

## Appendix S1

Family	Species	Biological traits																		
		BL	SH	SW	RE	FE	FR	ST	ED	MA	LS	LL	PC	IP	FH	FD	RH	SA	HA	MI
Anguillidae	<i>Anguilla anguilla</i>	4	4	3	5	3	3	1	1	5	3	1	1	-	1	5	3	4	3	1
Balitoridae	<i>Barbatula barbatula</i>	2	4	3	3	1	3	2	1	2	1	1	1	3	1	1	3	1	3	2
Centrarchidae	<i>Lepomis gibbosus</i>	2	1	2	3	2	-	2	1	2	2	1	2	1	2	1	2	1	2	3
Cottidae	<i>Cottus gobio</i>	2	2	2	2	1	1	1	3	2	1	3	2	3	1	1	1	2	3	3
Cyprinidae	<i>Abramis brama</i>	4	1	1	1	3	1	1	2	4	3	2	1	2	1	1	2	2	2	2
	<i>Alburnoides bipunctatus</i>	2	1	1	2	1	2	2	2	2	1	3	1	2	2	4	1	2	2	2
	<i>Alburnus alburnus</i>	2	3	1	3	1	3	2	2	2	1	2	1	2	2	1	3	2	2	2
	<i>Barbus barbus</i>	4	3	1	2	2	1	1	2	5	3	1	1	2	1	1	1	1	2	2
	<i>Barbus meridionalis</i>	3	4	1	2	2	1	2	-	-	1	-	1	-	1	4	1	1	2	2
	<i>Blicca bjoerkna</i>	3	1	1	1	3	2	2	2	3	2	2	1	1	1	4	3	2	3	2
	<i>Carassius carassius</i>	3	1	2	1	3	2	2	2	3	2	1	1	1	1	4	2	2	3	2
	<i>Chondrostoma nasus</i>	3	3	1	2	2	-	1	3	3	2	-	1	2	1	4	1	1	2	2
	<i>Chondrostoma toxostoma</i>	3	2	2	2	2	-	1	2	4	2	3	1	2	1	4	1	1	2	2
	<i>Cyprinus carpio</i>	4	1	2	1	3	2	2	2	4	3	2	1	1	1	4	2	2	2	2
	<i>Gobio gobio</i>	2	4	1	3	1	3	2	2	2	1	2	1	3	1	1	1	2	2	2
	<i>Leuciscus cephalus</i>	4	1	1	2	3	2	2	2	3	2	3	1	1	2	4	3	2	2	2
	<i>Leuciscus leuciscus</i>	3	3	1	3	2	2	1	2	3	2	3	1	3	2	4	1	2	2	2
	<i>Leuciscus souffia</i>	2	3	1	2	1	1	1	2	3	2	-	1	-	2	1	1	1	2	3
	<i>Phoxinus phoxinus</i>	1	3	1	2	1	2	2	2	2	1	2	1	2	2	1	1	2	3	2
	<i>Rhodeus amarus</i>	1	1	1	5	1	1	2	3	1	1	3	3	2	2	4	2	1	2	2
	<i>Rutilus rutilus</i>	3	1	1	1	2	3	1	2	2	2	2	1	2	2	4	2	2	2	2
	<i>Scardinius erythrophthalmus</i>	3	1	1	1	3	3	2	2	3	2	2	1	1	2	4	2	2	2	2
	<i>Tinca tinca</i>	3	1	3	1	3	2	2	1	3	2	2	1	1	1	4	2	2	3	2
	Esocidae	<i>Esox lucius</i>	4	3	1	1	2	1	1	3	3	3	3	1	2	2	2	2	2	3
Gasterosteidae	<i>Gasterosteus aculeatus</i>	1	2	1	1	1	2	2	2	1	1	1	2	2	2	1	2	4	2	1

	<i>Pungitius pungitius</i>	1	4	1	1	1	2	1	2	1	1	1	2	2	2	1	2	4	2	3
Ictaluridae	<i>Ameiurus melas</i>	3	2	1	2	1	1	1	2	2	2	1	2	2	1	4	2	1	3	3
Lotidae	<i>Lota lota</i>	4	3	1	2	3	3	1	1	4	3	1	1	3	1	5	3	2	3	2
Percidae	<i>Gymnocephalus cernuus</i>	2	1	1	3	3	3	2	1	2	1	1	1	2	1	5	2	2	3	2
	<i>Perca fluviatilis</i>	3	1	1	3	2	2	1	3	3	3	2	1	3	2	5	3	2	3	1
	<i>Sander lucioperca</i>	4	3	1	3	3	3	1	1	4	2	1	2	2	2	5	2	2	1	2
Petromyzontidae	<i>Lampetra planeri</i>	2	4	3	2	1	3	1	1	5	1	1	3	1	1	4	1	1	3	2
Salmonidae	<i>Salmo salar</i>	4	1	1	2	1	1	1	3	5	2	-	3	3	2	5	1	4	2	1
	<i>Salmo trutta fario</i>	3	1	2	2	1	1	1	3	3	2	3	3	3	2	5	1	4	3	2
	<i>Thymallus thymallus</i>	3	3	1	2	1	1	1	3	3	1	3	3	3	2	1	1	2	2	3

