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History of hydroacoustic surveys of small pelagic fish species in the European Mediterranean Sea

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History of hydroacoustic surveys of small pelagic fish species in the European Mediterranean Sea

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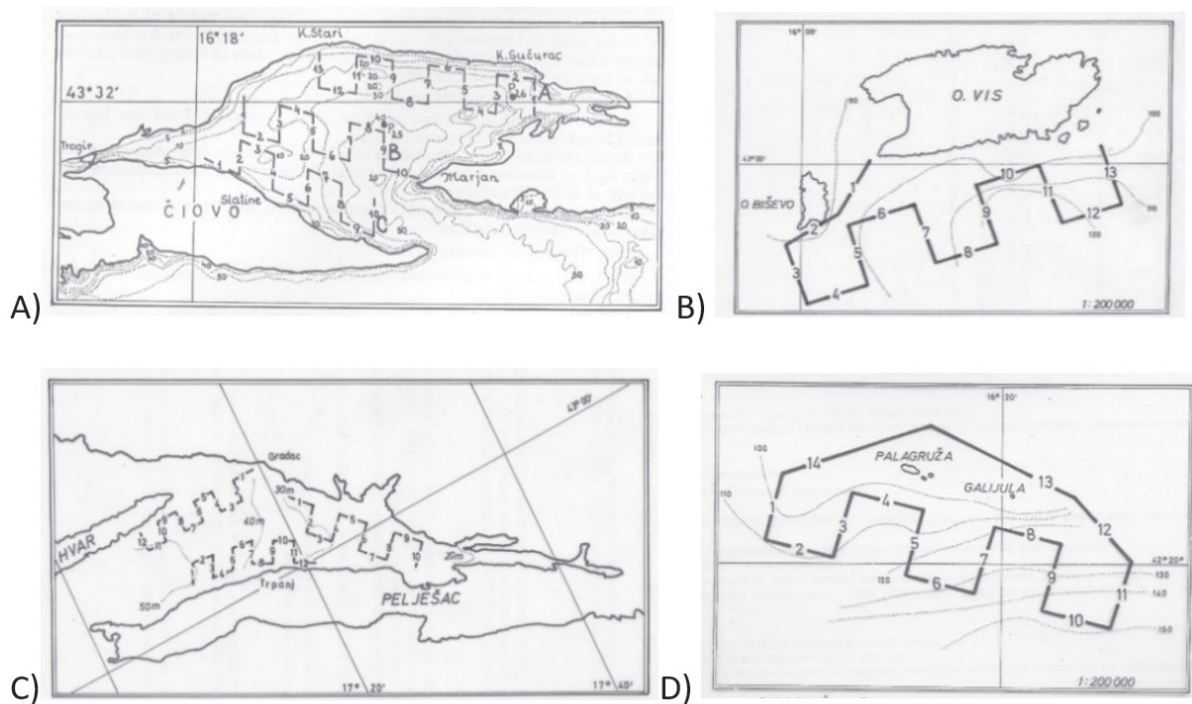


Figure S1: Acoustic transects in targeted survey areas conducted in the Adriatic Sea in 1968-1972. (A) Kaštela Bay; (B) areas near Vis and Biševo islands; (C) Hvar Island-Neretva Channel and (D) Palagruža Sill (Kačić, 1968, 1969, 1972a, b; Grubišić et al., 1974; Vučetić & Kačić, 1973).

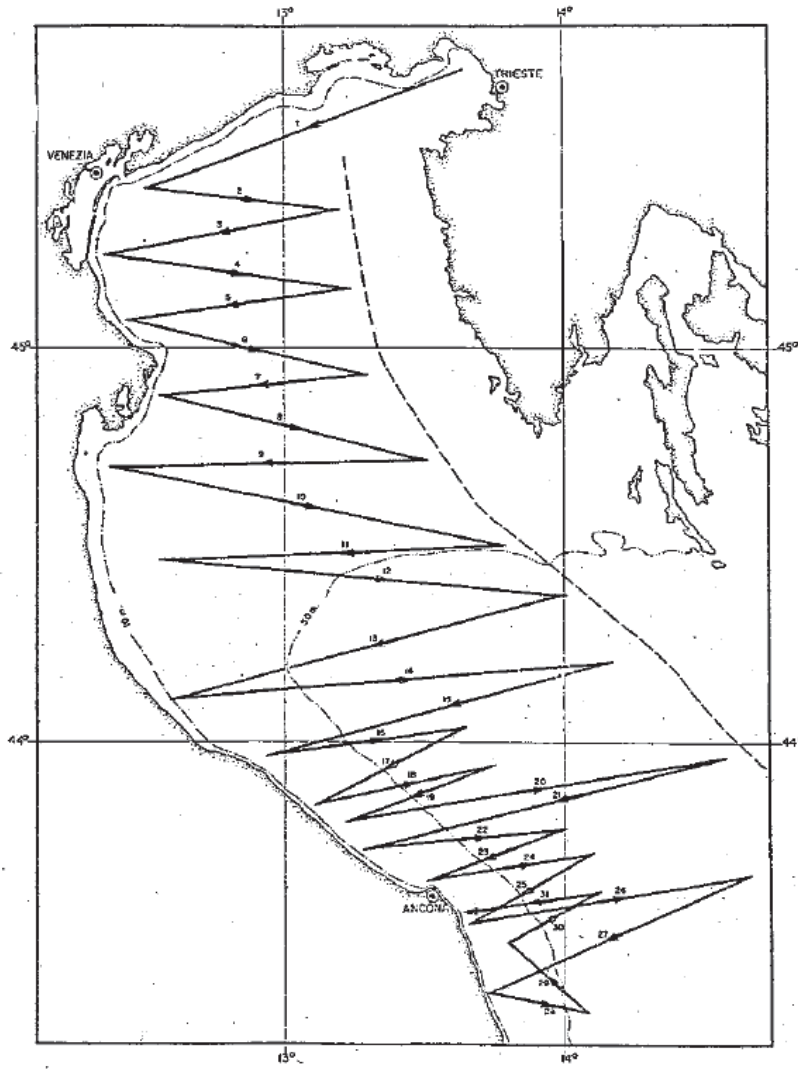


Figure S2: Design of the pilot acoustic survey conducted in the Adriatic Sea in 1975 (Azzali, 1977).

