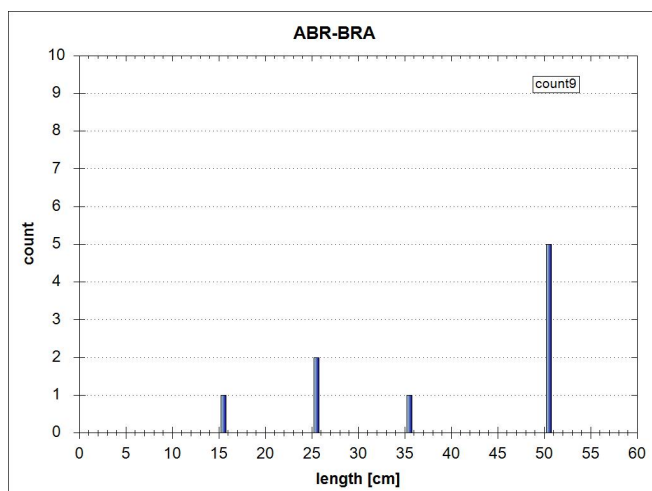
### Population structure of dominant species and subdominant species (total catch)



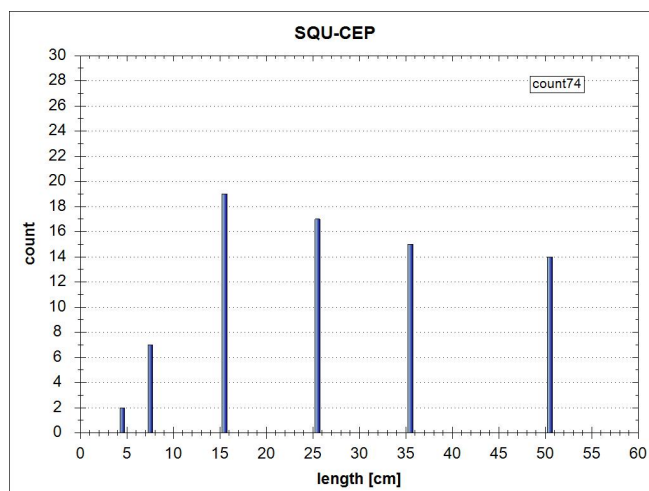
Barbel (*Barbus barbus*), 1



Bleak (*Alburnus alburnus*), 1

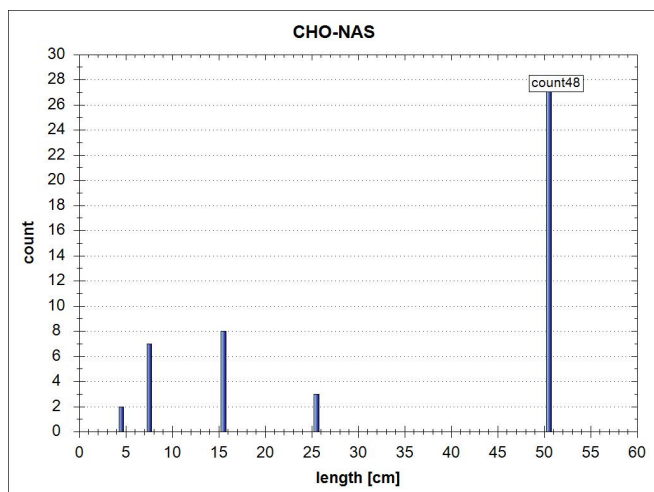
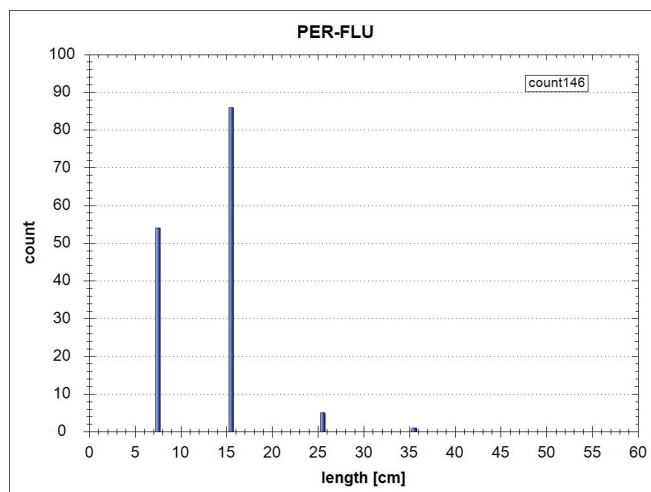
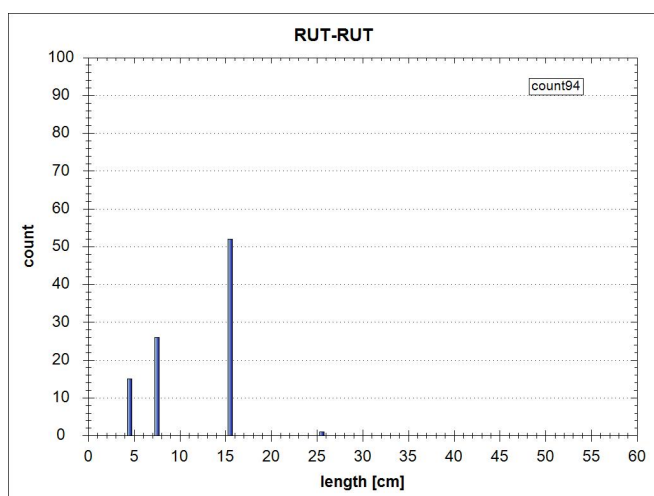


