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DEVELOPMENT OF THE REGIONAL DATABASE FOR THE MEDITERRANEAN AND BLACK SEAS

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Deliverable 2.1

Range of options for the RDB in the Mediterranean and Black Seas on the different conditions and requirements

D. Damalas, I. Bitteto

Partners involved:

HCMR, COISPA, CIBM, CNR, NISEA, IFREMER

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Acronyms

AER	Annual Economic Report
AR	Annual Report
AS-IS analysis	Analysis of the current state
CFP	Common Fisheries Policy
CPC	GFCM contracting parties
DATRAS	Database of Trawl Surveys
DC	Data Call
DCF	Data Collection Framework
DCRF	Data Collection Reference Framework
DTMT	Data Transmission Monitoring Tool
DVT	Data Validation Tool
ERS	Electronic Reporting System
EU	European Union
EUMAP	European Multi Annual Programme
EWG	Expert Working Group
FDI	Fisheries Dependent Information
GFCM	General Fisheries Commission for the Mediterranean
ICES	International Council for the Exploration of the Sea.
JRC	Joint Research Centre
LDF	Long Distance Fisheries
LFD	Length Frequency Distributions
LM	Liaison Meeting
LP	Large Pelagic
MCDA	Multi CriteriaDecision Analysis
MS	Member States
MSFD	Marine Strategy Framework Directive
NA	North Atlantic
NS&EA	North Sea & Eastern Arctic
RCG	Regional Coordination Group
PET	Protected, Endangered and Threatened species
PGDATA	Planning Group on Data Needs for Assessments and Advice
QD	Quality Documentation
RCG Med&BS	Regional Coordination Group of the Mediterranean and Black Sea
RCM Med&BS	Regional Coordination Meeting of the Mediterranean and Black Sea
RDB	Regional database
RDBES	Regional Database and Estimation System
RWP	Regional Work Plan
SAC	Scientific Advisory Committee on Fisheries
SAF	Stock Assessment Form
SC	Steering Committee
SDEF	Standard Data-Exchange format
SS	sampling scheme
STAR	Stock Assessment Results
STECF	Scientific, Technical and Economic Committee for Fisheries
STREAM (project)	STrengtheningREgional cooperation in the Area of fisheries biological data
TAF	Transparent Assessment Framework
VME	Vulnerable Marine Ecosystem
VMS	Vessel Monitoring System
WP	National work plan

WGBYC	Working group on bycatch of protected species
WGFBIT	Fisheries Benthic Impact and Trade-offs
WGCATCH	Working Group on Commercial Catches
WGRDBESGOV	Working Group on Governance of the Regional Database & Estimation System
WKRDB-EST	Workshop on Estimation with the RDBES data model
WKRDB-POP3	Workshop on population of the RDBES data model

Executive summary

WP2 goal is to define the DB schema with corresponding data tables and data input formats so that the new MED & BS RDB FIS will be a solid source of all the fisheries data collected under DCF (EU MAP) and meet any requirements of end-users.

Since the Med&BS RDBFIS will facilitate member states' obligations towards several international organizations (EU, GFCM, ICCAT) it requires the definition of a quite diverse series of data tables and formats to service the numerous needs of varied data calls (e.g. DG MARE Med&BS, FDI, GFCM DCRF, RCG Med&BS).

At the next step, WP2 provides data validation and quality checks for all data stored in the RDB. A process that is to be realized with real data in WP4.

Finally, WP2 sets basic rules concerning governance and data policy; full specifications are provided in WP3.

WP2 is measured by two deliverables:

> M2.1 - *List of the RDB features needed to answer to the data collection submission and reporting obligations*
> M2.2 - *Recommendations and requirements for the development and updates of the data validation and quality checking tools to be foreseen for the RDB*

Definition of data tables and corresponding formats was a lengthy process including several meetings with member states. It was finally decided that the Med&BS RDBFIS schema should include and investigate the approach adopted by ICES RDBES.

M2.1 - List of the RDB features needed to answer to the data collection submission and reporting obligations

Input formats to be supported by the RDBFIS

The Med&BS RDB has been designed to support various types of data formats:

- Med&BS RDBFIS format to support RCG data calls
- the ICES RDBES format
- the EU Data Call formats (Med&BS, FDI, GFCM/DCRF, RCG)

The new Med&BS RDBFIS will contain not only **aggregated commercial fisheries data** but **detailed biological data** and **survey data** as well. Furthermore, the new format, should allow storing detailed information on the **sampling scheme, sampling frame strata** and **hierarchy** followed to collect the detailed biological data, in line with what discussed in the Steering Committee on RDBES (ICES, 2020). The specifications of the two aforementioned formats will be largely based on those put forward by the STREAM project[1].