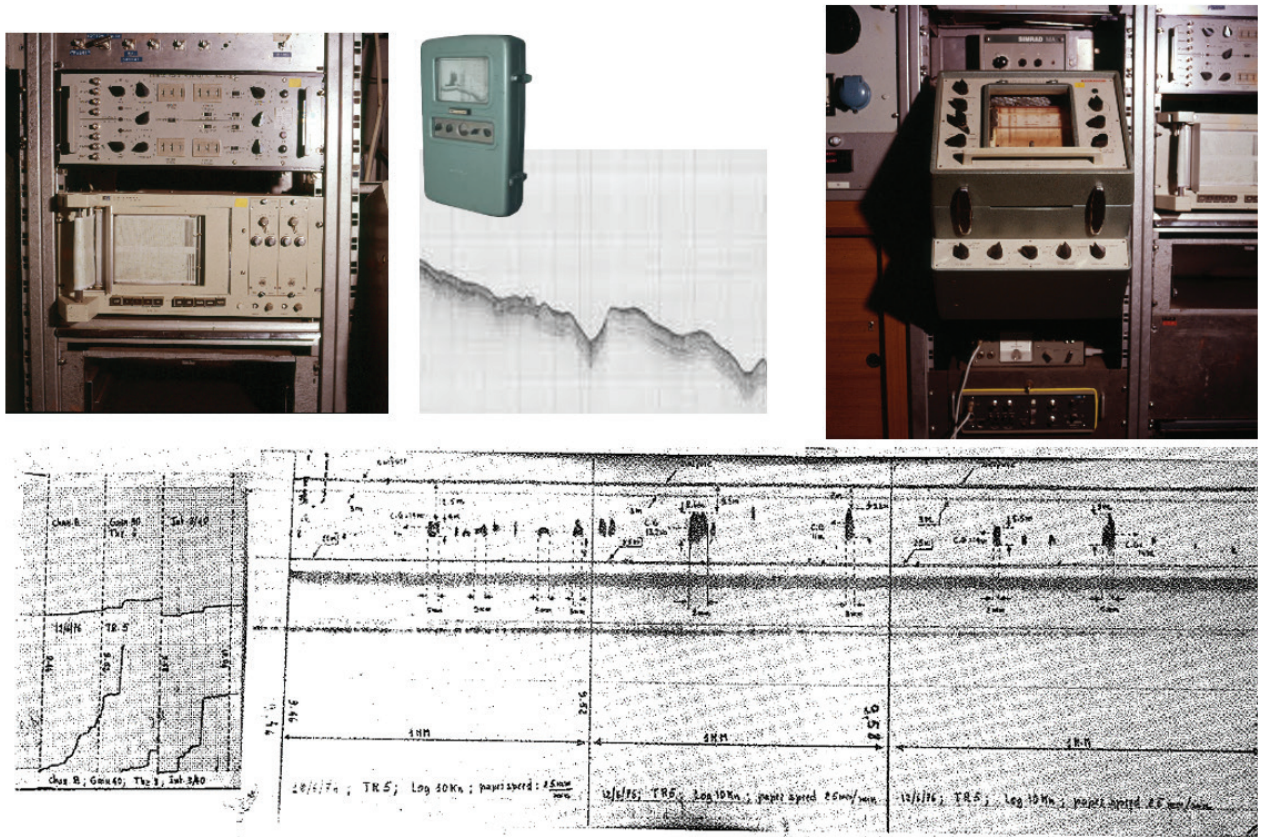


Figure S3: Acoustic equipment mounted onboard the Italian R/V *S. Salvatore Lo Bianco* in the 1970's and 1980's. Simrad QM-MK II echo integrator and associated computer (top left). A 38 kHz transducer in "wide" bandwidth configuration was used. A Simrad SL sonar (top right). Echograms of small sardine aggregations (right) printed on wet (top) and/or dry paper tape and relevant echo integrations (left). Time interval 9:46 - 10:04.

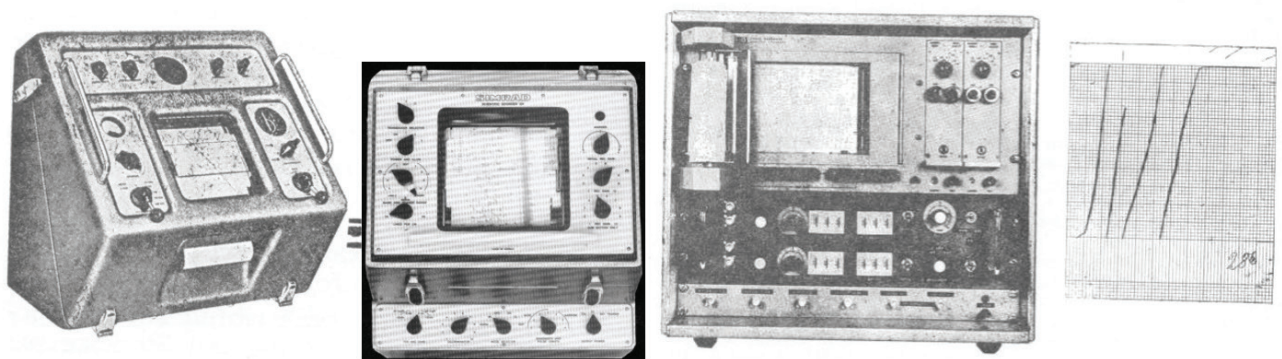


Figure S4: Acoustic equipment used in the 1960's, 1970's and 1980's.

Table S1. List of Mediterranean acoustic surveys from 1962 to 2019, by Country.