**Notes:** BL is adult body length (cm): category 1:  $\leq 10$ , category 2: 10-20, category 3: 20-40, category 4:  $\geq 40$ ; SH is shape factor (ratio of total body length to maximum body depth): category 1:  $\leq 4.35$ , category 2: 4.35-4.78, category 3: 4.78-5.6, category 4:  $\geq 5.6$ ; SW is swimming factor (ratio of minimum depth of the caudal peduncle to the maximum caudal fin depth): category 1  $\leq 0.38$ , category 2: 0.38-0.43, category 3:  $\geq 0.43$ ; RE is reproduction habitat: category 1: phytophilic, category 2: lithophilic, category 3: phyto-lithophilic, category 4: psammophilic, category 5: other; FE is absolute fecundity (number of oocytes / year): category 1:  $\leq 10000$ , category 2: 10000-100000, category 3:  $>100000$ ; FR is relative fecundity (number of oocytes / g): category 1:  $\leq 57$ , category 2: 57-200, category 3:  $> 200$ ; ST is number of spawning events: category 1: 1, category 2:  $> 1$ ; ED is egg diameter (mm): category 1:  $< 1.35$ , category 2: 1.35-2, category 3:  $>2$ ; MA is age at first maturity (year): category 1:  $\leq 2$ , category 2: 2-3, category 3: 3-4, category 4: 4-5, category 5:  $\geq 5$ ; LS is life span (year): category 1:  $< 8$ , category 2: 8-15, category 3:  $> 15$ ; LL is larval length (cm): category 1:  $\leq 4.2$ , category 2: 4.2-6.3, category 3:  $> 6.3$ ; PC is parental care: category 1: no protection, category 2: protection with nesters or eggs hidens, category 3: no protection with nesters or eggs hidens; IP is incubation period (day): category 1:  $\leq 7$ , category 2: 7-14, category 3:  $> 14$ ; FH is feeding habitat: category 1: benthivorous, category 2: water column; FD is feeding diet: category 1: invertivorous, category 2: piscivorous, category 3: phytophagous, category 4: omnivorous, category 5: carnivorous, category 6: other; RH is rheophily habitat: category 1: rheophilic, category 2: limnotopic, category 3: eurytopic; SA is salinity preference: category 1: freshwater, category 2: freshwater-brackish, category 3: brackish-marine, category 4: freshwater-brackish-marine, category 5: freshwater-marine; HA is habitat preference: category 1: pelagic, category 2: benthopelagic, category 3: demersal; MI is migration type: category 1: diadromous, category 2: potamodromous, category 3: no migration, category 4: oceanodromous.

## Appendix S2

<b>Species</b>	<b>Prediction errors (%)</b>	<b>Commission errors (%)</b>	<b>Omission errors (%)</b>
<i>Abramis brama</i>	19.83	19.13	27.10
<i>Alburnoides bipunctatus</i>	20.56	20.63	20.03
<i>Alburnus alburnus</i>	16.20	16.36	15.44
<i>Ameiurus melas</i>	14.24	13.81	22.30
<i>Anguilla anguilla</i>	17.34	18.52	15.11
<i>Barbatula barbatula</i>	24.43	26.07	23.08
<i>Barbus barbus</i>	16.69	17.10	14.87
<i>Barbus meridionalis</i>	13.68	12.97	24.19
<i>Blicca bjoerkna</i>	16.83	15.68	33.46
<i>Carassius carassius</i>	11.99	10.94	48.52
<i>Chondrostoma nasus</i>	16.62	16.79	14.37
<i>Chondrostoma toxostoma</i>	10.08	9.82	17.08
<i>Cottus gobio</i>	26.73	26.38	26.96
<i>Cyprinus carpio</i>	19.95	18.78	36.54
<i>Esox lucius</i>	24.45	24.82	22.58
<i>Gasterosteus aculeatus</i>	18.98	18.10	27.67
<i>Gobio gobio</i>	21.46	25.14	17.55
<i>Gymnocephalus cernuus</i>	13.05	12.11	30.33
<i>Lampetra planeri</i>	30.93	31.19	30.17
<i>Lepomis gibbosus</i>	26.32	26.68	24.02
<i>Leuciscus cephalus</i>	17.21	18.40	15.74
<i>Leuciscus leuciscus</i>	24.21	26.79	15.59
<i>Leuciscus souffia</i>	17.91	17.02	30.24
<i>Lota lota</i>	14.08	13.52	31.96
<i>Perca fluviatilis</i>	26.61	27.98	22.30
<i>Phoxinus phoxinus</i>	27.20	27.80	26.74
<i>Pungitius pungitius</i>	18.39	17.93	23.90
<i>Rhodeus amarus</i>	17.05	16.79	19.98
<i>Rutilus rutilus</i>	21.69	22.16	20.83
<i>Salmo salar</i>	7.81	7.51	13.59
<i>Salmo trutta fario</i>	19.79	17.52	20.53
<i>Sander lucioperca</i>	10.64	10.13	26.75
<i>Scardinius erythrophthalmus</i>	21.92	20.32	37.05
<i>Thymallus thymallus</i>	12.57	11.90	31.92
<i>Tinca tinca</i>	24.60	24.73	23.55