# MEDIAS acoustics

# Layouts

1. MEDIAS acoustics	1
Tables	
medbs_rdb_schema.medias_acoustics_identity [ 1 ]	2
medbs_rdb_schema.medias_acoustics_sset [ 1 ]	4
medbs_rdb_schema.medias_acoustics_sset_echotypes [ 1 ]	6
medbs_rdb_schema.medias_acoustics_sset_nasc [ 1 ]	7
medbs_rdb_schema.medias_acoustics_sset_nasc_species [ 1 ]	9
medbs_rdb_schema.medias_acoustics_sset_nasc_species_lenclass [ 1 ]	. 11

smallinț⇒

smallint

smallint

varchar(32)

varchar(128)

numeric(6,2)

numeric(7,4)

numeric(7,4)

numeric(10,4)

varchar(3)

timestamp

#### medbs\_rdb\_schema.medias\_acoustics\_identity 🎾 survey\_name varchar(14)→ varchar(3)→ \*/> cd\_country 🎾 gsa varchar(7)→ varchar(32)→ 🎾 survey\_area 🎾 cd\_centre varchar(14)→ 🎾 cd\_inst varchar(14)→ \*/> cd\_vessel varchar(12)→ 🎾 sampling\_year smallint varchar(14) 🎾 cd\_cruise echo\_sounder\_type varchar(32)→ varchar(128)→ transects\_design smallint inter\_transect\_distance edsu numeric(4,2)numeric(7,2)covered\_area\_size effectively\_covered\_area\_size numeric(7,2) smallint n\_hauls n\_ctds smallint echo\_sounding\_depth\_min smallint echo\_sounding\_depth\_max smallint numeric(4,2) vessel\_speed start\_date date end\_date date analysis\_sw varchar(128) software\_version varchar(14) file\_format varchar(36) varchar(512) onboard\_group varchar(2048) notes

#### medbs\_rdb\_schema.medias\_acoustics\_sset >> survey\_name varchar(14)→ 🎾 cd\_country varchar(3)→ varchar(7) 🎾 gsa varchar(32)→ 🎾 survey\_area 🎾 cd\_centre varchar(14)→ cd\_inst varchar(14)→ \*/> cd\_vessel varchar(12)→ sampling\_year smallinț 🎾 cd\_cruise varchar(14)→ → smallint ◀ calibration\_id calibration\_date date frequency smallint sound\_speed numeric(6,2) pulse\_duration numeric(5,3) absorption\_coefficient numeric(7,6) rms\_beam numeric(4,3) adjusted\_gain numeric(6,2) sa\_corr numeric(6,2) beamwidth\_athwart numeric(5,2) beamwidth\_along numeric(5,2)

numeric(3,2)

numeric(3,2)

numeric(6,2)

smallint

#### medbs\_rdb\_schema.medias\_acoustics\_sset\_nasc\_species 🎾 survey\_name varchar(14)→ varchar(3)→ 🎾 cd\_country 🎾 gsa varchar(7)→ varchar(32)→ 🎾 survey\_area 🎾 geographical\_stratum varchar(32)→ 🎾 cd\_centre varchar(14)→ \*/> cd\_inst varchar(14)→ 🎾 cd\_vessel varchar(12)→ 🎾 sampling\_year smallin†️ cd\_cruise varchar(14)→ calibration\_id smallin†️ smallin∤⇒ 🎾 transect smallinț 🎾 edsu\_id trawl\_haul\_reference varchar(128) 🎾 echo\_type varchar(3)→ → 🎾 species varchar(7) size\_category char(1) abundance numeric(14,3) biomass numeric(14,4) species\_b20 numeric(5,2) species\_nasc numeric(8,4)

athwart\_offset

along\_offset

ts\_of\_sphere

bottom\_depth

#### 🎾 survey\_name varchar(14)→ varchar(3)→ 🎾 cd\_country 🎾 gsa varchar(7)→ varchar(32)→ 🎾 survey\_area 🎾 cd\_centre varchar(14)→ varchar(14)→ 🎾 cd\_inst varchar(12)→ 🎾 cd\_vessel 🎾 sampling\_year smallinț **է**‱ cd\_cruise varchar(14)→ 🎾 echo\_type varchar(3) varchar(100) echo\_type\_description medbs\_rdb\_schema.medias\_acoustics\_sset\_nasc varchar(14)→ 🎾 survey\_name 🎾 cd\_country varchar(3)→ 🎾 gsa varchar(7)→ 🎾 survey\_area varchar(32)→ 🎾 geographical\_stratum varchar(32)→ 🎾 cd\_centre varchar(14)→ 🎾 cd\_inst varchar(14)→ varchar(12)→ 🎾 cd\_vessel 🎾 sampling\_year smallinț⇒ 🎾 cd\_cruise varchar(14)→