In its current state the Med&BS RDBFIS contains 114 main tables and 175 parametric tables holding various relevant information linked to the data fields of the 114 main tables.

MED & BS RDBFIS format to support RCG data calls

Aggregated commercial fisheries data & detailed commercial biological data

Seven tables can be considered the RDB 'core' and will hold commercial fisheries data and detailed biological data (*TR, HH, SL, HL, CA, CL, CE*):

- Commercial Sampling data (CS)
  - *TR* : Trip record
    - *HH* : Fishing Station record
      - *SL* : Species List record
        - *HL* : Length record
        - *CA* : Sex, Maturity, Weight, Age, Length record
- Commercial Fisheries Landings statistics (*CL*)
- Commercial fisheries Effort statistics (*CE*)

A detailed description of the aforementioned tables is provided in the Annex.

Survey data

All the scientific survey data collected through sampling programs under DCF are expected to be stored in the RDBFIS. The MEDITS exchange formats TA (hauls data), TB (catch data), TC (length, sex, maturity aggregated data), TC (biological parameters at individual level), TL (litter recording) will be used for data storing, thus any survey could be stored in the database as long as these formats are used:

medits_ta
medits_tb
medits_tc

[1]Strengthening REgional cooperation in the Area of fisheries biological data collection in the Mediterranean and Black Sea (STREAM) (http://www.ismar.cnr.it/projects/international-projects/copy5_of_project-001/stream-project?set_language=en&cl=en)

medits_te
medits_tl

All the specifications concerning these formats are contained in the MEDITS manual version 9[2]. Moreover, the last specifications of DG MARE Med&BS data call include an additional field respect to the MEDITS formats: "NAME_OF_SURVEY" (*https://datacollection.jrc.ec.europa.eu/dc/medbs*). This field allows to store also MEDITS-like survey data.

MEDIAS survey data are to be stored in a series of tables to cover all data collected, as well as service the annual Med&BS Data Call (tables Abundance, Biomass and Abundance_Biomass; see *https://datacollection.jrc.ec.europa.eu/dc/medbs*):

medias_echosounder_param	*echo sounder parameters*
medias_processed_acoustic	*processed acoustic data*
medias_surv_sset	*hydro acoustic SubSet (calibration)*
medias_surv_sset_bio	*hydro acoustic: Biomass*
medias_surv_sset_bio_spec	*hydro acoustic: Biomass Species Identification*
medias_surv_sset_png	*hydro acoustics: Pings*
medias_survey	*hydro acoustic Survey*
medias_survey_design	*survey design*
medias_survey_identity	*survey identity*
medias_trawl_biodata	*trawl biological data*
medias_trawl_descr	*trawl description*
medias_trawl_haul	*haul general information*
medias_trawl_individual_biodata	*trawl individual biological data*

ICES RDBES format

ICES Regional Database and Estimation System (ICES RDBES) is the new version of the currently existing Regional Database (RDB) which is used to store detailed commercial fisheries sampling data. It is a regionally coordinated database platform and covers fisheries in the North Atlantic Ocean, the North Sea and the Baltic Sea. The new version of the RDB which would also store details about how the sampling was performed and enable statistical estimations to be made.

Since the ICES RDBES is developed concurrently with the MED& BS RDBFIS, it has been decided that for the sake of compatibility they should both share and follow some common data structures/protocols. To this end the MED&BS RDBFIS includes a series of tables following the ICES RDBES design.
The list of tables storing data in ICES RDBES format is the following:

rdbes_bv
rdbes_ce
rdbes_cl
rdbes_de
rdbes_fm
rdbes_fo
rdbes_ft

[2] https://www.sibm.it/MEDITS%202011/docs/Medits_Handbook_2017_version_9_5-60417r.pdf

rdbes_le
rdbes_lo
rdbes_os
rdbes_sa
rdbes_sd
rdbes_sl
rdbes_ss
rdbes_te
rdbes_vd
rdbes_vs

EU Data Call formats

The aggregated data that the RDB needs to service periodical data calls will be stored in a series of tables that follow the specifications defined in the relevant data call requirements:

- DGMARE Med&BS datacall (specifications at: https://datacollection.jrc.ec.europa.eu/dc/medbs);
- FDI datacall (specifications at: https://datacollection.jrc.ec.europa.eu/dc/fdi);
- GFCM DCRF data call (specifications at: http://www.fao.org/gfcm/data/dcrf/platform/en/);
- RCG landings and revenues (seehttps://datacollection.jrc.ec.europa.eu/bg_BG/docs/rcg)

Moreover, explicit scripts convert RCG in RDB format and vice versa in order to allow passing from one format to another (more details are in Milestone 2.2). The conversion routines will be developed for a subset of tables, identified as belonging to the hierarchies actually utilized in Med&BS. In the phase of data import, on one hand, for the RCG format the import will be carried after the a priori quality checks developed in STREAM project (WP6): the system should warn the user about the possibility of errors in the data, allowing the user to select one of 2 options: correct and import again the data or validate the data as they are, allowing the import. On the other hand, when the data have to be imported starting from the RDB input format, a set of syntactic, consistency and conformity checks have to be defined and carried out before importing the data, field by field.

Med&BS data call

dc_medbs_alk
dc_medbs_catch
dc_medbs_discards_length
dc_medbs_gp
dc_medbs_landings_length
dc_medbs_ma
dc_medbs_ml
dc_medbs_sra
dc_medbs_srl

FDI Data call

dc_fdi_a_catch
dc_fdi_b_refusal_rate
dc_fdi_g_effort

dc_fdi_h_spatial_land
dc_fdi_i_spatial_fe
dc_fdi_j_capacity

GFCM DCRF data call

dc_dcrf_task_ii1_landing
dc_dcrf_task_ii2_catch
dc_dcrf_task_iii_incidental_catch
dc_dcrf_task_iv1_vessel_le15m
dc_dcrf_task_iv2_vessel_over15m
dc_dcrf_task_v1_fishing_effort
dc_dcrf_task_v2_fishing_effort_gear
dc_dcrf_task_v3_cpue
dc_dcrf_task_vii2_length_data
dc_dcrf_task_vii31_size_1st_matur
dc_dcrf_task_vii32_maturity_data

RCG data call

dc_rcg_landings
dc_rcg_medbs_ranking

References

ICES. 2020. Steering Committee of the Regional Fisheries Database (SCRDB; outputs from 2019 meeting).ICES Scientific Reports. 2:24. 57 pp. http://doi.org/10.17895/ices.pub.5992

M2.2 - Recommendations and requirements for the development and updates of the data validation andquality checking tools to be foreseen for the RDB

A specific module concerning the **data validation and the quality checks** will ensure acceptable level of quality for the detailed and aggregated data stored in the RDB. Both types of data need to pass:

(i) a data validation procedure(e.g. format, allowed ranges checks), in order to be correctly imported in the RDB, and

(ii) a series of data quality checks, to obtain data that are both internally consistent (e.g. respect to all the data stored in the same table) and coherent (e.g. in terms of temporal and spatial coverage)

All the syntax checks (e.g. validity of the format (numeric, character, etc…) and of allowed values field by field) will be internally implemented in the RDBIS database, through the use of lists and tables of allowed values.

This module is to be based on the work and scripts delivered in the course of STREAM and FishPi[3] projects (e.g. COST libraries, fishPifct package, Sampling Design tools). More specifically, certain types of algorithms will be dealing with:

1. Quality control (QC)
2. Analysis (A)
3. Estimation & raising (ER)
4. Output (O)
5. Conversion routines

A series of such algorithms have already been available in the course of existing projects/initiatives, as mentioned above:

Implemented in	Algorithm Name, type	Algorithm Description	Input Table(s)	Needs improvement
STREAM	QC1. A priori quality checks.	D1. These functions allow to carry out coverage checks on detailed data, to verify the consistency of LFD by year, to check the consistency of LFD by year with the commercial category, to evaluate the coherence of length-weight and age-length relationships (using also allowed ranges) and the consistency of the sex and maturity stage information.	QC1T1: RCG CS table	QC1: Yes, to support RDBES hierarchies (used in Med) and to run checks on RCG CL table. New checks on CS table.
	QC2. A posteriori quality checks.	D2. These functions allow to check aggregated data in DGMARE MED&BS datacall format: Temporal and spatial coverage (all tables), sum of products in Catch table, comparison among the years for ML,SRL, MA, SRA, ALK tables through plots overlapping the available years.	QC2T1:Catch; QC2T2:Landing; QC2T3:Discard; QC2T4:ML; QC2T5:MA; QC2T6:SRL; QC2T7: SRA; QC2T8: GP; QC2T9:ALK.	QC2: Yes, to support other datacalls (FDI and GFCM DCRF)
	ER1. Conversion	D3. These functions implement the raising of the	QC1T1: RCG CS	ER1: Yes, to