Bream (*Abramis brama*), 3

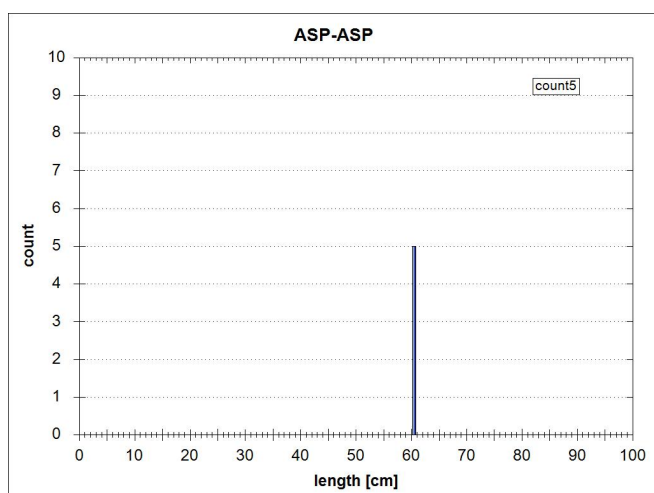
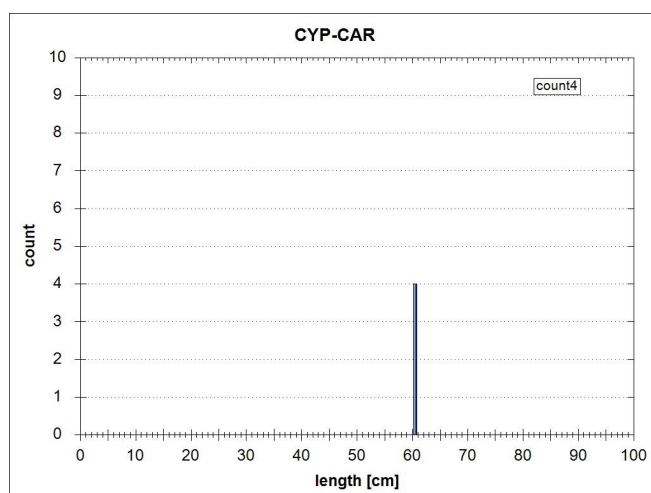