Y	C	A	M	Vessel	L	Acoustic equipment	F	AF	S	T	AS	FG	CS
1962	EX-YU	17 E		BIOS	27	SIMRAD 580-4	30			pil	ane	PS	
1963	EX-YU	17 E		BIOS	27	SIMRAD 580-4	30			pil	ane		
1964	EX-YU	17 E		BIOS	27	SIMRAD 580-4	30			pil	ane		
1965	EX-YU	17 E		BIOS	27	SIMRAD 580-4	30			pil	ane		

Continued

Table S1 continued

Y	C	A	M	Vessel	L	Acoustic equipment	F	AF	S	T	AS	FG	CS
1966	EX-YU	17 E		BIOS	27	SIMRAD 580-4	30			pil	ane		
1967	EX-YU	17 E		BIOS	27	SIMRAD 580-4	30			pil	ane		
1969	EX-YU	17 E	5, 6	BIOS	27	SIMRAD Super Sounder EH, 580-4	30	38		ane, pil, spr		OTM	20
1970	EX-YU	17 E	3, 5, 8	BIOS	27	SIMRAD Super Sounder EH, 580-4	30	38		ane, pil, spr		OTM	20
1971	EX-YU	17 E	3, 11	BIOS	27	SIMRAD Super Sounder EH, 580-4	30	38		ane, pil, spr			20
1972	EX-YU	17 E	3	BIOS	27	SIMRAD Super Sounder EH, 580-4	30	38		SPF			
1973	EX-YU	17 E	10, 12	BIOS	27	SIMRAD 580-4	30	38		SPF		OTM	20
1974	EX-YU	17 E	1, 4	BIOS	27	SIMRAD 580-4	30	38		SPF		OTM	20
1975	ITA	17 W	7	S. LO BIANCO	32	SIMRAD EK38	38			SPF		OTM	18
1975	ESP	5	8, 11	EL PESCADOR	21	SIMRAD EK38S	38			PS		OTM	20
1976	ITA	17 W	6	S. LO BIANCO	32	SIMRAD EK38	38			ane, pil, spr	OPS	OTM	18
1976	EX-YU	17 E	8	BIOS	27	SIMRAD EK38A	38			SPF			
1976	ESP	5	8	EL PESCADOR	21	SIMRAD EK38S	38			PS		OTM	20
1977	ITA	17 W	9	S. LO BIANCO	32	SIMRAD EK38	38			ane, pil, spr	OPS	OTM	18
1977	EX-YU	17 E	8	BIOS	27	SIMRAD EK38A	38			SPF			
1977	ESP	5	7	EL PESCADOR	21	SIMRAD EK38S	38			PS		OTM	20
1978	ITA	17 W	9	S. LO BIANCO	32	SIMRAD EK38	38			ane, pil, spr	OPS	OTM	18
1978	EX-YU	17 E	8	BIOS	27	SIMRAD EK38A	38			SPF			
1979	ITA	17 W	9	S. LO BIANCO	32	SIMRAD EK38	38			ane, pil, spr	OPS	OTM	18
1979	EX-YU	17 E	8	BIOS	27	SIMRAD EK38A	38			SPF			
1980	ITA	17 W	9	S. LO BIANCO	32	SIMRAD EK38	38			ane, pil, spr	OPS	OTM	18
1980	EX-YU	17 E	8	BIOS	27	SIMRAD EK38A	38			SPF			
1981	ITA	17 W	9	S. LO BIANCO	32	SIMRAD EK38	38			ane, pil, spr	OPS	OTM	18
1981	EX-YU	17 E	8	BIOS	27	SIMRAD EK38A	38			SPF			

Continued

Table S1 continued

Y	C	A	M	Vessel	L	Acoustic equipment	F	AF	S	T	AS	FG	CS
1982	ITA	17 W	9	S. LO BIANCO	32	SIMRAD EK38	38			ane, pil, spr	OPS	OTM	18
1982	EX-YU	17 E	8	BIOS	27	SIMRAD EK38A	38			SPF			
1982	ESP	1, 6	6	C. DE SAAVEDRA	67	SIMRAD EK400	38	120		PS	OPS	OTM	20
1983	ITA	17 W	9	S. LO BIANCO	32	SIMRAD EK38	38			ane, pil, spr	OPS	OTM	18
1983	EX-YU	17 E	8	BIOS	27	SIMRAD EK38A	38			SPF			
1983	ESP	1, 5, 6	9, 10	C. DE SAAVEDRA	67	SIMRAD EK400	38	120		ane, pil	OPS	OTM	20
1984	ITA	17 W	9	S. LO BIANCO	32	SIMRAD EK38	38			ane, pil, spr	OPS	OTM	18
1984	EX-YU	17 E	8	BIOS	27	SIMRAD EK38A	38			SPF			
1984	ESP	1, 5, 6	10, 11	C. DE SAAVEDRA	67	SIMRAD EK400	38	120		ane, pil	OPS	OTM	20
1985	ITA	17 W	9	S. LO BIANCO	32	SIMRAD EK400	38			ane, pil, spr	OPS	OTM	18
1985	EX-YU	17 E	8	BIOS	27	SIMRAD EK38A	38			SPF			
1985	ESP	5	7	GARCIA DEL CID	37.2	SIMRAD EK400	38	120		ane, pil	OPS	OTM	20
1985	ESP	1, 6	10, 11	C. DE SAAVEDRA	67	SIMRAD EK400	38	120		ane, pil	OPS	OTM	20
1986	ITA	9, 10	8, 9	S. LO BIANCO	32	SIMRAD EK400	38			ane, pil	OPS	OTM	18
1986	ITA	17 W	9	S. LO BIANCO	32	SIMRAD EK400	38			ane, pil, spr	OPS	OTM	18
1986	EX-YU	17 E	8	BIOS	27	SIMRAD EK38A	38			SPF			
1987	ITA	16	6	S. LO BIANCO	32	SIMRAD EK400	38			ane, pil	OPS	OTM	18
1987	ITA	17 W	9	S. LO BIANCO	32	SIMRAD EK400	38			ane, pil, spr	OPS	OTM	18
1987	ITA	18	6, 7	S. LO BIANCO	32	SIMRAD EK400	38			ane, pil	OPS	OTM	18
1987	ESP	1, 6	7	C. DE SAAVEDRA	67	SIMRAD EK400	38	120		ane, pil	OPS	OTM	20
1988	ITA	17 W	9	S. LO BIANCO	32	SIMRAD EK400	38			ane, pil, spr	OPS	OTM	18
1988	ITA	18	6, 7	S. LO BIANCO	32	SIMRAD EK400	38			ane, pil	OPS	OTM	18
1988	ESP	1, 6	5, 6	C. DE SAAVEDRA	67	SIMRAD EK400	38	120		ane, pil	OPS	OTM	20
1989	ITA	17 W	9	S. LO BIANCO	32	SIMRAD EK400	38			ane, pil, spr	OPS	OTM	18
1989	ITA	18	6, 7	S. LO BIANCO	32	SIMRAD EK400	38			ane, pil	OPS	OTM	18
1990	ITA	17 W	9	S. LO BIANCO	32	SIMRAD EK400	38			ane, pil, spr	OPS	OTM	18