⊫‱ calibration\_id

transect\_name

trawl\_haul\_reference

🎾 transect

🎾 edsu\_id

🔑 echo\_type

tm\_avg

nasc

depth\_avg

longitude\_avg

latitude\_avg

medbs\_rdb\_schema.medias\_acoustics\_sset\_echotypes

#### medbs\_rdb\_schema.medias\_acoustics\_sset\_nasc\_species\_lenclass 🎾 survey\_name varchar(14)→ 🎾 cd\_country varchar(3)→ varchar(7)→ 🎾 gsa 🎾 survey\_area varchar(32)→ 🎾 geographical\_stratum varchar(32)→ 🎾 cd\_centre varchar(14)→ 🎾 cd\_inst varchar(14)→ 🎾 cd\_vessel varchar(12)→ 🎾 sampling\_year smallint varchar(14) 🎾 cd\_cruise 🎾 calibration\_id smallint smallint 🎾 transect 🎾 edsu\_id smallint 🎾 species varchar(7)→ ! length\_class smallint abundance numeric(14,2) biomass numeric(14,4)

# MEDIAS acoustics

	e medbs_rdb_schema.medias		
Idx	Name	Data Type	Description
MEDIA Tags:	S acoustics survey identity		
* Pk	survey_name	varchar(14)	Survey name (e.g. MEDIAS) Tags:
* PK	cd_country	varchar(3)	Country ISO 3166 international standard Tags:
* Pk	gsa	varchar(7)	GFCM Geographical subarea Tags:
* Pk	survey_area	varchar(32)	Survey area (may extend more than one GSA, e.g. Iberian coast) Tags:
* Pk	cd_centre	varchar(14)	Research center code Tags:
* Pk	cd_inst	varchar(14)	Research institute code Tags:
* PK	cd_vessel	varchar(12)	Vessel code. Additional information is provided in the parametric table p_research_vessel Tags:
* Pk	sampling_year	smallint	Sampling year Tags:
* Pk	cd_cruise	varchar(14)	Cruise code Tags:
*	echo_sounder_type	varchar(32)	Echo sounder type Tags:
	transects_design	varchar(128)	Transects design Tags:
	inter_transect_distance	smallint	Inter–transect distance (NM), will be filled where transect is parallel/zig zag (not mand.) Tags:
	edsu	numeric(4,2)	EDSU: the Elementary Distance Sampling Unit used for acoustic integration (nmi). E.g. 1 = by 1 nmi, 0.54 by 0.54 nmi, etc. Tags:
	covered_area_size	numeric(7,2)	Size of area to be covered (NM2/km2) Tags:
	effectively_covered_area_size	numeric(7,2)	Size of area effectively covered (NM2/km2) Tags:
	n_hauls	smallint	Number of hauls (auto filled) Tags:
	n_ctds	smallint	Number of CTDs (auto filled) Tags:
	echo_sounding_depth_min	smallint	Echo sounding depth (min, m), auto calculated from NASC Tags:
	echo_sounding_depth_max	smallint	Echo sounding depth (max, m) recording, auto calculated from NASC Tags:
	vessel_speed	numeric(4,2)	Speed of research vessel (kt) during acoustic sampling Tags:
	start_date	date	Starting date of survey Tags:
	end_date	date	Ending date of survey Tags:
	analysis_sw	varchar(128)	Software for analysis Tags:
	software_version	varchar(14)	Software version Tags:
	file_format	varchar(36)	Acoustic data storage format. This can be 'raw' or 'hac' for current systems, and any of: 'raw', 'hac', 'ek5', 'BI500', 'ek6', 'dt4' if we include historical data. Tags:
	onboard_group	varchar(512)	Onboard group Tags:

Tabl	e medbs_rdb_schema.medias	acquistics identity	
TODI	notes	varchar(2048)	Notes
		14. 0.14. (20.10)	Tags:
Index	<del></del>		
Type		On	Description
Pk	medias_acoustics_identity_pke y	survey_name, cd_country, gsa, survey_area, cd_centre, cd_inst, cd_vessel, sampling_year, cd_cruise	Tags:
Forei	gn Keys		
Type	Name	0n	Description
	cd_inst_fk\$p_fishery_body_depa p_fishery_body_departments ( (		Tags:
	<pre>cd_vessel_fk\$rv_eurofleets (  rv_eurofleets ( vessel_code )</pre>	cd_vessel ) ref	Tags:
	echosounder_fk\$e_echosounder ref e_echosounder ( echo_sound		Tags:
	gsa_fk\$p_fdi_subregion ( gsa : subregion_cd )		Tags:
	<pre>medias_acoustics_identity_cour cd_country ) ref p_countries )</pre>		Tags:
	survey_area_fk\$p_medias_survey ref p_medias_survey_area ( sur		Tags:
	survey_name_fk\$p_surveys ( sur p_surveys ( survey_code )	rvey_name ) ref	Tags:
	transects_design_fk\$p_medias_ transects_design ) ref p_media transect_design )		Tags:
	cd_centre_fk\$p_fishery_bodies ref p_fishery_bodies ( acrony		Tags:
Const	raints		
	Name	Definition	Description
	chk_covered_area_size	covered_area_size >= (100)::numeric) AND (covered_area_size <= (99999)::numeric	Tags:
	chk_echo_sounding_depth_max	<pre>(echo_sounding_depth_ma x &gt;= 10) AND (echo_sounding_depth_ma x &lt;= 1500)) OR (echo_sounding_depth_ma x = '-1'::integer</pre>	Tags:
	chk_echo_sounding_depth_min	<pre>(echo_sounding_depth_mi n &gt;= 10) AND (echo_sounding_depth_mi n &lt;= 1500)) OR (echo_sounding_depth_mi n = '-1'::integer</pre>	Tags:
	chk_edsu	edsu >= 0.1) AND (edsu <= (5)::numeric	Tags:
	chk_effectively_covered_area_ size	effectively_covered_are a_size >= (100)::numeric) AND (effectively_covered_ar ea_size <= (99999)::numeric	Tags:
	chk_analysis_sw	<pre>analysis_sw)::text = ANY (ARRAY[('MOVIES3D'::cha racter varying)::text, ('Echoview'::character varying)::text, ('MOVIES'::character varying)::text]</pre>	Tags:

Table medbs_rdb_schema.medias	_acoustics_identity	
chk_inter_transect_distance	<pre>(inter_transect_distanc e &gt;= 5) AND (inter_transect_distanc e &lt;= 12)) OR (inter_transect_distanc e = '-1'::integer</pre>	
chk_n_ctds	((n_ctds >= 1) AND (n_ctds <= 999)) OR NULL::boolean	Tags:
chk_n_hauls	((n_hauls >= 1) AND (n_hauls <= 999)) OR NULL::boolean	Tags:
chk_vessel_speed	<pre>(vessel_speed)::double precision &gt;= (5)::double precision) AND ((vessel_speed)::double precision &lt;= (10)::double precision</pre>	Tags:
chk_file_format	(file_format)::text ~* '^(raw hac ek5 ek6 dt4  BI500)(- (raw hac ek5 ek6 dt4 BI 500))*\$'::text	Tags:

	e medbs_rdb_schema.medias		Paradakia
Idx	Name	Data Type	Description
Hydro Tags:	Acoustic SubSet (calibration)		
* Pk	survey_name	varchar(14)	Survey name (e.g. MEDIAS) Tags:
* Pk	cd_country	varchar(3)	Country ISO 3166 international standard Tags:
* Pk	gsa	varchar(7)	GFCM Geographical subarea Tags:
* Pk	survey_area	varchar(32)	Survey area (may extend more than one GSA, e.g. Iberian coast) Tags:
* Pk	cd_centre	varchar(14)	Research center code Tags:
* PK	cd_inst	varchar(14)	Research institute code Tags:
* PK	cd_vessel	varchar(12)	Vessel Tags:
* PK	sampling_year	smallint	Sampling year Tags:
* PK	cd_cruise	varchar(14)	Cruise code Tags:
* PK	calibration_id	smallint	The echosounder calibration identification code (e.g. 1, 2). Used to associate acoustic integration data in other tables with the specific instrument calibration applied during data collection & analysis.  Tags:
	calibration_date	date	Calibration date (dd/mm/yyyy) Tags:
	frequency	smallint	Acoustic pulse frequency used for calibration and data acquisition (kHz). Typically 38 kHz for biomass surveys. Additional frequencies might be calibrated for auxiliary purposes during echogram scrutinization (e.g. echotrace identification and/or plankton filtering) Tags:
	sound_speed	numeric(6,2)	Value of the speed of sound (m/s) calculated during calibration Tags:
	pulse_duration	numeric(5,3)	Acoustic pulse duration used for calibration and data acquisition (ms), e.g. 1.024, 0.512 Tags:
	absorption_coefficient	numeric(7,6)	Value of the acoustic absorption coefficient alpha (dB/m) calculated during calibration Tags:

Tab1	e medbs_rdb_schema.medias	_acoustics_sset	
	rms_beam	numeric(4,3)	The root–mean–square (RMS) error (dB) between measurements taken during calibration, and the adjusted acoustic beam model, e.g. 0.02, 0.1 Tags:
	adjusted_gain	numeric(6,2)	The adjusted transducer gain (dB) as a result of the calibration procedure Tags:
	sa_corr	numeric(6,2)	Sa correction (dB). This value is estimated during calibration and represents the correction required to the Sv constant to harmonize the TS and NASC measurements Tags:
	beamwidth_athwart	numeric(5,2)	The 3 dB beamwidth angle (deg) in the athwartship direction, as calculated during calibration, e.g. 6.8 Tags:
	beamwidth_along	numeric(5,2)	The 3 dB beamwidth angle (deg) in the alongship direction, as calculated during calibration, e.g. 6.8 Tags:
	athwart_offset	numeric(3,2)	The beam offset angle (deg) in the athwartship direction, as calculated during calibration, e.g. 0.1, 0.2 Tags:
	along_offset	numeric(3,2)	The beam offset angle (deg) in the alongtship direction, as calculated during calibration, e.g. 0.1, 0.2 Tags:
	ts_of_sphere	numeric(6,2)	Target Strength (TS) of calibration sphere (dB re 1 m^2) at distance of 1 m, e.g. – 33.5 Tags:
	bottom_depth	smallint	Sea bottom depth at the calibration location (m), e.g. 25 Tags:
Index	es		
Type	Name	0n	Description
Pk	medias_acoustics_sset_pkey	survey_name, cd_country, gsa, survey_area, cd_centre, cd_inst, cd_vessel, sampling_year, cd_cruise, calibration_id	Tags:
Forei	gn Keys		
Type	Name	0n	Description
	cd_centre_fk\$p_fishery_bodies ref p_fishery_bodies ( acrony	m )	Tags:
	cd_inst_fk\$p_fishery_body_dep p_fishery_body_departments (		lags:
	cd_vessel_fk\$rv_eurofleets ( rv_eurofleets ( vessel_code )	_ :	Tags:
	fk_sset\$identity ( survey_nam survey_area, cd_centre, cd_in sampling_year, cd_cruise ) re medias_acoustics_identity ( s gsa, survey_area, cd_centre, sampling_year, cd_cruise )	st, cd_vessel, f urvey_name, cd_country,	Tags:
	gsa_fk\$p_fdi_subregion ( gsa subregion_cd )	) ref p_fdi_subregion (	Tags:
	<pre>medias_acoustics_sset_country cd_country ) ref p_countries_ )</pre>		Tags:
	survey_area_fk\$p_medias_surve ref p_medias_survey_area ( su		Tags:
	survey_name_fk\$p_surveys ( su p_surveys ( survey_code )	rvey_name ) ref	Tags:
Const	raints		
	Name	Definition	Description
	chk_adjusted_gain	adjusted_gain >= (1)::numeric) AND (adjusted_gain <= (9999)::numeric	Tags:

Table medbs_rdb_schema.medi	as_acoustics_sset	
chk_along_offset	along_offset >= (- (1)::numeric)) AND (along_offset <= (1)::numeric	Tags:
chk_athwart_offset	athwart_offset >= (- (1)::numeric)) AND (athwart_offset <= (1)::numeric	Tags:
chk_beamwidth_along	beamwidth_along >= (5)::numeric) AND (beamwidth_along <= (12)::numeric	Tags:
chk_beamwidth_athwart	beamwidth_athwart >= (5)::numeric) AND (beamwidth_athwart <= (12)::numeric	Tags:
chk_absorption_coefficient	absorption_coefficient >= (0)::numeric) AND (absorption_coefficient <= (1)::numeric	Tags:
chk_calibration_id	calibration_id >= 1) AND (calibration_id <= 10	Tags:
chk_rms	rms_beam >= (0)::numeric) AND (rms_beam <= (1)::numeric	Tags:
chk_sa_corr	sa_corr >= ('- 2'::integer)::numeric) AND (sa_corr <= (2)::numeric	Tags:
chk_sound_speed	sound_speed >= (1400)::numeric) AND (sound_speed <= (1600)::numeric	Tags:
chk_ts_of_sphere	ts_of_sphere <= '- 20.0'::numeric) AND (ts_of_sphere >= '- 70.0'::numeric	Tags:
chk_bottom_depth	<pre>(bottom_depth)::numeric &gt;= (5)::numeric) AND ((bottom_depth)::numeric c &lt;= (200)::numeric</pre>	
chk_frequency	frequency = ANY (ARRAY[38, 70, 120, 200])	Tags:
chk_pulse_duration	<pre>pulse_duration &gt;=   (0)::numeric) AND   (pulse_duration &lt;=   (2)::numeric</pre>	Tags:

Tab1	e medbs_rdb_schema.medias	_acoustics_sset_echo	rtypes
Idx	Name	Data Type	Description
* PK	survey_name	varchar(14)	Survey name (e.g. MEDIAS) Tags:
* PK	cd_country	varchar(3)	Country ISO 3166 international standard Tags:
* PK	gsa	varchar(7)	GFCM Geographical subarea Tags:
* Pk	survey_area	varchar(32)	Survey area (may extend more than one GSA, e.g. Iberian coast) Tags:
* PK	cd_centre	varchar(14)	Research center code Tags:
* PK	cd_inst	varchar(14)	Research institute code Tags:
* PK	cd_vessel	varchar(12)	Vessel Tags:
* PK	sampling_year	smallint	Sampling year Tags:

Tab1	e medbs_rdb_schema.medias	_acoustics_sset_echo	types
* Pk	cd_cruise	varchar(14)	Cruise code Tags:
* PK	echo_type	varchar(3)	Tags:
	echo_type_description	varchar(100)	Tags:
Index	es		
Type	Name	0n	Description
Pk	medias_acoustics_sset_echotyp es_pkey	survey_name, cd_country, gsa, survey_area, cd_centre, cd_inst, cd_vessel, sampling_year, cd_cruise, echo_type	Tags:
Forei	oreign Keys		
Type	Name	0n	Description
	cd_centre_fk\$p_fishery_bodies_ ref p_fishery_bodies ( acronym		Tags:
	cd_inst_fk\$p_fishery_body_depa p_fishery_body_departments ( c		Tags:
	cd_vessel_fk\$rv_eurofleets ( crv_eurofleets ( vessel_code )	cd_vessel ) ref	Tags:
	gsa_fk\$p_fdi_subregion ( gsa ) subregion_cd )	ref p_fdi_subregion (	Tags:
	medias_acoustics_sset_echotype_country_fk\$p_country31 66 ( cd_country ) ref p_countries_iso3166 ( country_a3code )		Tags:
	survey_area_fk\$p_medias_survey ref p_medias_survey_area ( sur		Tags:
	survey_name_fk\$p_surveys ( sur p_surveys ( survey_code )	rvey_name ) ref	Tags:
	acoustic_echotypes_fk\$acoustic survey_name, cd_country, gsa, cd_inst, cd_vessel, sampling_y medias_acoustics_identity ( su gsa, survey_area, cd_centre, c sampling_year, cd_cruise )	survey_area, cd_centre, year, cd_cruise ) ref urvey_name, cd_country,	Tags:

coast) Tags:  * Pk geographical_stratum varchar(32) Geographical stratum (area inside a GSA and survey argages:  * Pk cd_centre varchar(14) Research center code Tags:  * Pk cd_inst varchar(14) Research institute code Tags:  * Pk cd_vessel varchar(12) Vessel  * Pk sampling_year smallint Sampling year Tags:  * Pk cd_cruise varchar(14) Cruise Tags:  * Pk calibration_id smallint The echosounder calibration identification code (e.g.		sampling_year, cd_cruise )		
IdwNameData TypeDescriptionHydro Tags:Acoustic: Nautical Area Scattering Coefficient (NASC)Survey name (e.g. MEDIAS)* Pksurvey_namevarchar(14)Survey name (e.g. MEDIAS)* Pkcd_countryvarchar(3)Country ISO 3166 international standard Tags:* Pkgsavarchar(7)GFCM Geographical subarea Tags:* Pksurvey_areavarchar(32)Survey area (may extend more than one GSA, e.g. Iberis coast) Tags:* Pkgeographical_stratumvarchar(32)Geographical stratum (area inside a GSA and survey are Tags:* Pkcd_centrevarchar(14)Research center code Tags:* Pkcd_instvarchar(14)Research institute code Tags:* Pkcd_vesselvarchar(12)Vessel Tags:* Pksampling_yearsmallintSampling year Tags:* Pkcd_cruisevarchar(14)Cruise Tags:* Pkcd_cruisesmallintSampling year Tags:	Tab <u>l</u>	e medbs_rdb_schema. <u>media</u> s	_acoustics_sset <u>nasc</u>	
Tags:  * Pk survey_name				
Tags:  * Pk cd_country varchar(3) Country ISO 3166 international standard Tags:  * Pk gsa varchar(7) GFCM Geographical subarea Tags:  * Pk survey_area varchar(32) Survey area (may extend more than one GSA, e.g. Iberi: coast) Tags:  * Pk geographical_stratum varchar(32) Geographical stratum (area inside a GSA and survey are Tags:  * Pk cd_centre varchar(14) Research center code Tags:  * Pk cd_inst varchar(14) Research institute code Tags:  * Pk cd_vessel varchar(12) Vessel Tags:  * Pk sampling_year smallint Sampling year Tags:  * Pk cd_cruise varchar(14) Cruise Tags:  * Pk calibration_id smallint The echosounder calibration identification code (e.g.		Acoustic: Nautical Area Scatte	ering Coefficient (NASC)	
Tags:  * Pk gsa	* Pk	survey_name	varchar(14)	
Tags:  * Pk survey_area varchar(32) Survey area (may extend more than one GSA, e.g. Iberis coast) Tags:  * Pk geographical_stratum varchar(32) Geographical stratum (area inside a GSA and survey are Tags:  * Pk cd_centre varchar(14) Research center code Tags:  * Pk cd_inst varchar(14) Research institute code Tags:  * Pk cd_vessel varchar(12) Vessel Tags:  * Pk sampling_year smallint Sampling year Tags:  * Pk cd_cruise varchar(14) Cruise Tags:  * Pk calibration_id smallint The echosounder calibration identification code (e.g.	* Pk	cd_country	varchar(3)	
coast) Tags:  * PK geographical_stratum varchar(32) Geographical stratum (area inside a GSA and survey ard Tags:  * PK cd_centre varchar(14) Research center code Tags:  * PK cd_inst varchar(14) Research institute code Tags:  * PK cd_vessel varchar(12) Vessel Tags:  * PK sampling_year smallint Sampling year Tags:  * PK cd_cruise varchar(14) Cruise Tags:  * PK calibration_id smallint The echosounder calibration identification code (e.g.	* Pk	gsa	varchar(7)	
Tags:  * Pk cd_centre varchar(14) Research center code Tags:  * Pk cd_inst varchar(14) Research institute code Tags:  * Pk cd_vessel varchar(12) Vessel Tags:  * Pk sampling_year smallint Sampling year Tags:  * Pk cd_cruise varchar(14) Cruise Tags:  * Pk calibration_id smallint The echosounder calibration identification code (e.g.	* PK	survey_area	varchar(32)	
Tags:  * Pk cd_inst	* Pk	geographical_stratum	varchar(32)	Geographical stratum (area inside a GSA and survey area) Tags:
Tags:  * Pk cd_vessel varchar(12) Vessel  * Pk sampling_year smallint Sampling year  * Pk cd_cruise varchar(14) Cruise  * Pk calibration_id smallint The echosounder calibration identification code (e.g.	* PK	cd_centre	varchar(14)	
Tags:  * Pk sampling_year smallint Sampling year Tags:  * Pk cd_cruise varchar(14) Cruise Tags:  * Pk calibration_id smallint The echosounder calibration identification code (e.g.	* PK	cd_inst	varchar(14)	
Tags:  * Pk cd_cruise varchar(14) Cruise Tags:  * Pk calibration_id smallint The echosounder calibration identification code (e.g.	* Pk	cd_vessel	varchar(12)	
Tags:  * Pk calibration_id smallint The echosounder calibration identification code (e.g.	* Pk	sampling_year	smallint	
	* Pk	cd_cruise	varchar(14)	
	* PK	calibration_id	smallint	