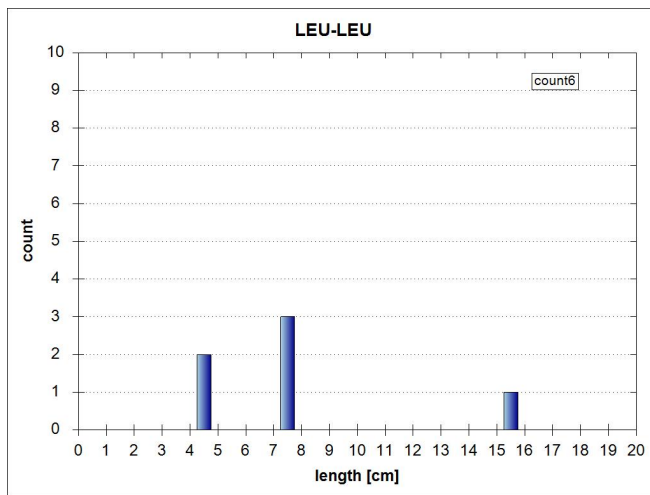
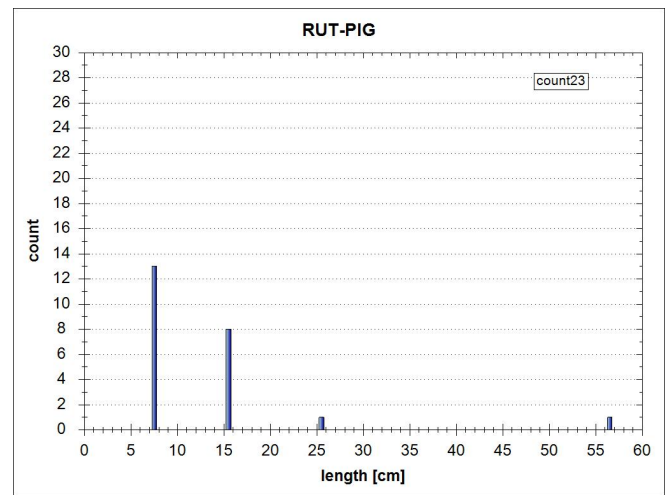
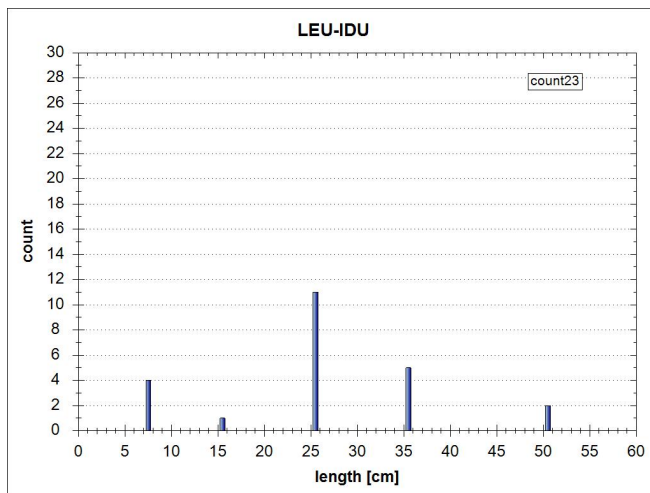
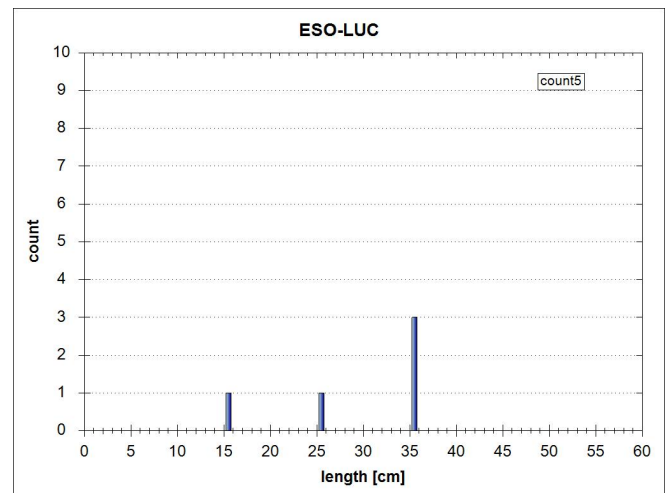
Chub (*Squalius cephalus*), 2