Continued

Table S1 continued

Y	C	A	M	Vessel	L	Acoustic equipment	F	AF	S	T	AS	FG	CS
1990	ITA	18	6, 7	S. LO BIANCO	32	SIMRAD EK400	38			ane, pil	OPS	OTM	18
1990	ESP	1, 6, 7	10, 11	C. DE SAAVEDRA	67	SIMRAD EK500	38			ane, pil	OPS	OTM	20
1991	ITA	17 W	9	S. LO BIANCO	32	SIMRAD EK400	38			ane, pil, spr	OPS	OTM	18
1991	ITA	18	6, 7	S. LO BIANCO	32	SIMRAD EK400	38			ane, pil	OPS	OTM	18
1991	ESP	1, 6, 7	10, 11	C. DE SAAVEDRA	67	SIMRAD EK500	38			ane, pil	OPS	OTM	20
1992	ITA	17 W	9	S. LO BIANCO	32	SIMRAD EK400	38			ane, pil, spr	OPS	OTM	18
1992	ITA	18	6, 7	S. LO BIANCO	32	SIMRAD EK400	38			ane, pil	OPS	OTM	18
1992	ESP	1, 6, 7	10, 11	C. DE SAAVEDRA	67	SIMRAD EK500	38			ane, pil	OPS	OTM	20
1993	ITA	17 W	9	S. LO BIANCO	32	SIMRAD EK500	38	120		ane, pil, spr	OPS	OTM	18
1993	ITA	18	6, 7	S. LO BIANCO	32	SIMRAD EK500	38	120		ane, pil	OPS	OTM	18
1993	ESP	1, 6	10, 11	C. DE SAAVEDRA	67	SIMRAD EK500	38			ane, pil	OPS	OTM	20
1993	FRA	7	6, 7	THALASSA		MICREL OS-SIAN 1500	38	120	Movies	ane, pil, spr			
1994	ITA	17 W	9	S. LO BIANCO	32	SIMRAD EK500	38	120		ane, pil, spr	OPS	OTM	18
1994	ITA	18	6, 7	S. LO BIANCO	32	SIMRAD EK500	38	120		ane, pil	OPS	OTM	18
1994	ESP	1	10, 11	C. DE SAAVEDRA	67	SIMRAD EK500	38		EV	ane, pil	OPS	OTM	20
1994	FRA	7	6, 7	L'EUROPE	29.6	MICREL OS-SIAN 1500	38	120	Movies	ane, pil, spr			
1995	ITA	17 W	9	S. LO BIANCO	32	SIMRAD EK500	38	120		ane, pil, spr	OPS	OTM	18
1995	ITA	18	6, 7	S. LO BIANCO	32	SIMRAD EK500	38	120		ane, pil	OPS	OTM	18
1995	GRC	22	6, 7	PHILIA	26	BS Dual Beam	38	120	BS	ane, pil		OTM	10
1995	ESP	6	11	C. DE SAAVEDRA	67	SIMRAD EK500	38		EV	ane, pil	OPS	OTM	20
1995	FRA	7	8	L'EUROPE	29.6	MICREL OS-SIAN 1500	38	120	Movies	ane, pil, spr			
1996	ITA	17 W	9	S. LO BIANCO	32	SIMRAD EK500	38	120		ane, pil, spr	OPS	OTM	18
1996	ITA	18	6, 7	S. LO BIANCO	32	SIMRAD EK500	38	120		ane, pil	OPS	OTM	18
1997	ITA	17 W	9	S. LO BIANCO	32	SIMRAD EK500	38	120		ane, pil, spr	OPS	OTM	18
1997	ITA	18	6, 7	S. LO BIANCO	32	SIMRAD EK500	38	120		ane, pil	OPS	OTM	18
1997	GRC	22	6, 7	PHILIA	26	SIMRAD EK500 BS Dual Beam	38	120	BI500, BS	ane, pil		OTM	10

Continued

Table S1 continued

Y	C	A	M	Vessel	L	Acoustic equipment	F	AF	S	T	AS	FG	CS
1997	ESP	1, 5, 6	11, 12	C. DE SAAVEDRA	67	SIMRAD EK500	38		EV	ane, pil, rpil	OPS	OTM	20
1997	FRA	7	6, 7	L'EUROPE	29.6	SIMRAD EK500	38	70, 120, 200	Movies	ane, pil, spr	OPS	OTM	20
1998	ITA	17 W	9	S. LO BIANCO	32	SIMRAD EK500	38	120		ane, pil, spr	OPS	OTM	18
1998	ITA	18	6, 7	S. LO BIANCO	32	SIMRAD EK500	38	120		ane, pil	OPS	OTM	18
1998	GRC	22	6, 7	PHILIA	26	SIMRAD EK500 BS Dual Beam	38	120	BI500, BS	ane, pil		OTM	10
1998	ITA	16	6, 7	S. LO BIANCO	32	SIMRAD EK500	38	120, 200	EV	ane, pil		OTM	18
1998	ESP	1, 6	11, 12	C. DE SAAVEDRA	67	SIMRAD EK500	38		EV	ane, pil	OPS	OTM	20
1998	FRA	7	6, 7	L'EUROPE	29.6	SIMRAD EK500	38	70, 120, 200	Movies	ane, pil, spr	OPS	OTM	20
1999	ITA	17 W	9	THETIS	31.6	SIMRAD EK500	38	120		ane, pil, spr	OPS	OTM	18
1999	ITA	18	6, 7	THETIS	31.6	SIMRAD EK500	38	120		ane, pil	OPS	OTM	18
1999	GRC	22	6, 7	PHILIA	26	BS Dual Beam	38	120	BS	ane, pil		OTM	10
1999	GRC	20	12, 1	PHILIA	26	BS Dual Beam	38	120	EV, BS	ane, pil		OTM	10
1999	ITA	16	6, 7	THETIS	31.6	SIMRAD EK500	38	120, 200	EV	ane, pil		OTM	18
1999	ESP	1, 6	11, 12	C. DE SAAVEDRA	67	SIMRAD EK500	38		EV	ane, pil	OPS	OTM	20
1999	FRA	7	6, 7	L'EUROPE	29.6	SIMRAD EK500	38	70, 120, 200	Movies	ane, pil, spr	OPS	OTM	20
2000	ITA	17 W	9	THETIS	31.6	SIMRAD EK500	38	120		ane, pil, spr	OPS	OTM	18
2000	ITA	18	6, 7	THETIS	31.6	SIMRAD EK500	38	120		ane, pil	OPS	OTM	18
2000	GRC	22	6, 7	PHILIA	26	BS Dual Beam	38	120	BS	ane, pil		OTM	10
2000	GRC	20	12, 1	PHILIA	26	BS Dual Beam	38	120	EV, BS	ane, pil		OTM	10
2000	ITA	16	6, 7	THETIS	31.6	SIMRAD EK500	38	120, 200	EV	ane, pil		OTM	18
2000	ESP	1, 6	11, 12	C. DE SAAVEDRA	67	SIMRAD EK500	38		EV	ane, pil	OPS	OTM	20
2000	FRA	7	6, 7	L'EUROPE	29.6	SIMRAD EK500	38	70, 120, 200	Movies	ane, pil, spr	OPS	OTM	20
2001	ITA	17 W	9	G. DALLAPORTA	35.7	SIMRAD EK500	38	120, 200		ane, pil, spr	OPS	OTM	18
2001	ITA	18	6, 7	G. DALLAPORTA	35.7	SIMRAD EK500	38	120, 200		ane, pil	OPS	OTM	18
2001	GRC	22	6, 7	PHILIA	26	BS Dual Beam	38	120	BS	ane, pil		OTM	10
2001	GRC	20	12, 1	PHILIA	26	BS Dual Beam	38	120	EV, BS	ane, pil		OTM	10
2001	ITA	16	6, 7	G. DALLAPORTA	35.7	SIMRAD EK500	38	120, 200	EV	ane, pil		OTM	18
2001	ESP	1, 6	11, 12	C. DE SAAVEDRA	67	SIMRAD EK500	38		EV	ane, pil	OPS	OTM	20

