



The 6th Regional Scientific and Technical Committee Meeting
For the SEAFDEC/UNEP/GEF Project on Establishment and Operation of
a Regional System of Fisheries *Refugia* in the South China Sea and the Gulf of Thailand

4-6 July 2022

SEAFDEC/Training Department, Samutprakarn, Thailand

MARINE CAPTURE FISHERIES DATABASE AND DASHBOARD

INTRODUCTION

An obvious barrier in terms of environmental and natural resource governance and management is that environment and fisheries are treated as separate sectors for planning and management purposes leading to:

- Overlapping or conflicting mandates between different ministries, as in the case of fisheries and environment, for example, where internal mechanisms for managing the impacts of fishing practices on habitats and the physical environment do not exist;
- Problems related to effective control of environmental degradation resulting from land-based pollution where the interface between the industrial and environmental sectors is not well developed; and
- Lack of adequate consideration of the consequence of environmental degradation and habitat loss due to ineffective means of valuing ecological goods and services and where they exist, a failure to use such values in social cost-benefit analysis.

To solve those mentioned above, a need for national action to strengthen the integration of fisheries and habitat management along the South China Sea coast through the Fisheries Refugia Approach, as a novel fisheries resource management for the identification and designation of priority areas in which to integrate fisheries and habitat management in the context of maintaining fish stock, and critical habitats as satisfying the fishing community, social needs now and futures.

However, at the implementation level, i.e., the actual establishment and management of fisheries refugia sites and a regional system of refugia, key barriers have been identified to include:

- Lack of procedures for the delineation of fisheries *refugia* boundaries and the setting of priorities for *refugia* site management;
- Limited experience in the development and implementation of community-based management plans for fisheries refugia sites;
- Underdeveloped national-level policy and planning frameworks for refugia designation and management; and
- Irregular and uncoordinated update of national and regional information and databases relating to fish stocks and their habitats, including fish early life history science.

The paper introduces the development of the marine capture fisheries database in Southeast Asia, covering eight ASEAN Member States in Western Central Pacific (WCPO) and four AMS in Eastern Indian Ocean (EIO) areas. The marine capture fisheries data from 1950 to the present are referenced in the FAO Fishery and Aquaculture Statistics "Global capture production 1950-2019" (FishstatJ, 2021),

in which 2019 is the latest updated data in 2022. The Project Coordination Unit develops this fisheries resource database to support the national and regional fish stock status analysis. Considering several pelagic and demersal fish are transboundary species concerns, managing fish stock needs not only national but regional stock assessment. Therefore, this database supports the useful marine capture data source for analysis.

DATABASE AND DASHBOARD

There are 193 marine species, based on the FAO-ASFIS species list, in the database covering 9 ASEAN Member States in the Southeast Asia (see Annex 1). Users can access the database via <https://fisheries-refugia.org> by clicking on the database logo.



In addition, the Fisheries Refugia dashboard is developed under the same URL link. Users can find the interactive graphs displaying the trends of target fish species in weight (tonnes). The dashboard covers nine priority target species for fisheries refugia.

HOW DATABASE WORK:

- 1) Access to the <https://fisheries-refugia.org> by clicking on the database logo, the database and dashboard will appear as Figure 1.

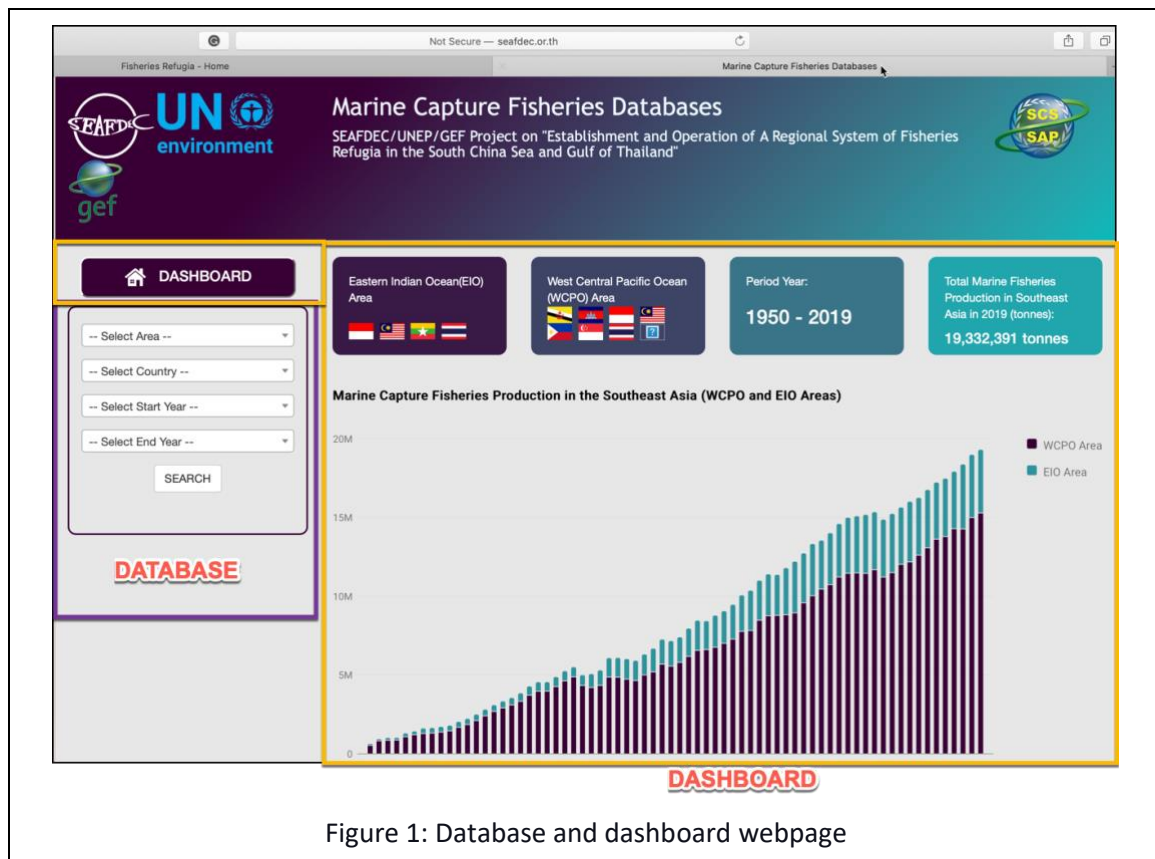



Figure 1: Database and dashboard webpage

- 2) From Figure 1, the database part is located on the leftside, user can find simple data sorting consisting of :
 - **Select Area:** there are two main areas: 1) WCPO Area (FAO Fishing Zone 91), and 2) EIO Area (FAO Fishing Zone 57).
 - **Select Country:** This database covers 9 ASEAN Member States, namely Brunei Darussalam, Cambodia, Indonesia, Malaysia, Myanmar, Philippines, Singapore,

Thailand, and Viet Nam. The country will link to the Area such as the WCPO Area includes eight countries, but the EIO Area consists of 4 countries.

- **Select Start Year:** from 1950 – 2019 (as of June 2022)
 - **Select End Year:** from 1950 – 2019 (as of June 2022)
- 3) Remarks: Once user select the area, country, and the start-end years, all 193 marine fishes will be listed; for example user selected EIO area, Malaysia, and 1970 the result will show as Figure 2.

- 4) User can export the data to excel file by click on “”, user may finds some message for downloading (see Figure 3),

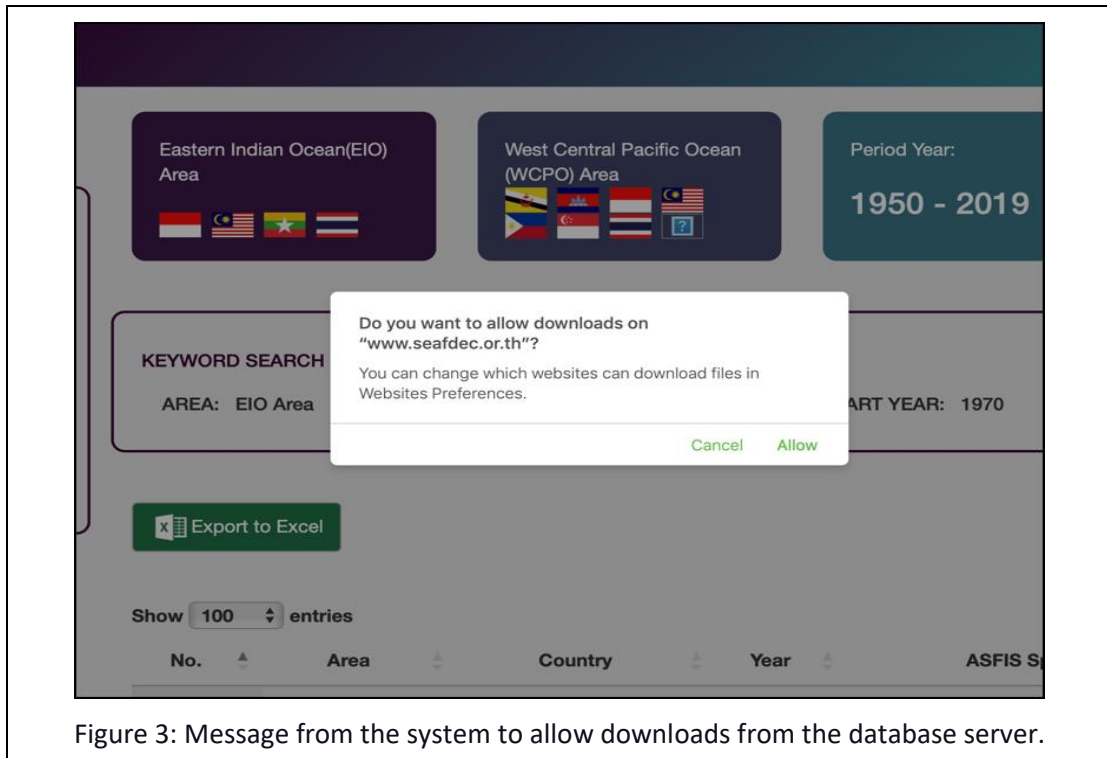


Figure 3: Message from the system to allow downloads from the database server.

HOW DASHBOARD WORK

- 1) The PCU developed the Stock Status Trends of the important refugia target species as follows:
 - Overall fisheries productions in the Southeast Asia, covering two areas (WPCO, and EIO Areas).
 - Short Mackerel Fisheries Production in Southeast Asia (Tonnes)
 - Spiny Lobster Fisheries Production in Southeast Asia (Tonnes)
 - Marine Crab nei Fisheries Production in Southeast Asia (Tonnes)
 - Fusilliers Fisheries Production in Southeast Asia (Tonnes)
 - Rabbitfish nei Fisheries Production in Southeast Asia (Tonnes)
 - Anchovies Fisheries Production in Southeast Asia (Tonnes)
 - Groupers Fisheries Production in Southeast Asia (Tonnes)
 - Penaeus Shrimps Fisheries Production in Southeast Asia (Tonnes)
 - Banana Prawn Fisheries Production in Southeast Asia (Tonnes)
 - Snappers/Jobfishes Fisheries Production in Southeast Asia (Tonnes)
- 2) User can use curser to the data on each graph to see the production value.
- 3) PCU may update the Dashboard quarterly.

KEYWORD SEARCH
 AREA: EIO Area COUNTRY: Malaysia START YEAR: 1970 END YEAR: 1970

[Export to Excel](#)

Show 100 entries

No.	Area	Country	Year	ASFIS Species	Production (tonnes)
1	EIO Area	Malaysia	1970	Barracudas nei	190.00
2	EIO Area	Malaysia	1970	Black pomfret	380.00
3	EIO Area	Malaysia	1970	Carangids nei	990.00
4	EIO Area	Malaysia	1970	Chacunda gizzard shad	490.00
5	EIO Area	Malaysia	1970	Clams, etc. nei	670.00
6	EIO Area	Malaysia	1970	Clupeoids nei	4400.00
7	EIO Area	Malaysia	1970	Croakers, drums nei	2000.00
8	EIO Area	Malaysia	1970	Cuttlefish, bobtail squids nei	2200.00
9	EIO Area	Malaysia	1970	Daggertooth pike conger	500.00
10	EIO Area	Malaysia	1970	Demersal percomorphs nei	10.00
11	EIO Area	Malaysia	1970	Eeltail catfishes	340.00
12	EIO Area	Malaysia	1970	Flatfishes nei	380.00
13	EIO Area	Malaysia	1970	Fusiliers nei	10.00
14	EIO Area	Malaysia	1970	Goatfishes, red mullets nei	290.00
15	EIO Area	Malaysia	1970	Groupers nei	1040.00
16	EIO Area	Malaysia	1970	Indian mackerels nei	23250.00
17	EIO Area	Malaysia	1970	Indian pellona	190.00
18	EIO Area	Malaysia	1970	Indian scad	2700.00
19	EIO Area	Malaysia	1970	Kawakawa	262.00
20	EIO Area	Malaysia	1970	Largehead hairtail	590.00
21	EIO Area	Malaysia	1970	Lizardfishes nei	530.00
22	EIO Area	Malaysia	1970	Longtail tuna	211.00
23	EIO Area	Malaysia	1970	Mangrove red snapper	500.00
24	EIO Area	Malaysia	1970	Marine crabs nei	1660.00
25	EIO Area	Malaysia	1970	Marine fishes nei	49060.00
26	EIO Area	Malaysia	1970	Mullets nei	1690.00
27	EIO Area	Malaysia	1970	Natantian decapods nei	33780.00
28	EIO Area	Malaysia	1970	Ponyfishes(-Slipmouths) nei	340.00
29	EIO Area	Malaysia	1970	Rainbow runner	110.00
30	EIO Area	Malaysia	1970	Rays, stingrays, mantas nei	1060.00
31	EIO Area	Malaysia	1970	Sea catfishes nei	1640.00
32	EIO Area	Malaysia	1970	Sergestid shrimps nei	130.00
33	EIO Area	Malaysia	1970	Silver grunt	470.00
34	EIO Area	Malaysia	1970	Snappers nei	280.00
35	EIO Area	Malaysia	1970	Snappers, jobfishes nei	240.00
36	EIO Area	Malaysia	1970	Spotted sicklefish	20.00
37	EIO Area	Malaysia	1970	Stolephorus anchovies nei	20020.00
38	EIO Area	Malaysia	1970	Threadfin breams nei	1600.00
39	EIO Area	Malaysia	1970	Threadfins, tasselfishes nei	750.00
40	EIO Area	Malaysia	1970	Tonguefishes	430.00
41	EIO Area	Malaysia	1970	Torpedo scad	5770.00
42	EIO Area	Malaysia	1970	Triggerfishes, durgons nei	60.00
43	EIO Area	Malaysia	1970	Tuna-like fishes nei	2019.00
44	EIO Area	Malaysia	1970	Wolf-herrings nei	2260.00
45	EIO Area	Malaysia	1970	Yellowstripe scad	720.00

No. Area Country Year ASFIS Species Production (tonnes)

Showing 1 to 45 of 45 entries Previous 1 Next

Figure 2: Marine Capture Fisheries Production of Malaysia of the EIO Area inn 1970.

Annex 1: List of ASFIS species in Marine Capture Fisheries Database

Code	ASFIS species (Name)	Code	ASFIS species (Name)
1001	Akiami paste shrimp	1098	Leopard coral grouper
1002	Albacore	1099	Lobster nei
1003	Abalones nei	1100	Longtail tuna
1004	Anchovies, etc. nei	1101	Mackerels nei
1005	Anadara clams nei	1102	Mangrove red snapper
1006	Aquatic invertebrates nei	1103	Marine crabs nei
1007	Bali sardinella	1104	Marine fishes nei
1008	Banana prawn	1105	Marine molluscs nei
1009	Barracudas nei	1106	Mackerel sharks, porbeagles nei
1010	Barramundi (=Giant seaperch)	1107	Mantas, devil rays nei
1011	Batfishes	1108	Marine crustaceans nei
1012	Bigeye scad	1109	Marine turtles nei
1013	Bigeye tuna	1110	Marlins, sailfishes, etc. nei
1014	Bigeyes nei	1111	Metapenaeus shrimps nei
1015	Bigfin reef squid	1112	Milkfish
1016	Black marlin	1113	Mojarras (=Silver-biddies) nei
1017	Black pomfret	1114	Monocle breams
1018	Blackbanded trevally	1115	Moonfish
1019	Blood cockle	1116	Mullets nei
1020	Blue mackerel	1117	Narrow-barred Spanish mackerel
1021	Blue marlin	1118	Natantian decapods nei
1022	Blue shark	1119	Needlefishes nei
1023	Blue swimming crab	1120	Octopuses, etc. nei
1024	Bombay-duck	1121	Pacific Chub Mackerel
1025	Bullet tuna	1122	Pelagic percomorphs nei
1026	Butterfishes, pomfrets nei	1123	Penaeus shrimps nei
1027	Carangids nei	1124	Percoids nei
1028	Cephalopods nei	1125	Pickhandle barracuda
1029	Chacunda gizzard shad	1126	Pike-congers nei
1030	Clams, etc. nei	1127	Ponyfishes (=Slipmouths) nei
1031	Chocolate hind	1128	Porgies, seabreams nei
1032	Clupeoids nei	1129	Queenfishes
1033	Cobia	1130	Rainbow runner
1034	Commercial top	1131	Rainbow sardine
1035	Common dolphinfish	1132	Rays, stingrays, mantas nei
1036	Common squids nei	1133	Red bigeye
1037	Conger eels, etc. nei	1134	Requiem sharks nei
1038	Croakers, drums nei	1135	Sardinellas nei
1039	Cupped oysters nei	1136	Sawfishes
1040	Cuttlefish, bobtail squids nei	1137	Scads nei
1041	Daggertooth pike conger	1138	Scallops nei
1042	Demersal percomorphs nei	1139	Scalloped hammerhead
1043	Diadromous clupeoids nei	1140	Scats
1044	Dorab wolf-herring	1141	Sea catfishes nei
1045	Dogfish sharks nei	1142	Sea cucumbers nei
1046	Dogtooth tuna	1143	Sea urchins nei
1047	Eagle rays nei	1144	Seerfishes nei
1048	Eeltail catfishes	1145	Sergestid shrimps nei

Code	ASFIS species (Name)	Code	ASFIS species (Name)
1049	Emperors (=Scavengers) nei	1146	Sharks, rays, skates, etc. nei
1050	Endeavour shrimp	1147	Shi drum
1051	False trevally	1148	Shortbill spearfish
1052	Flatfishes nei	1149	Short mackerel
1053	Flatheads nei	1150	Shortbill spearfish
1054	Flathead lobster	1151	Short neck clams nei
1055	Flying fishes nei	1152	Sillago-whittings
1056	Fourfinger threadfin	1153	Silver grunt
1057	Frigate and bullet tunas	1154	Silver pomfret
1058	Frigate tuna	1155	Silversides (=Sand smelts) nei
1059	Fusiliers nei	1156	Silver sillago
1060	Giant tiger prawn	1157	Skipjack tuna
1061	Glassfishes	1158	Slipper cupped oyster
1062	Goatfishes	1159	Slipper lobsters nei
1063	Goatfishes, red mullets nei	1160	Snappers nei
1064	Gobies nei	1161	Snappers, jobfishes nei
1065	Goldstripe sardinella	1162	Spinefeet(=Rabbitfishes) nei
1066	Greasy grouper	1163	Southern bluefin tuna
1067	Great barracuda	1164	Spotted sardinella
1068	Greater lizardfish	1165	Spotted sicklefish
1069	Green mussel	1166	Squillids nei
1070	Green tiger prawn	1167	Stingrays, butterfly rays nei
1071	Groupers nei	1168	Stolephorus anchovies nei
1072	Groupers, seabasses nei	1169	Stomatopods nei
1073	Grunts, sweetlips nei	1170	Striped bonito
1074	Guitarfishes, etc. nei	1171	Striped marlin
1075	Hairtails, scabbardfishes nei	1172	Surgeonfishes nei
1076	Halfbeaks nei	1173	Sweetlips, rubberlips nei
1077	Hammerhead sharks, etc. nei	1174	Swordfish
1078	Hard clams nei	1175	Terapon perches nei
1079	Honeycomb grouper	1176	Threadfin breams nei
1080	Humpback grouper	1177	Threadfins, tasselfishes nei
1081	Humphead wrasse	1178	Thresher sharks nei
1082	Horse mussels nei	1179	Tiger shark
1083	Indian halibut	1180	Toli shad
1084	Indian mackerel	1181	Tonguefishes
1085	Indian mackerels nei	1182	Torpedo scad
1086	Indian pellona	1183	Triggerfishes, durgons nei
1087	Indian scad	1184	Tropical spiny lobsters nei
1088	Indo-Pacific king mackerel	1185	Tuna-like fishes nei
1089	Indo-Pacific sailfish	1186	Various squids nei
1090	Indo-Pacific swamp crab	1187	Wahoo
1091	Indo-Pacific tarpon	1188	Western king prawn
1092	Jacks, crevalles nei	1189	Whitespotted wedgefish
1093	Jellyfishes nei	1190	Wolf-herrings nei
1094	Jobfishes nei	1191	Wrasses, hogfishes, etc. nei
1095	Kawakawa	1192	Yellowfin tuna
1096	Largehead hairtail	1193	Yellowstripe scad
1097	Lizardfishes nei		