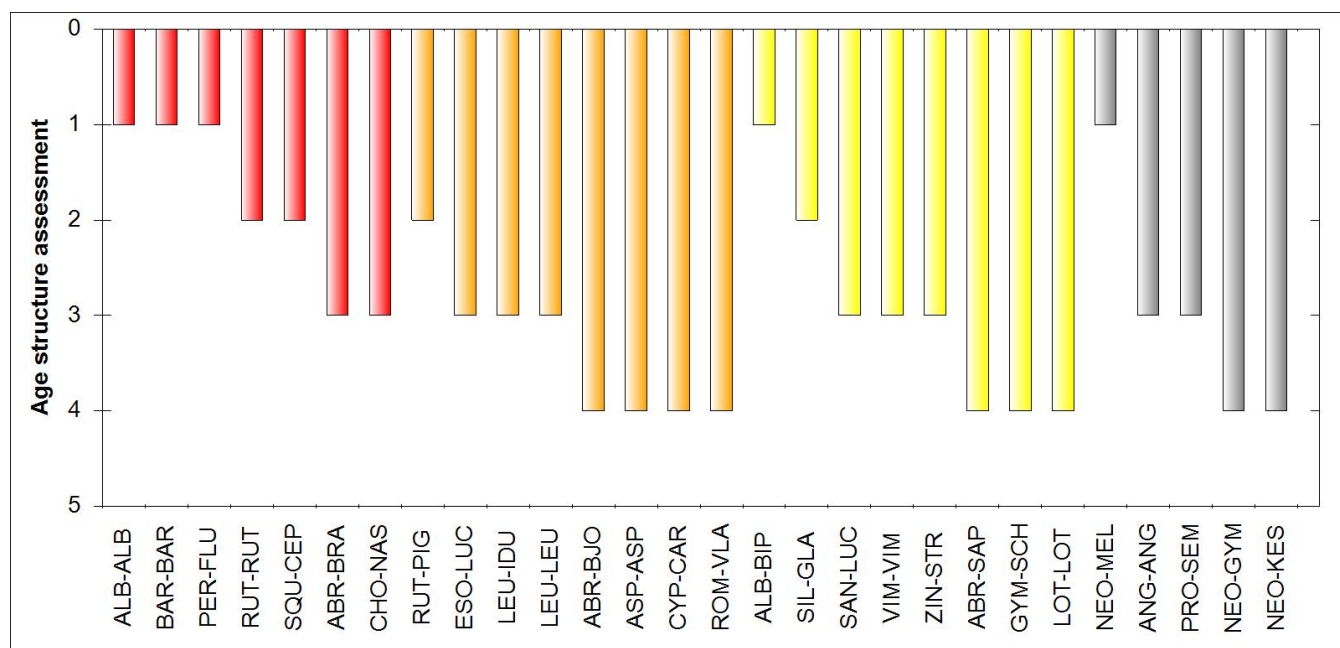
Nase (*Chondrostoma nasus*), 3Perch (*Perca fluviatilis*), 1Roach (*Rutilus rutilus*), 2

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

Asp (*Aspius aspius*), 4Carp (*Cyprinus carpio*), 4

Dace (*Leuciscus leuciscus*), 3Danube roach (*Rutilus pigus*), 2Ide (*Leuciscus idus*), 3Pike (*Esox lucius*), 3

Pic. 6: Length-frequency diagram of subdominant species (n&gt;3), Aug. 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, Niederaltich, DE\_JDS05, 8/16/2013

Rating					
Stock data	Abundance Ind/ha	Biomass kg/ha			ko-criterion biomass
	4,779.9	131.4			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	7	100%	1.0	
Subdominant species	10	8	80%	1.0	
Rare species	27	8	30%	2.0	
				1.3	
<b>Ecological guilds</b>					
Flow	5	4	1	2.0	
Reproduction	7	4	3	4.0	
				3.0	
<b>Species diversity &amp; guilds overall</b>					<b>1.6</b>
<b>2. Dominance</b>	<b>Reference fish assemblage</b>	<b>actual (current)</b>	<b>Difference</b>		
<b>Fish region index</b>	6.2	6.6	0.4		<b>2.0</b>
<b>3. Population structure</b>	<b>Reference fish assemblage</b>	<b>actual (current)</b>		<b>Partial rating (1-5)</b>	
Dominant species	7	7		1.9	
Subdominant species	10	8		3.7	
					<b>2.5</b>
Fishindex Austria without active ko-criterion					<b>2.09</b>
<b>Biological quality element fish</b>		<b>FIA 2.09</b>	<b>Class 2</b>	<b>Good</b>	

Date of Assessment:2/27/2014

Comment BAW-IGF

- no comment -

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

*Recommended improvements with priority ranking if possible;*