### medbs\_rdb\_schema.medias\_pelagic\_trawl\_haul varchar(14) 🮾 survey\_name varchar(3) 🎾 cd\_country 🎾 gsa varchar(7)→ 🎾 survey\_area varchar(32) 🔎 geographical\_stratum varchar (32) 🞾 cd\_centre varchar (14) varchar(14)→ 🎾 cd\_inst 🎾 cd\_vessel varchar (12) 🔎 sampling\_year smallint 🞾 cd\_cruise varchar(14)⁴ 🎾 gear varchar (14) 🞾 haul\_id varchar(14)५◀ vhaul id varchar(64) latitude numeric(7,4)rvey\_are⊱ numeric(7,4)longitude bottom\_depth\_start smallint smallint bottom\_depth\_end date sampling\_date timestamp time\_start time\_end timestamp duration smallint average\_fishing\_speed numeric(5.2) net\_average\_depth numeric(4,1)net\_horizontal\_opening numeric(5,2) net\_vertical\_opening numeric(5.2) calibration\_id smallint

madba ndb ochomo modica nalogia tnaul k	sia individual			
medbs_rdb_schema.medias_pelagic_trawl_bio_individual				
<pre>*/&gt; survey_name</pre>	varchar(14) <mark>↑</mark>			
*/> cd_country	varchar(3) <mark>→</mark>			
🎾 gsa	varchar(7) <mark>↑</mark>			
*/> survey_area	varchar(32) <mark></mark> ≁			
*/> geographical_stratum	varchar(32) <mark></mark> ≁			
*/> cd_centre	varchar(14) <mark>↑</mark>			
*/p cd_inst	varchar(14) <mark>↑</mark>			
*p cd_vessel	varchar(12) <mark>→</mark>			
*/> sampling_year	smallinț			
*/p cd_cruise	varchar(14) <mark>→</mark>			
🎾 gear	varchar(14) <mark>↑</mark>			
*/> haul_id	varchar(14) <mark>↑</mark>			
*/> species	varchar(7) <mark>→</mark>			
⁵⊅ individual_id	varchar(128)			
individual_total_length	smallint			
individual_total_weight	numeric(6,2)			
individual_eviscerated_weight	numeric(6,2)			
sex	char(1)			
maturity	varchar(3) <mark>/</mark> →			
age	smallint			
gonad_weight	numeric(5,2)			
stomach_weight	numeric(5,2)			
notes	varchar(1024)			

naui∟id,

### medbs\_rdb\_schema.medias\_pelagic\_trawl\_species 🎾 survey\_name varchar (14) 🎾 cd\_country varchar(3) 🎾 gsa varchar(7) 🎾 survey\_area varchar (32) 🎾 geographical\_stratum varchar (32) 🎾 cd\_centre varchar (14) 🮾 cd\_inst varchar(14)→ 🎾 cd\_vessel varchar (12) 🎾 sampling\_year smallin†️ 🞾 cd\_cruise varchar (14) 🎾 gear varchar (14) pling\_year,cd\_cruise,gear,haul\_id 🎾 haul\_id varchar(14)→ 🔑 species varchar(7) 🎾 size\_category char(1) numeric(10,4) t\_catch percentage\_weight numeric(5,2) subsample\_weight numeric(5,2)subsample\_number smallint species\_mean\_length smallint species\_mean\_weight integer maturity\_scale varchar(14)

### medbs\_rdb\_schema.medias\_pelagic\_trawl\_length\_classes varchar (14) 🎾 survey\_name 🎾 cd\_country varchar(3) 🎾 gsal varchar (7) 🎾 survey\_area varchar(32)→ varchar(32)→ 🎾 geographical\_stratum 🎾 cd\_centre varchar (14) 🎾 cd\_inst varchar (14) 🎾 cd\_vessel varchar(12)→ 🔎 sampling\_year smallint<sup>\*</sup> 🎾 cd\_cruise varchar (14) gear varchar (14) 🎾 haul\_id varchar(14)→ varchar(7)→ 🞾 species char(1) 🎾 size\_category 🎾 length\_class smallint n\_at\_length smallint smallint weight\_at\_length n\_sampled smallint