Continued

Table S1 continued

Y	C	A	M	Vessel	L	Acoustic equipment	F	AF	S	T	AS	FG	CS
2001	FRA	7	6, 7	L'EUROPE	29.6	SIMRAD EK500	38	70, 120, 200	Movies	ane, pil, spr	OPS	OTM	20
2002	ITA	17 W	9	G. DALLAPORTA	35.7	SIMRAD EK500	38	120, 200		ane, pil, spr	OPS	OTM	18
2002	ITA	18	6, 7	G. DALLAPORTA	35.7	SIMRAD EK500	38	120, 200		ane, pil	OPS	OTM	18
2002	GRC	22	6, 7	PHILIA	26	BS Dual Beam	38	120	BS	ane, pil		OTM	10
2002	ITA	16	6, 7	G. DALLAPORTA	35.7	SIMRAD EK500	38	120, 200	EV	ane, pil		OTM	18
2002	FRA	7	6, 7	L'EUROPE	29.6	SIMRAD EK500	38	70, 120, 200	Movies	ane, pil, spr	OPS	OTM	20
2003	ITA	17 W	9	G. DALLAPORTA	35.7	SIMRAD EK500	38	120, 200	EV	ane, pil, spr	OPS	OTM	18
2003	ITA	18	6, 7	G. DALLAPORTA	35.7	SIMRAD EK500	38	120, 200	EV	ane, pil	OPS	OTM	18
2003	GRC	22	6, 7	PHILIA	26	BS DTX	38	120	EV	ane, pil		OTM	10
2003	HRV	17 E	9	BIOS	27	SIMRAD EK60	38	-	BI500	ane, pil, spr	OPS	OTM	16
2003	ITA	16	6, 7	G. DALLAPORTA	35.7	SIMRAD EK500	38	120, 200	EV	ane, pil		OTM	18
2003	ESP	1, 6	11, 12	C. DE SAAVEDRA	67	SIMRAD EK500 EY500	38		EV	ane, pil	OPS	OTM	20
2003	FRA	7	6, 7	L'EUROPE	29.6	SIMRAD EK500	38	70, 120, 200	Movies	ane, pil, spr	OPS	OTM	20
2004	ITA	17 W	9	G. DALLAPORTA	35.7	SIMRAD EK500	38	120, 200	EV	ane, pil, spr	OPS	OTM	18
2004	ITA	18	6, 7	G. DALLAPORTA	35.7	SIMRAD EK500	38	120, 200	EV	ane, pil	OPS	OTM	18
2004	GRC	22	6, 7	PHILIA	26	BioSonics DTX	38	120	EV	ane, pil		OTM	10
2004	HRV	17 E	9	BIOS	27	SIMRAD EK60	38	-	BI500	ane, pil, spr	OPS	OTM	16
2004	ITA	16	6, 7	G. DALLAPORTA	35.7	SIMRAD EK500	38	120, 200	EV	ane, pil		OTM	18
2004	ESP	1, 6	11, 12	C. DE SAAVEDRA	67	SIMRAD EK500	38		EV	ane, pil	OPS	OTM	20
2004	FRA	7	6, 7	L'EUROPE	29.6	SIMRAD EK500	38	70, 120, 200	Movies	ane, pil, spr	OPS	OTM	20
2005	ITA	17 W	9	G. DALLAPORTA	35.7	SIMRAD EK500	38	120, 200	EV	ane, pil, spr	OPS	OTM	18
2005	ITA	18	6, 7	G. DALLAPORTA	35.7	SIMRAD EK500	38	120, 200	EV	ane, pil	OPS	OTM	18
2005	GRC	22	6, 7	PHILIA	26	BioSonics DTX	38	120	EV	ane, pil		OTM	10
2005	HRV	17 E	9	BIOS	27	SIMRAD EK60	38	-	BI500	ane, pil, spr	OPS	OTM	16
2005	ITA	16	6, 7	G. DALLAPORTA	35.7	SIMRAD EK60	38	120, 200	EV	ane, pil		OTM	18
2005	ESP	1, 6	11, 12	C. DE SAAVEDRA	67	SIMRAD EK500	38	12, 50	EV	ane, pil	OPS	OTM	20