[3]The fishPi[2] project – Regional coordination in fisheries data collection (https://masts.ac.uk/research_projects/fishpi2-projects/)

	from RCG format (through SDEF COST) to the DG MARE MED&BS Data Call; ER2. Conversion from DGMARE MED&BS format to the GFCM/DCRF Data Call; ER3: Conversion from DGMARE MED&BS into DG MARE FDI Data Call format (using DG MARE Med&BS Data Call format)	detailed data to the DGMARE MED&BS format. Even the tables related to the biological parameters are obtained. D4. These functions convert the RCG format (through SDEF and DGMARE MED&BS datacall format) to compile the tables required by GFCM DCRF datacall. D4. These functions convert the RCG format (through SDEF and DGMARE MED&BS datacall format) to compile the tables required by FDI datacall.	table+ additional conversion tables ER2T1:Catch; ER2T2: Landing; ER2T3:Discard +additional conversion tables ER3T1:Catch; ER3T2: Landing; ER3T3:Discard +additional conversion tables	support RDBES hierarchies (used in Med) No No
RDBES				
existing initiative-1: STECF EWG 21-02	QC1. Quality checks on aggregated catch data used during the STECF data preparation for the stock assessment of Mediterranean Sea in 2021	D1. These functions allow to check the DGMARE MED&BS tables for the stock assessment purposes. Duplicated records, mean weight, null values, consistency of cumulative, sum of product, consistency of sex ratio, maturity, von Bertalanffy, length-weight relationships, ALK[4].	QC1T1:Catch; QC1T2:Landing; QC1T3:Discard; QC1T4:ML; QC1T5:MA; QC1T6:SRL; QC1T7:SRA; QC1T8:GP; QC1T9:ALK.	No
existing initiative-2: RoME	QC1. Quality checks on the survey data in MEDITS format.	D1. These functions allow to identify errors in the tables and inconsistency among the tables. A selection of the functions other than those implemented in the database (e.g. vocabulary checks, allowed values, etc…) could be made in order to include the tool in the RDBFIS.	QC1T1: TA; QC1T2: TB; QC1T3:TC	Yes. A new version able to run without stopping when encountering an error is going to be developed to be included in the RDBFIS.

Further consistency checking algorithms are currently developed in ICES WKRDBES-EST[5]. The full set of algorithms/routines is to be realized in WP4.

[4] https://stecf.jrc.ec.europa.eu/documents/43805/2817637/STECF-21-02+Annexes.zip/6a41ceea-b90b-4de1-bd62-212cd9e58c2e
[5] https://www.ices.dk/sites/pub/Publication%20Reports/Expert%20Group%20Report/EOSG/2020/SCRDB%20Report%202019.pdf

Governance and data policy

Governance

Med & BS RDB governance is to be conducted by a Steering Committee (SCRDBMED&BS) functioning with the following synthesis:

i. Up to two representatives from each RCG that uploads data to the RDB. RCGs that do not currently upload data but are intending to may also send one representative after approval from the Chair(s).
ii. One representative from each Med & BS member country that wishes to attend.
iii. Representatives from the European Commission.
iv. Chair invited guests.
v. Observers.

In general, the guidelines for the SC RDB Med&BS have to respect the "Commission Expert Group" (*https://ec.europa.eu/transparency/regexpert/index.cfm?do=faq.faq&aide=2*)as well as take into account the ICES guidelines for Expert Groups(*http://ices.dk/about-ICES/Documents/Guidelines_for_ICES_Groups.pdf*).

Data policy

Data access policy will be dictated by the relevant provisions in the EU rules of law and more specific the Regulation on the fisheries data collection framework (COM 1004/2017) and the RDB will host two types of datasets and an Inventory:

- 'detailed data' (data based on primary data in a form which does not allow natural persons or legal
- entities to be identified directly or indirectly) Art.3 (6) COM 1004/2017
- 'aggregated data' (the output resulting from summarising the primary or detailed data for specific analytic purposes) Art.3 (7) COM 1004/2017
- 'inventory', MS public reports

No 'primary data' is to be hosted; however future expansion/improvement of the DB to include such data would be feasible.

Access to data will be provided based on the specific 'end-users'. According to the most recent EU Common Fisheries Policy Reform, 'end-user of scientific data' means a body with a research ormanagement interest in the scientific analysis of data in the fisheries sector (Art.4(32) COM1380/2013).

Following an extended series of questionnaire surveys conducted with the 'end-users' (member states) a solid set of rules on data policy, access rights, data users, data providers, data confidentiality, data ownership and security is provided in WP3.

APPENDIX (Data base tables)

Med&BS RDBFIS format

TABLE medbs_rdb.cost_**ca** (
ca
samptype
landctry
vslflgctry
year
proj
trpcode
stanum
quarter
month
spp
sex
catchcat
landcat
commcatscl
commcat
stock
area
rect
subrect
lencls
age
fishid
lencode
agemeth
plusgrp
otowt
otoside
indwt
matmeth
matscale
matstage
);

TABLE medbs_rdb.cost_**ce** (
vslflgctry
year
quarter
month
area
rect
subrect
focatnat
focateu5
focateu6
harbour

vsllencat
trpnum
fonum
fodur
effkwdays
effgtdays
daysatsea
);

TABLE medbs_rdb.cost_**cl** (
cl
landctry
vslflgctry
year
quarter
month
area
rect
subrect
taxon
landcat
commcatscl
commcat
focatnat
focateu5
focateu6
harbour
vsllencat
unalloccatchwt
misrepcatchwt
landwt
landmult
landvalue
);

TABLE medbs_rdb.cost_**hh** (
hh
samptype
landctry
vslflgctry
year
proj
trpcode
stanum
foval
agglev
catreg
sppreg
date
time

fodur
latini
lonini
latfin
lonfin
area
rect
subrect
fodep
waterdep
focatnat
focateu5
focateu6
meshsize
seldev
meshsizeseldev
);

TABLE medbs_rdb.cost_**hl** (
hl
samptype
landctry
vslflgctry
year
proj
trpcode
stanum
spp
catchcat
landcat
commcatscl
commcat
subsampcat
sex
lencls
lennum
);

TABLE medbs_rdb.cost_**sl** (
sl
samptype
landctry
vslflgctry
year
proj
trpcode
stanum
spp
catchcat
landcat

commcatscl
commcat
subsampcat
sex
wt
subsampwt
lencode
);

TABLE medbs_rdb.cost_**tr** (
tr
samptype
landctry
vslflgctry
year
proj
trpcode
vsllen
vslpwr
vslsize
vsltype
harbour
fonum
daysatsea
vslid
sampctry
sampmeth
);

RDBFIS tables (all, including RDBES)

dc_* tables for DCRF, FDI, MED&BS and RCG datacalls
p_dcrf* parametric tables (code list) for GFCM/DCRF datacall
p_fdi* parametric tables (code list) for FDI datacall
p_medbs* parametric tables (code list) for Med&BSdatacall
rdbes_* main RDBES tables
rs_* and rsx_* parametric tables (code list) for RDBES
medits_* MEDITS TA, TB, TC
medias_* MEDIAS tables
other parametric tables

Full list of data tables in Med&BS RDBFIS

cost_ca
cost_ce
cost_cl
cost_hh
cost_hl
cost_sl
cost_tr
medits_ta
medits_tb
medits_tc
medits_te
medits_tl
medias_biomass_calc_final
medias_biomass_calc_intermed
medias_biomass_calc_session
medias_echosounder_param
medias_processed_acoustic
medias_surv_sset
medias_surv_sset_bio
medias_surv_sset_bio_spec
medias_surv_sset_png
medias_survey
medias_survey_design
medias_survey_identity
medias_trawl_biodata
medias_trawl_descr
medias_trawl_haul
medias_trawl_individual_biodata
dc_medbs_abund_biom
dc_medbs_abundance
dc_medbs_alk
dc_medbs_biomass
dc_medbs_catch
dc_medbs_discards_length
dc_medbs_gp
dc_medbs_landings_length
dc_medbs_ma
dc_medbs_ml
dc_medbs_sra
dc_medbs_srl
dc_fdi_a_catch
dc_fdi_b_refusal_rate
dc_fdi_g_effort
dc_fdi_h_spatial_land
dc_fdi_i_spatial_fe
dc_fdi_j_capacity
dc_dcrf_task_ii1_landing
dc_dcrf_task_ii2_catch
dc_dcrf_task_iii_incidental_catch
dc_dcrf_task_iv1_vessel_le15m
dc_dcrf_task_iv2_vessel_over15m
dc_dcrf_task_v1_fishing_effort
dc_dcrf_task_v2_fishing_effort_gear
dc_dcrf_task_v3_cpue
dc_dcrf_task_vii2_length_data
dc_dcrf_task_vii31_size_1st_matur
dc_dcrf_task_vii32_maturity_data
dc_rcg_avg_landings
dc_rcg_landings
dc_rcg_medbs_ranking
dc_rcg_sampling
alien_findings
alien_species
alien_synonyms
f_ip_depm_egg_age_class
f_ip_depm_egg_catch
f_ip_depm_egg_est_age
f_ip_depm_egg_exp_age
f_ip_depm_egg_exp_time
f_ip_haul_devices
f_ip_haul_spec_egga
f_ip_haul_spec_eggd
f_ip_haul_spec_larv
f_ip_haul_spec_lens
f_ip_haul_species
f_ip_hauls
pets_bycatch_event
pets_bycatch_monitor_effort
pets_fishing_effort
sport_fish_l1_sampling
sport_fish_l2_fisherman
sport_fish_l3_comments
sport_fish_l3_expenses
sport_fish_l3_fishing_gear
sport_fish_l3_fishing_type
sport_fish_l3_interactions
sport_fish_l3_notes
sport_fish_l3_species
sport_fish_l4_baits
sport_fish_l4_bio
stomach_contents_haul
stomach_contents_pred
stomach_contents_prey
bio_morphometry_v1
bio_morphometry_v2
c_climatology
e_ctd_measur_hd
e_ctd_measur_it
e_ctd_param
e_equip
e_equip_coef
e_equip_sens
e_minilog_measur
e_scanmar_measur

env_satelite_hd
env_satelite_xyz
fleet_vessel_eu
fleet_vessel_eu_gear
fleet_vessel_eu_history
fleet_vessel_eu2020
fleet_vessel_peryear
fv_otb_vms2021_analysis_s1
fv_otb_vms2021_analysis_s2
fv_otb_vms2021_analysis_s3
fv_otb_vms2021_analysis_s4
fv_vms_analysis_ps2021_s1
fv_vms_analysis_ps2021_s2
fv_vms_analysis_ps2021_s3
fv_vms_analysis_ps2021_s4
g_obligations_country_year_response
g_species_a3_hcmr
mcda_ssf_fpi
mcda_ssf_med_fpi
p_alien_ecofunctional
p_alien_origin
p_alien_regions
p_alien_subgroup
p_alien_success_types
p_alien_taxon
p_alien_vector_records
p_alien_vector_types
p_countries_iso3166
p_country
p_csquare_01grid
p_csquare_05grid
p_csquare_05pts
p_datacall_official_body
p_datacalls
p_dcrf_activity_unit
p_dcrf_bio_length_unit
p_dcrf_bio_species
p_dcrf_capacity_unit
p_dcrf_comb_gsa_segment
p_dcrf_fe_measurement
p_dcrf_fe_measurements_gear
p_dcrf_fishing_fleet_segment
p_dcrf_gear
p_dcrf_hull_material
p_dcrf_length_unit
p_dcrf_scales_maturity_stages
p_dcrf_sex
p_dcrf_sex_sfm
p_dcrf_source_of_data
p_dcrf_species
p_dcrf_subregion
p_dcrf_vessel_operational_status
p_dcrf_vulnerable
p_dcrf_vulnerable_species_family
p_dcrf_vulnerable_species_group
p_env_sat_img_source
p_env_sat_img_type
p_env_satelite_color_scale
p_env_satelite_sensor
p_env_satelite_units
p_fdi_domain
p_fdi_fishing_technique
p_fdi_gear
p_fdi_geographical_indicator
p_fdi_mesh_size
p_fdi_metier
p_fdi_specon_tech
p_fdi_subregion
p_fdi_supra_region
p_fdi_target_assemblage
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