Tab1	e medbs_rdb_schema.medias_	pelagic_trawl <u>_bio_in</u> c	dividual
Idx	Name	Data Type	Description
Biolo:	gical parameters at individual l	evel	
* Pk	survey_name	varchar(14)	Survey name (e.g. MEDIAS)
* Pk	cd_country	varchar(3)	Country ISO 3166 international standard
* Pk	gsa	varchar(7)	GFCM Geographical subarea
* Pk	survey_area	varchar(32)	Survey area (may extend more than one GSA, e.g. Iberian coast)
* Pk	geographical_stratum	varchar(32)	Geographical stratum (area inside a GSA and survey area)
* Pk	cd_centre	varchar(14)	Research center code
* PK	cd_inst	varchar(14)	Research institute code
* PK	cd_vessel	varchar(12)	Vessel
* PK	sampling_year	smallint	Sampling year
* PK	cd_cruise	varchar(14)	Cruise code
* Pk	gear	varchar(14)	Gear
* PK	haul_id	varchar(14)	Haul ID
* PK	species	varchar(7)	Species code according to ASFIS FAO
* PK	individual_id	varchar(128)	Unique ID in database – [Survey name] [Country][GSA] [Survey area] [Geo Stratum] [Centre] [Institute] [Vessel] [Cruise] [Haul] [Species] [Stage] [Sex] [Length] [individual number]
	individual_total_length	smallint	Individual total length
	individual_total_weight	numeric(6,2)	Individual total weight
	individual_eviscerated_weight	numeric(6,2)	Individual eviscerated weight
	sex	char(1)	Sex
	maturity	varchar(3)	Maturity
	age	smallint	Age
	gonad_weight	numeric(5,2)	Gonad weight
	stomach_weight	numeric(5,2)	Stomach weight
	notes	varchar(1024)	Notes
Index	es		
Type	Name	On	Description
Pk	medias_pelagic_trawl_bio_indiv idual_pkey	survey_name, cd_country, gsa, survey_area, geographical_stratum, cd_centre, cd_inst, cd_vessel, sampling_year, cd_cruise, gear, haul_id, species, individual_id	
Forei	gn Keys		
Type	Name	0n	Description
	cd_inst_fk\$p_fishery_body_departments ( cd_inst ) ref p_fishery_body_departments ( department )		
	cd_vessel_fk\$rv_eurofleets ( co rv_eurofleets ( vessel_code )	d_vessel ) ref	
	fk_pel_trawl_individ\$pel_trawl_cd_country, gsa, survey_area, { cd_centre, cd_inst, cd_vessel, cd_cruise, gear, haul_id ) ref medias_pelagic_trawl_haul ( sur gsa, survey_area, geographical_ cd_inst, cd_vessel, sampling_ye haul_id )	geographical_stratum, sampling_year, rvey_name, cd_country, _stratum, cd_centre,	

## Table medbs\_rdb\_schema.medias\_pelagic\_trawl\_bio\_individual

```
geo_stratum_fk$p_medias_geo_stratum (
geographical_stratum ) ref p_medias_geo_stratum (
geo_stratum_code )
gsa_fk$p_fdi_subregion ( gsa ) ref p_fdi_subregion (
subregion_cd )
pelagic_trawl_individ_country_fk$p_country3166 (
cd_country ) ref p_countries_iso3166 ( country_a3code )
pt_gear_fk$p_medias_trawl ( gear ) ref p_medias_trawl (
gear )
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 p_surveys
( survey_code )
species_fk$species_list_medias ( species ) ref
species_list_medias ( species )
maturity_fk$p_nikolsky ( maturity ) ref p_nikolksy (
maturity )
cd_centre_fk$p_fishery_bodies_acronym ( cd_centre ) ref
p_fishery_bodies ( acronym )
```

### Constraints

0011011 0111110		
Name	Definition	Description
chk_individ_total_length	<pre>(individual_total_length )::numeric &gt;= (20)::numeric) AND ((individual_total_lengt h)::numeric &lt;= (1000)::numeric</pre>	
chk_individ_total_weight	<pre>individual_total_weight &gt; (0)::numeric) OR (individual_total_weight = ('- 1'::integer)::numeric</pre>	
chk_individual_eviscerated_wei ght	<pre>(individual_eviscerated_ weight &gt; (0)::numeric) AND (individual_eviscerated_ weight &lt; (500)::numeric)) OR (individual_eviscerated_ weight = ('- 1'::integer)::numeric</pre>	
chk_gonad_weight	(gonad_weight > (0)::numeric) OR NULL::boolean	
chk_sex	(sex = ANY (ARRAY['M'::bpchar, 'F'::bpchar, 'U'::bpchar])) OR NULL::boolean	
chk_stomach_weight	(stomach_weight > (0)::numeric) OR NULL::boolean	

# Table medbs\_rdb\_schema.medias\_pelagic\_trawl\_bio\_individual

chk\_maturity

((maturity)::text = ANY (ARRAY[('I'::character varying)::text, (ˈIIˈ::character varying)::text, ('III'::character varying)::text, ('IV'::character varying)::text, ('V'::character varying)∷text, ('VI'∷character varying)::text, ('1'::character varying)::text, ('2<sup>™</sup>::character varying)::text, ('3<sup>™</sup>::character varying)::text, ('4'::character varying)::text, ('5'::character varying)∷text, (ˈ6ˈ::character varying)::text])) OR NULL::boolean

Idx	Name	Data Type	Description	
MEDIAS pelagic trawl: basic information by haul				
* Pk	survey_name	varchar(14)	Survey name (e.g. MEDIAS)	
* Pk	cd_country	varchar(3)	Country ISO 3166 international standard	
* Pk	gsa	varchar(7)	GFCM Geographical subarea	
* PK	survey_area	varchar(32)	Survey area (may extend more than one GSA, e.g. Iberian coast)	
* PK	geographical_stratum	varchar(32)	Geographical stratum (area inside a GSA and survey area)	
* Pk	cd_centre	varchar(14)	Research center code	
* PK	cd_inst	varchar(14)	Research institute code	
* Pk	cd_vessel	varchar(12)	Vessel	
* PK	sampling_year	smallint	Sampling year	
* PK	cd_cruise	varchar(14)	Cruise code	
∗ Pk	gear	varchar(14)	Gear	
* Pk	haul_id	varchar(14)	Haul ID	
*	vhaul_id	varchar(64)	Virtual haul ID	
	latitude	numeric(7,4)	Latitude	
	longitude	numeric(7,4)	Longitude	
	bottom_depth_start	smallint	Bottom depth start	
	bottom_depth_end	smallint	Bottom depth end	
	sampling_date	date	Sampling date	
	time_start	timestamp	Time start (when the net is operational)	
	time_end	timestamp	Time end (when the net is hauling)	
	duration	smallint	Duration (hauling duration)	
	average_fishing_speed	numeric(5,2)	Average fishing speed	
	net_average_depth	numeric(4,1)	Net average depth	
	net_horizontal_opening	numeric(5,2)	average values of Net horizontal opening (in m) (optional)	
	net_vertical_opening	numeric(5,2)	average values of Net vertical opening (in m) (optional)	
	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 dat	

collection & analysis.

### Table medbs\_rdb\_schema.medias\_pelagic\_trawl\_haul **Indexes** Description Type Name Pk medias\_pelagic\_trawl\_haul\_pkey survey\_name, cd\_country, gsa, survey\_area, geographical\_stratum, cd\_centre, cd\_inst, cd\_vessel, sampling\_year, cd\_cruise, gear, haul\_id Foreign Keys On Description Type Name cd\_centre\_fk\$p\_fishery\_bodies\_acronym ( cd\_centre ) ref p\_fishery\_bodies ( acronym ) cd\_inst\_fk\$p\_fishery\_body\_departments ( cd\_inst ) ref p\_fishery\_body\_departments ( department ) cd\_vessel\_fk\$rv\_eurofleets ( cd\_vessel ) ref rv\_eurofleets ( vessel\_code ) geo\_stratum\_fk\$p\_medias\_geo\_stratum ( geographical\_stratum ) ref p\_medias\_geo\_stratum ( geo\_stratum\_code ) gsa\_fk\$p\_fdi\_subregion ( gsa ) ref p\_fdi\_subregion ( subregion cd ) pelagic\_trawl\_haul\_country\_fk\$p\_country3166 ( cd\_country ) ref p\_countries\_iso3166 ( country\_a3code ) pt\_gear\_fk\$p\_medias\_trawl ( gear ) ref p\_medias\_trawl ( gear ) 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 p\_surveys ( survey\_code ) Constraints Definition Description bottom\_depth\_end >= 10) chk\_bottom\_depth\_end AND (bottom\_depth\_end <= 1500 chk\_bottom\_depth\_start bottom\_depth\_start >= 10) AND (bottom\_depth\_start <= 1500 chk\_calibration\_id (calibration\_id >= 1) AND (calibration\_id <= 999)) OR (calibration\_id = '-1'::integer chk\_duration duration >= 10) AND (duration <= 180 chk\_average\_fishing\_speed average\_fishing\_speed >= 1.5) AND (average\_fishing\_speed <= (7)::numeric chk\_longitude longitude >= '-5.50'::numeric) AND (longitude <= 35.00 chk\_net\_average\_depth net\_average\_depth >= (5)::numeric) AND (net\_average\_depth <= (800)∷numeric net\_horizontal\_opening chk\_net\_horizontal\_opening >= (5)::numeric) AND (net\_horizontal\_opening <= (30)::numeric net\_vertical\_opening >= chk\_net\_vertical\_opening (1)::numeric) AND

(net\_vertical\_opening <=</pre>

(25)::numeric

# Table medbs\_rdb\_schema.medias\_pelagic\_trawl\_haul

chk\_latitude

latitude >= 34.00) AND (latitude <= 45.70

	e medbs_rdb_schema.medias_ 		
Idx	Name	Data Type	Description
MEDIAS	S pelagic trawl length classes		
* PK	survey_name	varchar(14)	Survey name (e.g. MEDIAS)
* PK	cd_country	varchar(3)	Country ISO 3166 international standard
* PK	gsa	varchar(7)	GFCM Geographical subarea
* PK	survey_area	varchar(32)	Survey area (may extend more than one GSA, e.g. Iberian coast)
* PK	geographical_stratum	varchar(32)	Geographical stratum (area inside a GSA and survey area)
* PK	cd_centre	varchar(14)	Research center code
* PK	cd_inst	varchar(14)	Research institute code
* PK	cd_vessel	varchar(12)	Vessel
* Pk	sampling_year	smallint	Sampling year
* PK	cd_cruise	varchar(14)	Cruise code
*	gear	varchar(14)	Gear
* Pk	haul_id	varchar(14)	Haul ID
* Pk	species	varchar(7)	Species code according to ASFIS FAO
* Pk	size_category	char(1)	
* Pk	length_class	smallint	Length class
	n_at_length	smallint	Number at length (estimated n of individuals at length class)
	weight_at_length	smallint	Weight at length (in g, estimated by haul)
	n_sampled	smallint	Number sampled (N of individuals measured)
Indexe	es		
Type	Name	0n	Description
Pk	medias_pelagic_trawl_length_cl asses_pkey	survey_name, cd_country, gsa, survey_area, geographical_stratum, cd_centre, cd_inst, cd_vessel, sampling_year, cd_cruise, haul_id, species, size_category, length_class	
Foreig	gn Keys		
Type	Name	0n	Description
	<pre>species_fk\$species_list_medias species_list_medias ( species )</pre>		
	cd_centre_fk\$p_fishery_bodies_a p_fishery_bodies ( acronym )	acronym ( cd_centre ) ref	
	cd_inst_fk\$p_fishery_body_depar p_fishery_body_departments ( de		
	cd_vessel_fk\$rv_eurofleets ( cd rv_eurofleets ( vessel_code )	d_vessel ) ref	
	fk_pel_trawl_length\$pel_trawl_s cd_country, gsa, survey_area, g cd_centre, cd_inst, cd_vessel,	geographical_stratum,	
	medias_pelagic_trawl_species ( gsa, survey_area, geographical_ cd_inst, cd_vessel, sampling_ye haul_id, species, size_category	survey_name, cd_country, _stratum, cd_centre, ear, cd_cruise, gear,	

# Table medbs\_rdb\_schema.medias\_pelagic\_trawl\_length\_classes

```
gsa_fk$p_fdi_subregion ( gsa ) ref p_fdi_subregion (
    subregion_cd )

pelagic_trawl_lc_country_fk$p_country3166 ( cd_country
 ) ref p_countries_iso3166 ( country_a3code )

pt_gear_fk$p_medias_trawl ( gear ) ref p_medias_trawl (
    gear )

survey_area_fk$p_medias_survey_area ( survey_area ) ref
    p_medias_survey_area ( survey_area ) ref
    psmedias_survey_area ( survey_area )

survey_name_fk$p_surveys ( survey_name ) ref p_surveys
    ( survey_code )
```

### Constraints

001101	onoti atrico				
	Name	Definition	Description		
	chk_length_class	<pre>(length_class)::numeric &gt;= (20)::numeric) AND ((length_class)::numeric &lt;= (1000)::numeric</pre>			
	chk_n_at_length	n_at_length > 0			
	chk_n_sampled	n_sampled > 0			
	chk_size_category	size_category = ANY (ARRAY['S'::bpchar, 'L'::bpchar, 'C'::bpchar])			
	chk_weight_at_length	weight_at_length >= 1) AND (weight_at_length <= 5000			

Idx	e medbs_rdb_schema.medias Name	Data Type	Description
MEDIAS pelagic trawl species composition			
* Pk	survey_name	varchar(14)	Survey name (e.g. MEDIAS)
* Pk	cd_country	varchar(3)	Country ISO 3166 international standard
* Pk	gsa	varchar(7)	GFCM Geographical subarea
* PK	survey_area	varchar(32)	Survey area (may extend more than one GSA, e.g. Iberian coast)
* PK	geographical_stratum	varchar(32)	Geographical stratum (area inside a GSA and survey area)
* Pk	cd_centre	varchar(14)	Research center code
* Pk	cd_inst	varchar(14)	Research institute code
* PK	cd_vessel	varchar(12)	Vessel
* PK	sampling_year	smallint	Sampling year
* PK	cd_cruise	varchar(14)	Cruise code
* Pk	gear	varchar(14)	Gear
* Pk	haul_id	varchar(14)	Haul ID
* Pk	species	varchar(7)	Species code according to ASFIS FAO
* Pk	size_category	char(1)	
	t_catch	numeric(10,4)	Catch (in Kg)
	percentage_weight	numeric(5,2)	Percentage weight (% w of some species in the haul)
	subsample_weight	numeric(5,2)	Subsample weight (in Kg)
	subsample_number	smallint	Subsample number
	species_mean_length	smallint	Species mean length (mm)
	species_mean_weight	integer	Species mean weight (g)
*	maturity_scale	varchar(14)	Maturity scale: ICES WKSPMAT, MEDITS
Indexes			
Type	Name	0n	Description

# Table medbs\_rdb\_schema.medias\_pelagic\_trawl\_species

```
Pk medias_pelagic_trawl_species_p survey_name, cd_country,
key gsa, survey_area,
geographical_stratum,
cd_centre, cd_inst,
cd_vessel,
sampling_year,
cd_cruise, gear,
haul_id, species,
size_category
```

### Foreign Keys

Type	Name	0n	Description	
		ecies_list_medias ( species ) ref medias ( species )		
		o_fishery_bodies_acronym ( cd_centre ) ref ies ( acronym )		
		fishery_body_departments ( cd_inst ) ref y_departments ( department )		
		rv_eurofleets ( cd_vessel ) ref ( vessel_code )		
	cd_country, gs cd_centre, cd cd_cruise, gea medias_pelagio gsa, survey_a	species\$pel_trawl_haul ( survey_name, sa, survey_area, geographical_stratum, _inst, cd_vessel, sampling_year, ar, haul_id ) ref c_trawl_haul ( survey_name, cd_country, rea, geographical_stratum, cd_centre, essel, sampling_year, cd_cruise, gear,		
		k\$p_medias_geo_stratum ( stratum ) ref p_medias_geo_stratum ( ode )		
	gsa_fk\$p_fdi_s subregion_cd	subregion ( gsa ) ref p_fdi_subregion ( )		
		_species_country_fk\$p_country3166 ( ref p_countries_iso3166 ( country_a3code )		
	pt_gear_fk\$p_r gear )	medias_trawl ( gear ) ref p_medias_trawl (		
		k\$p_medias_survey_area ( survey_area ) ref ey_area ( survey_area_code )		
	survey_name_f ( survey_code	k\$p_surveys ( survey_name ) ref p_surveys )		

### Constraints

CONSTRUCTION			
Name	Definition	Description	
chk_percentage_weight	percentage_weight > (0)::numeric) AND (percentage_weight <= (100)::numeric		
chk_size_category	size_category = ANY (ARRAY['S'::bpchar, 'L'::bpchar, 'C'::bpchar])		
chk_species_mean_length	(species_mean_length)::n umeric > (0)::numeric	Specify max value (in the validation scheme max value per species should be provided by experts)	
chk_maturity_scale	maturity_scale)::text = ANY ((ARRAY['ICES WKSPMAT'::character varying, 'MEDITS'::character varying])::text[]		
chk_subsample_number	(subsample_number >= 1) AND (subsample_number <= 200)) OR (subsample_number = '- 1'::integer		
chk_subsample_weight	subsample_weight > (0)::numeric)		

1'::integer)::numeric

# Table medbs\_rdb\_schema.medias\_pelagic\_trawl\_species

chk\_t\_catch t\_catch > (0)::numeric

(species\_mean\_weight)::n Specify max value (in the validation scheme max value per umeric > (0)::numeric species should be provided by experts) chk\_species\_mean\_weight