Continued

Table S1 continued

Y	C	A	M	Vessel	L	Acoustic equipment	F	AF	S	T	AS	FG	CS
2005	FRA	7	6, 7	L'EUROPE	29.6	SIMRAD EK500	38	70, 120, 200	Movies	ane, pil, spr	OPS	OTM	20
2006	ITA	17 W	9	G. DALLAPORTA	35.7	SIMRAD EK500	38	120, 200	EV	ane, pil, spr	OPS	OTM	18
2006	ITA	18	6, 7	G. DALLAPORTA	35.7	SIMRAD EK500	38	120, 200	EV	ane, pil	OPS	OTM	18
2006	GRC	22	6, 7	PHILIA	26	BioSonics DTX	38	120	EV	ane, pil		OTM	10
2006	HRV	17 E	9	BIOS	27	SIMRAD EK60	38	-	BI500	ane, pil, spr	OPS	OTM	16
2006	ITA	16	6, 7	G. DALLAPORTA	35.7	SIMRAD EK60	38	120, 200	EV	ane, pil		OTM	18
2006	ESP	1, 6	11, 12	C. DE SAAVEDRA	67	SIMRAD EK60	38	18, 70, 120, 200	EV	ane, pil	OPS	OTM	20
2006	FRA	7	6, 7	L'EUROPE	29.6	SIMRAD EK500	38	70, 120, 200	Movies	ane, pil, spr	OPS	OTM	20
2007	ITA	17 W	9	G. DALLAPORTA	35.7	SIMRAD EK500	38	120, 200	EV	ane, pil, spr	OPS	OTM	18
2007	GRC	22	6, 7	PHILIA	26	BioSonics DTX	38	120	EV	ane, pil		OTM	10
2007	HRV	17 E	9	BIOS	27	SIMRAD EK60	38	-	BI500	ane, pil, spr	OPS	OTM	16
2007	ITA	16	6, 7	G. DALLAPORTA	35.7	SIMRAD EK60	38	120, 200	EV	ane, pil		OTM	18
2007	ESP	1, 6	11, 12	C. DE SAAVEDRA	67	SIMRAD EK60	38	18, 70, 120, 200	EV	ane, pil	OPS	OTM	20
2007	FRA	7	6, 7	L'EUROPE	29.6	SIMRAD EK500	38	70, 120, 200	Movies	ane, pil, spr	OPS	OTM	20
2008	ITA	17 W	9	G. DALLAPORTA	35.7	SIMRAD EK500	38	120, 200	EV	ane, pil, spr	OPS	OTM	18
2008	ITA	18	6, 7	G. DALLAPORTA	35.7	SIMRAD EK500	38	120, 200	EV	ane, pil	OPS	OTM	18
2008	GRC	22	6, 7	PHILIA	26	BioSonics DTX	38	120	EV	ane, pil		OTM	10
2008	HRV	17 E	9	BIOS	27	SIMRAD EK60	38	-	BI500	ane, pil, spr	OPS	OTM	16
2008	ITA	16	6, 7	G. DALLAPORTA	35.7	SIMRAD EK60	38	120, 200	EV	ane, pil		OTM	18
2008	ESP	1, 6	11, 12	C. DE SAAVEDRA	67	SIMRAD EK60	38	18, 70, 120, 200	EV	ane, pil	OPS	OTM	20
2008	FRA	7	6, 7	L'EUROPE	29.6	SIMRAD EK500	38	70, 120, 200	Movies 3D	ane, pil, spr	OPS	OTM	20
2009	ITA	17 W	9	G. DALLAPORTA	35.7	SIMRAD EK60	38	120, 200	EV	ane, pil	sprat, OPS	OTM	18
2009	ITA	18	6, 7	G. DALLAPORTA	35.7	SIMRAD EK60	38	120, 200	EV	ane, pil	OPS	OTM	18
2009	GRC	22	6, 7	PHILIA	26	BioSonics DTX	38	120	EV	ane, pil		OTM	10
2009	HRV	17 E	9	BIOS DVA	36	SIMRAD EK60	38	-	EV	ane, pil, spr	OPS	OTM	18
2009	ITA	16	6, 7	G. DALLAPORTA	35.7	SIMRAD EK60	38	120, 200	EV	ane, pil		OTM	18

Continued

Table S1 continued

Y	C	A	M	Vessel	L	Acoustic equipment	F	AF	S	T	AS	FG	CS
2009	ITA	9, 10	8	G. DALLAPORTA	35.7	SIMRAD EK60	38	120, 200	EV	ane, pil		OTM	18
2009	ESP	1, 6	11, 12	C. DE SAAVEDRA	67	SIMRAD EK60	38	18, 70, 120, 200	EV	ane, pil	OPS	OTM	20
2009	ESP	1, 6	5, 6	C. DE SAAVEDRA	67	SIMRAD EK60	38	18, 70, 120, 200	EV	ane, pil	OPS	OTM	20
2009	FRA	7	6, 7	L'EUROPE	29.6	SIMRAD EK500	38	70, 120, 200	Movies 3D	ane, pil, spr	OPS	OTM	20
2010	ITA	17 W	9	G. DALLAPORTA	35.7	SIMRAD EK60	38	120, 200	EV	ane, pil	spr	OTM	18
2010	ITA	18	6, 7	G. DALLAPORTA	35.7	SIMRAD EK60	38	120, 200	EV	ane, pil	OPS	OTM	18
2010	GRC	22	6, 7	PHILIA	26	BioSonics DTX	38	120	EV	ane, pil		OTM	10
2010	HRV	17 E	9	BIOS DVA	36	SIMRAD EK60	38	-	EV	ane, pil, spr	OPS	OTM	18
2010	ITA	16	6, 7	MARIA GRAZIA	42.4	SIMRAD EK60	38	120	EV	ane, pil		OTM	18
2010	ESP	1, 6	6, 7	C. DE SAAVEDRA	67	SIMRAD EK60	38	18, 70, 120, 200	EV	ane, pil	OPS	OTM	20
2010	FRA	7	6, 7	L'EUROPE	29.6	SIMRAD EK500	38	70, 120, 200	Movies 3D	ane, pil, spr	OPS	OTM	20
2011	ITA	17 W	9	G. DALLAPORTA	35.7	SIMRAD EK60	38	120, 200	EV	ane, pil	spr	OTM	18
2011	ITA	18	6, 7	G. DALLAPORTA	35.7	SIMRAD EK60	38	120, 200	EV	ane, pil	OPS	OTM	18
2011	GRC	22	6, 7	PHILIA	26	BioSonics DTX	38	120	EV	ane, pil		OTM	10
2011	HRV	17 E	9	BIOS DVA	36	SIMRAD EK60	38	-	EV	ane, pil, spr	OPS	OTM	18
2011	ITA	16	6, 7	G. DALLAPORTA	35.7	SIMRAD EK60	38	120, 200	EV	ane, pil		OTM	18
2011	ITA	9, 10	5, 6	G. DALLAPORTA	35.7	SIMRAD EK60	38	120, 200	EV	ane, pil		OTM	18
2011	ESP	1, 6	6, 7	C. DE SAAVEDRA	67	SIMRAD EK60	38	18, 70, 120, 200	EV	ane, pil	OPS	OTM	20
2011	FRA	7	6, 7	L'EUROPE	29.6	SIMRAD EK500	38	70, 120, 200	Movies 3D	ane, pil, spr	OPS	OTM	20
2012	ITA	17 W	9	G. DALLAPORTA	35.7	SIMRAD EK60	38	120, 200	EV	ane, pil	spr	OTM	18
2012	ITA	18	6, 7	G. DALLAPORTA	35.7	SIMRAD EK60	38	120, 200	EV	ane, pil	OPS	OTM	18
2012	GRC	22	6, 7	PHILIA	26	BioSonics DTX	38	120	EV	ane, pil		OTM	10
2012	HRV	17 E	9	BIOS DVA	36	SIMRAD EK60	38	-	EV	ane, pil, spr	OPS	OTM	18
2012	ITA	16	6, 7	G. DALLAPORTA	35.7	SIMRAD EK60	38	120, 200	EV	ane, pil		OTM	18
2012	ESP	1, 6	6, 7	C. DE SAAVEDRA	67	SIMRAD EK60	38	18, 70, 120, 200	EV	ane, pil	OPS	OTM	20
2012	FRA	7	6, 7	L'EUROPE	29.6	SIMRAD EK60	38	70, 120, 200, 333	Movies 3D	ane, pil, spr	OPS	OTM	20

Continued

Table S1 continued

Y	C	A	M	Vessel	L	Acoustic equipment	F	AF	S	T	AS	FG	CS
2013	ITA	17 W	9	G. DALLAPORTA	35.7	SIMRAD EK60	38	120, 200	EV	ane, pil	spr	OTM	18
2013	ITA	18	6, 7	G. DALLAPORTA	35.7	SIMRAD EK60	38	120, 200	EV	ane, pil	OPS	OTM	18
2013	GRC	22	6, 7	PHILIA	26	BioSonics DTX	38	120	EV	ane, pil		OTM	10
2013	GRC	20	6, 7	PHILIA	26	BioSonics DTX	38	120	EV	ane, pil		OTM	10
2013	HRV	17 E	9	BIOS DVA	36	SIMRAD EK60	38	-	EV	ane, pil	OPS	OTM	18
2013	ITA	16	6, 7	G. DALLAPORTA	35.7	SIMRAD EK60	38	120, 200	EV	ane, pil		OTM	18
2013	ITA	10	5, 6	G. DALLAPORTA	35.7	SIMRAD EK60	38	120, 200	EV	ane, pil		OTM	18
2013	ESP	1, 6	7	MIGUEL OLIVER	70	SIMRAD EK60	38	18, 120, 200	EV	ane, pil	OPS	OTM	20
2013	FRA	7	6, 7	L'EUROPE	29.6	SIMRAD EK60	38	70, 120, 200, 333	Movies 3D	ane, pil, spr	OPS	OTM	20
2014	ITA	17 W	9	G. DALLAPORTA	35.7	SIMRAD EK60	38	120, 200	EV	ane, pil	spr	OTM	18
2014	ITA	18	6, 7	G. DALLAPORTA	35.7	SIMRAD EK60	38	120, 200	EV	ane, pil	OPS	OTM	18
2014	GRC	22	6, 7	PHILIA	26	BioSonics DTX	38	120	EV	ane, pil		OTM	10
2014	GRC	20	6, 7	PHILIA	26	BioSonics DTX	38	120	EV	ane, pil		OTM	10
2014	HRV	17 E	9	BIOS DVA	36	SIMRAD EK60	38	-	EV	ane, pil	OPS	OTM	18
2014	ITA	16	6, 7	G. DALLAPORTA	35.7	SIMRAD EK60	38	120, 200	EV	ane, pil		OTM	18
2014	ITA	9	5, 6	G. DALLAPORTA	35.7	SIMRAD EK60	38	120, 200	EV	ane, pil		OTM	18
2014	ITA	10	5, 6	G. DALLAPORTA	35.7	SIMRAD EK60	38	120, 200	EV	ane, pil		OTM	18
2014	ESP	1, 6	6, 7	MIGUEL OLIVER	70	SIMRAD EK60	38	18, 70, 120, 200	EV	ane, pil	OPS	OTM	20
2014	FRA	7	6, 7	L'EUROPE	29.6	SIMRAD EK60	38	70, 120, 200, 333	Movies 3D	ane, pil, spr	OPS	OTM	20
2015	ITA	17 W	6, 7	G. DALLAPORTA	35.7	SIMRAD EK80	38	70, 120, 200	EV	ane, pil	spr	OTM	18
2015	ITA	18	6, 7	G. DALLAPORTA	35.7	SIMRAD EK80	38	70, 120, 200	EV	ane, pil	OPS	OTM	18
2015	GRC	22	6, 7	PHILIA	26	BioSonics DTX	38	120	EV	ane, pil		OTM	10
2015	GRC	20	6, 7	PHILIA	26	BioSonics DTX	38	120	EV	ane, pil		OTM	10
2015	HRV	17 E	9	BIOS DVA	36	SIMRAD EK60	38	-	EV	ane, pil	OPS	OTM	18
2015	ITA	16	6, 7	G. DALLAPORTA	35.7	SIMRAD EK60	38	120, 200	EV	ane, pil		OTM	18
2015	ITA	9, 10	8, 9	G. DALLAPORTA	35.7	SIMRAD EK60	38	120, 200	EV	ane, pil		OTM	18

Continued

Table S1 continued

Y	C	A	M	Vessel	L	Acoustic equipment	F	AF	S	T	AS	FG	CS
2015	ESP	1, 6	6, 7	MIGUEL OLIVER	70	SIMRAD EK60	38	18, 70, 120, 200	EV	ane, pil	OPS	OTM	20
2015	FRA	7	6, 7	L'EUROPE	29.6	SIMRAD EK60	38	70, 120, 200, 333	Movies 3D	ane, pil, spr	OPS	OTM	20
2016	ITA	17 W	6, 7	G. DALLAPORTA	35.7	SIMRAD EK80	38	70, 120, 200	EV	ane, pil	spr	OTM	18
2016	ITA	18	6, 7	G. DALLAPORTA	35.7	SIMRAD EK80	38	70, 120, 200	EV	ane, pil	OPS	OTM	18
2016	GRC	22	6, 7	PHILIA	26	BioSonics DTX	38	120	EV	ane, pil		OTM	10
2016	GRC	20	6, 7	PHILIA	26	SIMRAD EK80	38	120, 200, 333	EV	ane, pil		OTM	10
2016	HRV	17 E	9	BIOS DVA	36	SIMRAD EK60	38	-	EV	ane, pil	OPS	OTM	18
2016	ITA	16	6, 7	G. DALLAPORTA	35.7	SIMRAD EK60	38	120, 200	EV	ane, pil		OTM	18
2016	ITA	9, 10	8, 9	G. DALLAPORTA	35.7	SIMRAD EK60	38	120, 200	EV	ane, pil		OTM	18
2016	ESP	1, 6	6, 7	MIGUEL OLIVER	70	SIMRAD EK60	38	18, 70, 120, 200	EV	ane, pil	OPS	OTM	20
2016	FRA	7	6, 7	L'EUROPE	29.6	SIMRAD EK60	38	70, 120, 200, 333	Movies 3D	ane, pil, spr	OPS	OTM	20
2017	ITA	17 W	6, 7	G. DALLAPORTA	35.7	SIMRAD EK80	38	70, 120, 200	EV	ane, pil	spr	OTM	18
2017	ITA	18	6, 7	G. DALLAPORTA	35.7	SIMRAD EK80	38	70, 120, 200	EV	ane, pil	OPS	OTM	18
2017	GRC	22	6, 7	PHILIA	26	SIMRAD EK80	38	120, 200, 333	EV	ane, pil		OTM	10
2017	GRC	20	6, 7	PHILIA	26	SIMRAD EK80	38	120, 200, 333	EV	ane, pil		OTM	10
2017	HRV	17 E	9	BIOS DVA	36	SIMRAD EK60	38	-	EV	ane, pil	OPS	OTM	18
2017	ITA	16	6, 7	G. DALLAPORTA	35.7	SIMRAD EK60	38	120, 200	EV	ane, pil		OTM	18
2017	ITA	9, 10	8, 9	G. DALLAPORTA	35.7	SIMRAD EK60	38	120, 200	EV	ane, pil		OTM	18
2017	ESP	1, 6	6, 7	MIGUEL OLIVER	70	SIMRAD EK60	38	18, 70, 120, 200	EV	ane, pil	OPS	OTM	20
2017	FRA	7	6, 7	L'EUROPE	29.6	SIMRAD EK60	38	70, 120, 200, 333	Movies 3D	ane, pil, spr	OPS	OTM	20
2018	ITA	17 W	6, 7	G. DALLAPORTA	35.7	SIMRAD EK80	38	70, 120, 200	EV	ane, pil	spr	OTM	18
2018	ITA	18	6, 7	G. DALLAPORTA	35.7	SIMRAD EK80	38	70, 120, 200	EV	ane, pil	OPS	OTM	18
2018	GRC	22	6, 7	PHILIA	26	SIMRAD EK80	38	120, 200, 333	EV	ane, pil		OTM	10
2018	GRC	20	6, 7	PHILIA	26	SIMRAD EK80	38	120, 200, 333	EV	ane, pil		OTM	10
2018	HRV	17 E	9	BIOS DVA	36	SIMRAD EK80	38	120	EV	ane, pil	OPS	OTM	18
2018	ITA	16	6, 7	G. DALLAPORTA	35.7	SIMRAD EK60	38	120, 200	EV	ane, pil		OTM	18

Continued

Table S1 continued

Y	C	A	M	Vessel	L	Acoustic equipment	F	AF	S	T	AS	FG	CS
2018	ITA	9, 10	8, 9	G. DALLAPORTA	35.7	SIMRAD EK60	38	120, 200	EV	ane, pil		OTM	18
2018	ESP	1, 5, 6	6, 7	MIGUEL OLIVER	70	SIMRAD EK60	38	18, 70, 120, 200	EV	ane, pil	OPS	OTM	20
2018	FRA	7	6, 7	L'EUROPE	29.6	SIMRAD EK60	38	70, 120, 200, 333	Movies 3D	ane, pil, spr	OPS	OTM	20
2019	ITA	17 W	6, 7	G. DALLAPORTA	35.7	SIMRAD EK80	38	70, 120, 200	EV	ane, pil	OPS	OTM	18
2019	ITA	18	6, 7	G. DALLAPORTA	35.7	SIMRAD EK80	38	70, 120, 200	EV	ane, pil	OPS	OTM	18
2019	GRC	22	6, 7	PHILIA	26	SIMRAD EK80	38	120, 200, 333	EV	ane, pil		OTM	10
2019	GRC	20	6, 7	PHILIA	26	SIMRAD EK80	38	120, 200, 333	EV	ane, pil		OTM	10
2019	HRV	17 E	9	BIOS DVA	36	SIMRAD EK80	38	120	EV	ane, pil	OPS	OTM	18
2019	ITA	16	6, 7	G. DALLAPORTA	35.7	SIMRAD EK60	38	120, 200	EV	ane, pil		OTM	18
2019	ITA	9, 10	8, 9	G. DALLAPORTA	35.7	SIMRAD EK60	38	120, 200	EV	ane, pil		OTM	18
2019	ESP	1, 5, 6	7	MIGUEL OLIVER	70	SIMRAD EK60	38	18, 70, 120, 200	EV	ane, pil	OPS	OTM	20
2019	FRA	7	6, 7	L'EUROPE	29.6	SIMRAD EK60	38	70, 120, 200, 333	Movies 3D	ane, pil, spr	OPS	OTM	20

Abbreviations: Y year, C Country alpha 3 code, A GFCM Geographical Sub-Area, M month, L length (m), F frequency used for the assessment, AF ancillary frequencies, S software used for scrutinization, T target species, AS ancillary species, FG fishing gear, CS codend stretched mesh size (mm), **ane** anchovy, **pil** sardine, **spr** sprat, **SPF** small pelagic fish, **OPS** other pelagic species, **PU** purse seine, **OTM** single-boat midwater otter trawl, **EV** Echoview, **BS** BioSonics.