Tab1	e medbs_rdb_schema.medias	_acoustics_sset_nasc	
* Pk	transect	smallint	Transect ID Tags:
	transect_name	varchar(32)	Transect name Tags:
* PK	edsu_id	smallint	Elementary Distance Sampling Unit: The EDSU interval index (unitless) within the transect as a result of deviding the total transect length by the EDSU, e.g. 1, 2, 3 Tags:
	trawl_haul_reference	varchar(128)	Trawl haul_id reference: [survey_name] [cd_country] [gsa] [survey_area] [geographical_st ratum] [cd_centre] [cd_inst] [cd_vessel] [cd_cruise] [subset_id] [vhaul_id] Tags:
* PK	echo_type	varchar(3)	Echo type: E1: fish schools at the bottom (altitude <20m); E2: schools in open water (altitude >20 m depth) attributed to sardine; E3: diffuse schools in open water (altitude >20 m depth) allocated to mackerel; E4: surface schools (altitude <30 m); E5: Myctophidae fish Tags:
	tm_avg	timestamp	The date and time of the middle ping in the domain corresponding to the EDSU interval Tags:
*	depth_avg	numeric(6,2)	The average bottom depth in the domain corresponding to the EDSU interval as calculated by all interval pings Tags:
*	longitude_avg	numeric(7,4)	The longitude (decimal degrees) of the middle ping in the domain corresponding to the EDSU interval Tags:
*	latitude_avg	numeric(7,4)	The latitude (decimal degrees) of the middle ping in the domain corresponding to the EDSU interval Tags:
*	nasc	numeric(10,4)	The Nautical Area Scattering Coefficient (NASC) corresponding to the acoustic backscatter characterized by echo type (m^2/nmi^2) within the EDSU interval Tags:
Index	exes		
Type	e Name On		Description
Pk	medias_acoustics_sset_bio_pke y	survey_name, cd_country, gsa, survey_area, geographical_stratum, cd_centre, cd_inst, cd_vessel, sampling_year, cd_cruise, calibration_id, transect, edsu_id, echo_type	Tags:
Forei	oreign Keys		
Type	Name	0n	Description
	cd_centre_fk\$p_fishery_bodies_acronym ( cd_centre ) ref p_fishery_bodies ( acronym )		Tags:
	cd_inst_fk\$p_fishery_body_departments ( cd_inst ) ref p_fishery_body_departments ( department )		Tags:
	cd_vessel_fk\$rv_eurofleets ( cd_vessel ) ref rv_eurofleets ( vessel_code )		Tags:
	fk_sset_bio\$survey_sset ( survey_name, cd_country, gsa, survey_area, cd_centre, cd_inst, cd_vessel, sampling_year, cd_cruise, calibration_id ) ref medias_acoustics_sset ( survey_name, cd_country, gsa, survey_area, cd_centre, cd_inst, cd_vessel, sampling_year, cd_cruise, calibration_id )		Tags:
	geo_stratum_fk\$p_medias_geo_s geographical_stratum ) ref p_ geo_stratum_code )		Tags:

gsa\_fk\$p\_fdi\_subregion ( gsa ) ref p\_fdi\_subregion ( Tags: subregion\_cd )

medias\_acoustics\_sset\_nasc\_country\_fk\$p\_country3166 ( Tags:
cd\_country ) ref p\_countries\_iso3166 ( country\_a3code

## Table medbs\_rdb\_schema.medias\_acoustics\_sset\_nasc

survey\_area\_fk\$p\_medias\_survey\_area ( survey\_area )
ref p\_medias\_survey\_area ( survey\_area\_code )

survey\_name\_fk\$p\_surveys ( survey\_name ) ref Tags:
p\_surveys ( survey\_code )

### Constraints

Name	Definition	Description
chk_depth_avg	depth_avg >= (10)::numeric) AND (depth_avg <= (1500)::numeric	Tags:
chk_echo_type	<pre>echo_type)::text = ANY (ARRAY[('E1'::character varying)::text, ('E2'::character varying)::text, ('E3'::character varying)::text, ('E4'::character varying)::text, ('E5'::character varying)::text, ('E6'::character varying)::text,</pre>	
chk_edsu_id	edsu_id >= 1) AND (edsu_id <= 2000	Tags:
chk_calibration_id	<pre>calibration_id &gt;= 1) AND (calibration_id &lt;= 10</pre>	Tags:
chk_longitude_avg	longitude_avg >= '- 5.50'::numeric) AND (longitude_avg <= 35.00	Tags:
chk_total_fish_nasc	nasc >= (0)::numeric	Tags:
chk_transect	transect >= 1) AND (transect <= 999	Tags:
chk_latitude_avg	latitude_avg >= 34.00) AND (latitude_avg <= 45.70	Tags:

Tags:

Tab1	e medbs_rdb_schema.medias	s_acoustics_sset_nasc	c_species
Idx	Name	Data Type	Description
Hydro Tags:	Acoustic: Biomass (NASC) Spec	ies Identification	
* PK	survey_name	varchar(14)	Survey name (e.g. MEDIAS) Tags:
* Pk	cd_country	varchar(3)	Country ISO 3166 international standard Tags:
* Pk	gsa	varchar(7)	GFCM Geographical subarea Tags:
* PK	survey_area	varchar(32)	Survey area (may extend more than one GSA, e.g. Iberian coast) Tags:
* PK	geographical_stratum	varchar(32)	Geographical stratum (area inside a GSA and survey area) Tags:
* PK	cd_centre	varchar(14)	Research center code Tags:
* PK	cd_inst	varchar(14)	Research institute code Tags:
* PK	cd_vessel	varchar(12)	Vessel Tags:
* PK	sampling_year	smallint	Sampling year Tags:
* PK	cd_cruise	varchar(14)	Cruise code Tags:
* PK	calibration_id	smallint	The echosounder calibration identification code (e.g. 1, 2). Used to associate acoustic integration data in other tables with the specific instrument calibration applied during data collection & analysis.

Tags:

Tabl	e medbs_rdb_schema.medias	s_acoustics_sset_nasc	c_species		
* PK	transect	smallint	Transect ID Tags:		
* PK	edsu_id	smallint	Elementary Distance Sampling Unit: The EDSU interval index (unitless) within the transect as a result of deviding the total transect length by the EDSU, e.g. 1, 2, 3 Tags:		
	trawl_haul_reference	varchar(128)	Trawl haul_id reference: [survey_name] [cd_country] [gsa] [survey_area] [geographical_st ratum] [cd_centre] [cd_inst] [cd_vessel] [cd_cruise] [subset_id] [vhaul_id] Tags:		
* Pk	echo_type	varchar(3)	Echo type: E1: fish schools at the bottom (altitude <20m); E2: schools in open water (altitude >20 m depth) attributed to sardine; E3: diffuse schools in open water (altitude >20 m depth) allocated to mackerel; E4: surface schools (altitude <30 m); E5: Myctophidae fish Tags:		
* PK	species	varchar(7)	Species code: species list based on ASFIS FAO and WoRMS (for MEDIAS purposes) Tags:		
* Pk	size_category	char(1)	Tags:		
*	abundance	numeric(14,3)	The number of fish for the species corresponding to the EDSU interval Tags:		
*	biomass	numeric(14,4)	The total weight of fish for the species corresponding to the EDSU interval (ton) Tags:		
*	species_b20	numeric(5,2)	The species TS (dB) for the EDSU interval. This is a result of the average species fish length attributed to the EDSU interval (form biological sampling) and the L–TS function used Tags:		
*	species_nasc	numeric(8,4)	The Nautical Area Scattering Coefficient (NASC) corresponding to backscatter attributed species within the EDSU interval (m^2/nmi^2) Tags:		
Index	Indexes				
Tune	Name	Πn	Description		

Type	Name	0n	Description
Pk	medias_acoustics_sset_bio_spe cies_pkey	survey_name, cd_country, gsa, survey_area, geographical_stratum, cd_centre, cd_inst, cd_vessel, sampling_year, cd_cruise, calibration_id, transect, edsu_id, echo_type, species, size_category	Tags:

## Foreign Keys

Type	Name	0n	Description
	species_fk\$species_list_media: species_list_medias ( species	· ·	Tags:
	cd_centre_fk\$p_fishery_bodies ref p_fishery_bodies ( acrony		Tags:
	cd_inst_fk\$p_fishery_body_depa p_fishery_body_departments ( )		Tags:
	<pre>cd_vessel_fk\$rv_eurofleets ( rv_eurofleets ( vessel_code )</pre>	cd_vessel ) ref	Tags:
	fk_sset_nasc_spec\$sset_nasc ( cd_country, gsa, survey_area, cd_centre, cd_inst, cd_vessel cd_cruise, calibration_id, tr: echo_type ) ref medias_acoust survey_name, cd_country, gsa, geographical_stratum, cd_cents sampling_year, cd_cruise, cal edsu_id, echo_type )	geographical_stratum, , sampling_year, ansect, edsu_id, ics_sset_nasc ( survey_area, re, cd_inst, cd_vessel,	Tags:

geo\_stratum\_fk\$p\_medias\_geo\_stratum (
geographical\_stratum ) ref p\_medias\_geo\_stratum (
geo\_stratum\_code )

Tags:

Tab1	e medbs_rdb_schema.medias	_acoustics_sset_nasc	_species
	gsa_fk\$p_fdi_subregion ( gsa ) ref p_fdi_subregion ( subregion_cd )		Tags:
	medias_acoustics_sset_nasc_species_country_fk\$p_count ry3166 ( cd_country ) ref p_countries_iso3166 ( country_a3code )		Tags:
	survey_area_fk\$p_medias_survey_area ( survey_area ) ref p_medias_survey_area ( survey_area_code )		Tags:
	survey_name_fk\$p_surveys ( sur p_surveys ( survey_code )	rvey_name ) ref	Tags:
Const	raints		
	Name	Definition	Description
	chk_biomass	biomass >= (0)::numeric	Tags:
	chk_calibration_id	<pre>calibration_id &gt;= 1) AND (calibration_id &lt;= 10</pre>	Tags:
	chk_echo_type	<pre>echo_type)::text = ANY (ARRAY[('E1'::character varying)::text, ('E2'::character varying)::text, ('E3'::character varying)::text, ('E4'::character varying)::text, ('E5'::character varying)::text, ('E6'::character varying)::text,</pre>	Tags:

		varying)::text, ('E6'::character varying)::text]	
	chk_edsu_id	edsu_id >= 1) AND (edsu_id <= 2000	Tags:
	chk_abundance	abundance >= 0	Tags:
	chk_species_b20	<pre>species_b20 &gt;= ('- 90'::integer)::numeric) AND (species_b20 &lt;= ('- 60'::integer)::numeric</pre>	Tags:
	chk_species_nasc	species_nasc >= (0)::numeric	Tags:
	chk_transect	transect >= 1) AND (transect <= 999	Tags:
	chk_size_category	size_category = ANY (ARRAY['S'::bpchar, 'L'::bpchar, 'C'::bpchar])	Tags:
Tab1	e medbs_rdb_schema.medias	_acoustics_sset_nasc	_species_lenclass
Idx	Name	Data Type	Description
Hydro Tags:	Acoustic: Length classes		
* Pk	survey_name	varchar(14)	Survey name (e.g. MEDIAS)

			·
Idx	Name	Data Type	Description
Hydro Tags:	Acoustic: Length classes		
* PK	survey_name	varchar(14)	Survey name (e.g. MEDIAS) Tags:
* PK	cd_country	varchar(3)	Country ISO 3166 international standard Tags:
* PK	gsa	varchar(7)	GFCM Geographical subarea Tags:
* PK	survey_area	varchar(32)	Survey area (may extend more than one GSA, e.g. Iberian coast) Tags:
* PK	geographical_stratum	varchar(32)	Geographical stratum (area inside a GSA and survey area) Tags:
* PK	cd_centre	varchar(14)	Research center code Tags:
* PK	cd_inst	varchar(14)	Research institute code Tags:
* PK	cd_vessel	varchar(12)	Vessel Tags:
* PK	sampling_year	smallint	Sampling year Tags:

Tab1	e medbs_rdb_schema.medias	_acoustics_sset_nas	c_species_lenclass
* PK	cd_cruise	varchar(14)	Cruise code Tags:
* Pk	calibration_id	smallint	The echosounder calibration identification code (e.g. 1, 2). Used to associate acoustic integration data in other tables with the specific instrument calibration applied during data collection & analysis.  Tags:
* PK	transect	smallint	Transect ID Tags:
* Pk	edsu_id	smallint	Elementary Distance Sampling Unit: The EDSU interval index (unitless) within the transect as a result of deviding the total transect length by the EDSU, e.g. 1, 2, 3 Tags:
* PK	species	varchar(7)	Species code: species list based on ASFIS FAO and WoRMS (for MEDIAS purposes) Tags:
* PK	length_class	smallint	Length class (by 0.5 cm) Tags:
	abundance	numeric(14,2)	The number of fish for species at length class, corresponding to the EDSU interval Tags:
	biomass	numeric(14,4)	The total weight of fish for cd_species at length_class corresponding to the EDSU interval (ton) Tags:

### Indexes

Туре	Name	0n	Description
Pk	medias_acoustics_sset_nasc_sp ecies_lenclass_pkey	survey_name, cd_country, gsa, survey_area, geographical_stratum, cd_centre, cd_inst, cd_vessel, sampling_year, cd_cruise, calibration_id, transect, edsu_id, species, length_class	Tags:

## Foreign Keys

Type	Name	0n	Description
	species_fk\$species_list_medias species_list_medias ( species		Tags:
	cd_centre_fk\$p_fishery_bodies_ ref p_fishery_bodies ( acronym		Tags:
	cd_inst_fk\$p_fishery_body_depa p_fishery_body_departments ( c		Tags:
	cd_vessel_fk\$rv_eurofleets ( c rv_eurofleets ( vessel_code )	cd_vessel ) ref	Tags:
	geo_stratum_fk\$p_medias_geo_st geographical_stratum ) ref p_n geo_stratum_code )		Tags:
	gsa_fk\$p_fdi_subregion ( gsa ) subregion_cd )	ref p_fdi_subregion (	Tags:
	medias_acoustics_sset_nasc_spe untry3166 ( cd_country ) ref p country_a3code )		Tags:
	survey_area_fk\$p_medias_survey ref p_medias_survey_area ( sur		Tags:
	survey_name_fk\$p_surveys ( sur p_surveys ( survey_code )	rvey_name ) ref	Tags:

### Constraints

Name	Definition	Description
chk_abundance	abundance >= 0	Tags:
chk_biomass	biomass >= (0)::numeric	Tags:
chk_calibration_id	<pre>calibration_id &gt;= 1) AND (calibration_id &lt;= 10</pre>	Tags:
chk_edsu_id	edsu_id >= 1) AND (edsu_id <= 2000	Tags:

Table medbs\_rdb\_schema.medias\_acoustics\_sset\_nasc\_species\_lenclass

chk\_transect

transect >= 1) AND (transect <= 999

Tags: