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CURRENT WORK ON RECOFI PRIORITY SPECIES

INTRODUCTION

1. This documents aims to provide an update on the current work of the Member States on RECOFI priority species.

2. At the second meeting of the WGFM held in Cairo, Egypt, 27-30 October 2008, the Working Group proceeded with an identification and listing of priority species whose stock(s) supported fisheries of common interest to ensure coherency and to facilitate future work. The meeting agreed that the stocks of the key species, supported a main reference fisheries in the RECOFI area and should be given priority consideration at regional level. The Working Group proposed that the list of priority species be kept under review.

3. 2. At the WGFM Workshop on fishery stock indicators and stock status, held in Tehran, Islamic Republic of Iran, 26-29 July 2009, some of the recommendations of this workshop included:

- members to report stock assessment results and estimates of biological parameters for stocks of interest to the Secretariat and the Commission;
- member countries to provide information on survey plans and protocols prior to the survey and their results of survey on its conclusion to the Secretariat/WGFM who should distribute information to relevant institutes; and
- consider the development of joint studies on evaluation of impacts of stock enhancement including artificial reefs, and guidance regarding areas suitable for the deployment of artificial reefs.

4. The list of priority species has been subject to several modifications since it was originally proposed. At its 10th Meeting (2016), the WGFM proposed adding of Klunzinger's mullet (*Liza klunzingeri* [Day, 1888], Aquatic Sciences and Fisheries Information System [ASFIS] code LZK) and greenback mullet (*Liza subviridis* [Valenciennes, 1836], no ASFIS code available) to the RECOFI priority is list. The proposal was submitted to the Ninth Session of RECOFI (2017), where it was evaluated and accepted for enforcement action. The final list is provided in Table 1 below. As of

January 2019, only one Member States, namely Kuwait submitted an update on its work on RECOFI priority species. The updated work on RECOFI priority species is given in Annex 1.

Table 1: List of RECOFI Priority Species

FAO name	ASFIS code	Common English name	Scientific name
Green Tiger Prawn	TIP	Green Tiger Prawn	*Penaeus semisulcatus*
Blue swimming crabs	SCD	Blue swimming crab	*Portunus pelagicus*
Pharaoh cuttlefish	IAH	Cuttlefish	*Sepia pharaonis*
Stolephorus anchovies	STO	Anchovies	*Stolephorus spp.*
Indian oil sardine	IOS	Indian oil sardine	*Sardinella longiceps*
Bludger	NGY	Jacks	*Carangoide gymnostethus*
Golden trevally	GLT	Golden trevally	*Gnathanodon speciosus*
Indian mackerel	RAG	Indian mackerel	*Rastrelliger kanagurta*
Snubnose emperor	LBW	Orange finned emperor	*Lethrinus borbonicus*
Pink ear emperor	LTS	Redspot emperor	*Lethrinus lentjan*
Spangled emperor	LHN	Spangled emperor	*Lethrinus nebulosus*
Coral hind	CFI	Coral grouper/Bluespotted grouper	*Cephalopholis miniata*
Orange-spotted grouper	ENI	Orange-spotted grouper	*Epinephelus coioides*
White-spotted spinefoot	SCN	Rabbitfish	*Siganus canaliculatus*
Narrow-barred Spanish mackerel	COM	King mackerel/Narrow-barred Spanish mackerel	*Scomberomorus commerson*
Longtail tuna	LOT	Longtail tuna	*Thunnus tonggol*
Kawakawa	KAW	Kawakawa	*Euthynnus affinis*
Requiem sharks nei	RSK	Sharks	*Carcharhinidae*
Silver pomfret	SIP	Silver pomfret	*Pampus argenteus*
Hilsa shad	HIL	Indian shad	*Tenualosa ilisha*
King soldier bream	KBR	King soldier bream	*Argyrops spinifer*
Painted sweetlips	DGP	Painted sweetlips	*Diagramma pictum*
Smalltooth emperor	LEN	Smalltooth emperor	*Lethrinus microdon*
Indian white prawn	PNI	Indian white prawn	*Penaeus indicus*
Klunzinger’s mullet	LZK	Klunzinger's mullet	*Liza klunzingeri*
Greenback mullet		Greenback mullet	*Liza subviridis*

SUGGESTED ACTION FOR THE WGFM

The WGFM is invited to note the update provided by the Member States and decide likely areas for action by Members.

Annex 1:

CURRENT WORK ON RECOFI PRIORITY SPECIES (updated)

Species	Country	Type of Research	Implementing institution	Methodology	Activities	Results
Green Tiger Prawn *Penaeus semisulcatus*	Oman	Biology and Fisheries Management	Marine Science and Fisheries Center (MSFC)	Trawlers Fisheries	Monthly Commercial Catch Sampling	Biomass estimate Size composition Age and growth Exploitaion Rate = 0.71 Bycatch analysis Gear selectivity Long term monitoring program
Blue swimming crabs *Portunus pelagicus*	Oman	Biology and Fishing gear	MSFC	Commercial Catch Sampling	Monthly Commercial Catch Sampling	Age and growth Size composition Maturity analysis
Pharaoh cuttlefish *Sepia pharaonis*	Oman	Biology and stock assessment	MSFC	Commercial Catch Sampling Trawling Survey	Monthly Commercial Catch Sampling. Quarterly survey at sea	Biomass estimate Stock Spacial distribution Maturation Age and growth Recruitments Exploitation Rate = 0.61 MSY Target Reference point
Stolephorus anchovies *Stolephorus* spp.	Oman	Biomass estimate Stock spatial distribution	MSFC	Acoustic survey Mid-water trawling;	Quarterly survey at sea	Biomass estimate Stock Spacial distribution
Indian oil sardine *Sardinella longiceps*	Oman	Biomass estimate Stock spatial distribution Biology and stock assessment	MSFC	Acoustic survey Mid-water trawling Commercial catch sampling	Quarterly survey at sea Monthly Commercial Catch Sampling.	Biomass estimate Stock Spacial distribution Maturity Age and growth Recruitments Exploitaion Rate = 0.47 Biomass (commercial catch =330,390 t entire coast of Oman) MSY

Species	Country	Type of Research	Implementing institution	Methodology	Activities	Results
Bludger *Carangoide gymnostethus*	Oman	Biomass estimate Stock spatial distribution	MSFC	Trawling Survey	Quarterly survey at sea	Biomass estimate Stock Spacial distribution Maturation Age and growth
	Qatar	Reproductive Biology; Current status of fish stock evaluated by comparing the current situation with that required to achieve the MSY. 7 Years projection period used to develop management measures.	Fisheries Department	Commercial catch sampling; Length frequency Distribution Analysis. Relative Y/R and Relative B/R detection. Production model using ASPIC: A Stock Production Model including Covariates.	Monthly commercial catch sampling. Length frequency recording in a daily manner. Statistical Data recording	Spawning season: October, March, March, April & May; Lc50: 32.49 cm (Combined sexes);
Golden trevally *Gnathanodon speciosus*	Oman	Biomass estimate Stock spatial distribution	MSFC	Trawling Survey	Quarterly survey at sea	Biomass estimate Stock Spatial distribution Maturation Age and growth
	Qatar	Reproductive Biology; Current status of fish stock evaluated by comparing the current situation with that required to achieve the MSY. 7 Years projection period used to develop management measures.	Fisheries Depart.	Commercial catch sampling; Length frequency Distribution Analysis. Relative Y/R and Relative B/R detection. Production model using ASPIC: A Stock Production Model including Covariates.	Monthly commercial catch sampling. Length frequency recording in a daily manner. Statistical Data recording	Spawning season: May; Lc50: 36.10 cm (Combined sexes); Maximally exploited as EMax= 0.465 & Ecurrent= 0.45
Indian mackerel *Rastrelliger Kanagurta*	Oman	Biomass estimate Stock spacial distribution Biology and stock assessment	MSFC	Acoustic survey Mid-water trawling Commercial catch sampling	Quarterly survey at sea Monthly Commercial Catch Sampling.	Biomass estimate Stock Spatial distribution Maturity Age and growth Recruitments Exploitaion Rate = 0.45 Biomass (commercial catch = 1,062t entire coast of Oman) MSY

Species	Country	Type of Research	Implementing institution	Methodology	Activities	Results
Snubnose emperor *Lethrinus borbonicus*	Qatar	Reproductive Biology; Current status of fish stock evaluated by comparing the current situation with that required to achieve the MSY. 7 Years projection period used to develop management measures.	Fisheries Department	Commercial catch sampling; Length frequency Distribution Analysis. Relative Y/R and Relative B/R detection. Production model using ASPIC: A Stock Production Model including Covariates.	Monthly commercial catch sampling. Length frequency recording in a daily manner. Statistical Data recording	
Pink ear emperor *Lethrinus lentjan*	Kuwait	Demersal fish Stock assessment of the Arabian Gulf and Sea of Oman (Period of Research 2007-2011)	(KISR) Kuwait Institute for Scientific Research	Trawl survey, Acoustic Survey and Trap (gargoor) fishing data through five cruise programme Stock Assessment and Modeling	Biomass estimation, Biological and ageing studies Biomass modeling	Though the total biomass of demersal fish stock from Kuwait waters ranged from 9,515 to 14, 508 tonnes, there is no record for *Lethrinus lentjan* from the present survey
	Oman	Biomass estimate Stock spacial distribution	MSFC	Trawling Survey	Quarterly survey at sea	Biomass estimate Stock Spacial distribution Maturation
	Qatar	Reproductive Biology; Current status of fish stock evaluated by comparing the current situation with that required to achieve the MSY. 7 Years projection period used to develop management measures.	Fisheries Department	Commercial catch sampling; Length frequency Distribution Analysis. Relative Y/R and Relative B/R detection. Production model using ASPIC: A Stock Production Model including Covariates.	Monthly commercial catch sampling. Length frequency recording in a daily manner. Statistical Data recording	Spawning season: February, March, April, May and June with the peak during May; Lc50: 26.42 cm (Combined sexes); Under exploited as E10= 0.758 & Ecurrent= 0.45; Trend of fish abundance increasing

	Kuwait	Demersal fish Stock assessment of the Arabian Gulf and Sea of Oman (Period of Research 2007-2011)	(KISR) Kuwait Institute for Scientific Research	Trawl survey, Acoustic Survey and Trap (gargoor) fishing data through five cruise programme Stock Assessment and Modeling	Biomass estimation, Biological and ageing studies Biomass modeling	Biomass of *Lethrinus nebulosus* from Trawl survey ranged from 12.1 to 30.2 tonnes in Kuwait waters.
Spangled emperor *Lethrinus nebulosus*	Oman	Biomass estimate Stock spacial distribution Biology and stock assessment	MSFC	Trawling Survey Commercial catch sampling	Quarterly survey at sea Monthly Commercial Catch Sampling.	Biomass estimate Stock Spacial distribution Maturity Age and growth Recruitments
	Qatar	Reproductive Biology; Current status of fish stock evaluated by comparing the current situation with that required to achieve the MSY. 7 Years projection period used to develop management measures.	Fisheries Department	Commercial catch sampling; Length Frequency Distribution Analysis. Relative Y/R and Relative B/R detection. Production model using ASPIC: A Stock Production Model including Covariates.	Monthly commercial catch sampling. Length frequency recording in a daily manner. Statistical Data recording	Spawning season: January, February, March, April and May with the peak during February; Lc50: 32.64 cm (Combined sexes); Over-exploited Fish abundance is decreasing
Orange-spotted grouper *Epinephelus coioides*	Kuwait	Demersal fish Stock assessment of the Arabian Gulf and Sea of Oman (Period of Research 2007-2011)	(KISR) Kuwait Institute for Scientific Research	Trawl survey, Acoustic Survey and Trap (gargoor) fishing data through five cruise programmes Stock Assessment and Modeling	Biomass estimation, Biological and ageing studies Biomass modeling	Biomass of *Epinephelus coioides* from Trawl survey ranged from 6.3 to 216.7 tonnes in different cruises in Kuwait waters.
	Oman	Biomass estimate Stock spatial distribution Biology	MSFC	Trawling Survey Commercial catch sampling	Quarterly survey at sea Monthly Commercial Catch Sampling.	Biomass estimate Stock Spacial distribution Reproductive characteristics A per

	Qatar	Reproductive Biology; Current status of fish stock evaluated by comparing the current situation with that required to achieve the MSY. 7 Years projection period used to develop management measures.	Fisheries Department	Commercial catch sampling; Length frequency Distribution Analysis. Relative Y/R and Relative B/R detection. Production model using ASPIC: A Stock Production Model	Monthly commercial catch sampling. Length frequency recording in a daily manner. Statistical Data recording	Spawning season: March, April, May and June with the peak during April; Lc50: 47.73 cm (Females) & 50.12 cm(Males); Over-exploited. Stock biomass smaller than that required to achieve MSY.
White-spotted spinefoot *Siganus canaliculatus*	Oman	Biomass estimate Stock spatial distribution Biology and stock assessment	MSFC	Trawling Survey Commercial catch sampling	Quarterly survey at sea Monthly Commercial Catch Sampling.	Biomass estimate Stock Spacial distribution Maturity Age and growth Recruitments MSY
	Qatar	Reproductive Biology; Current status of fish stock evaluated by comparing the current situation with that required to achieve the MSY. 7 Years projection period used to develop management measures.	Fisheries Department	Commercial catch sampling; Length frequency Distribution Analysis. Relative Y/R and Relative B/R detection. Production model using ASPIC: A Stock Production Model including Covariates.	Monthly commercial catch sampling. Length frequency recording in a daily manner. Statistical Data recording	Spawning season: March, April with the peak during April; Lc50: 19.04 cm (Combined sexes); Sustainably exploited as Emax= 0.75; E10= 0.65 & Ecurrent= 0.68

Narrow-barred Spanish mackerel *Scomberomorus commerson*	Oman	Biomass estimate Stock spatial distribution Biology and stock assessment	SQU (Sultan Qaboos University) MSFC	Trawling Survey Commercial catch sampling	Quarterly survey at sea Monthly Commercial Catch Sampling.	Biomass estimate Stock Spacial distribution Genetic analysis Maturity Age and growth Recruitments MSY Long term Monitoring program
	Qatar	Reproductive Biology; Current status of fish stock evaluated by comparing the current situation with that required to achieve the MSY. 7 Years projection period used to develop management measures. Spawning Stock Biomass evaluation	Fisheries Department	Commercial catch sampling; Length frequency Distribution Analysis. Relative Y/R and Relative B/R detection. Production model using ASPIC: A Stock Production Model including Covariates. Modified Bevertone & Holt Model	Monthly commercial catch sampling. Length frequency recording in a daily manner. Statistical Data recording	Over-exploited as Emax= 0.49 & Ecurrent= 0.57 Current relative spawning stock biomass equals 13.8% compared to the corresponding virgin un-exploited stock. Management measures being applied regionally.
Longtail tuna *Thunnus tonggol*	Oman	Biology, population dynamic and stock assessment	MSFC	Commercial catch sampling	Monthly Commercial Catch Sampling.	Genetic analysis Maturity Age and growth Recruitments Exploitation Rate = 0.57 MSY
	Oman	Biology, population dynamic and stock assessment	MSFC	Commercial catch sampling	Monthly Commercial Catch Sampling	Genetic analysis Maturity Age and growth Recruitments Exploitation Rate = 0.42 MSY

Kawakawa *Euthynnus affinis*	Qatar	Reproductive Biology; Current status of fish stock evaluated by comparing the current situation with that required to achieve the MSY. Spawning Stock Biomass evaluation	Fisheries Department	Commercial catch sampling; Length frequency Distribution Analysis. Relative Y/R and Relative B/R detection. Production model using ASPIC: A Stock Production Model including Covariates. Modified Bevertone & Holt Model	Monthly commercial catch sampling. Length frequency recording in a daily manner. Statistical Data recording	Lc50: 50.15 cm (Combined sexes)
Requiem sharks nei Carcharhinidae	Qatar	Statistical data on CPUE of *Carcharhinus dussumieri*, being recorded.	Fisheries Department	Statistical Data on Catch, effort & CPUE	Statistical data recording & reporting	Statistical reports developed regularly.
Silver pomfret *Pampus argenteus*	Kuwait	Captive breeding for mass production (On-going project)	KISR (Kuwait Institute for Scientific Research)	Manipulating water temperature and feed quality	The project constitute 4 phases, of which 3 have been completed	Enhancing the quality of egg and larvae Improve the survival rate of larvae and fry

King soldier bream *Argyrops spinifer*	Kuwait	Demersal fish Stock assessment of the Arabian Gulf and Sea of Oman (Period of Research 2007-2011)	(KISR) Kuwait Institute for Scientific Research	Trawl survey, Acoustic Survey and Trap (gargoor) fishing data through five cruise programme Stock Assessment and Modeling	Biomass estimation, Biological and ageing studies Biomass modeling	Biomass of *Argyrops spinifer* from Trawl survey ranged from 9.0 to75.9 tonnes in different cruises in Kuwait waters.
	Oman	Biomass estimate Stock spatial distribution Biology and stock assessment	MSFC	Trawling Survey Commercial catch sampling	Quarterly survey at sea Monthly Commercial Catch Sampling.	Biomass estimate Stock Spacial distribution Maturity Age and growth Exploitaion Rate = 0.69 Recruitments MSY Long term Monitoring program
	Qatar	Reproductive Biology; Current status of fish stock evaluated by comparing the current situation with that required to achieve the MSY.	Fisheries Department	Commercial catch sampling; Length frequency Distribution Analysis. Relative Y/R and Relative B/R detection. Production model using ASPIC: A Stock Production Model including Covariates. Modified Bevertone & Holt Model	Monthly commercial catch sampling. Length frequency recording in a daily manner. Statistical Data recording	Spawning season: November, December, January, February and March with the peak during December; Lc50: 24.61 cm (Combined sexes); Under exploited as EMax= 0.602; E10= 0.509 & Ecurrent= 0.369

Painted sweetlips *Diagramma pictum*	Oman	Biomass estimate Stock spatial distribution	MSFC	Trawling Survey	Quarterly survey at sea	Biomass estimate Stock Spacial distribution Maturation
	Qatar	Reproductive Biology; Current status of fish stock evaluated by comparing the current situation with that required to achieve the MSY. 7 Years projection period used to develop management measures. Spawning Stock Biomass evaluation	Fisheries Department	Commercial catch sampling; Length frequency Distribution Analysis. Relative Y/R and Relative B/R detection. Production model using ASPIC: A Stock Production Model including Covariates. Modified Bevertone & Holt Model	Monthly commercial catch sampling. Length frequency recording in a daily manner. Statistical Data recording	Spawning season: February, March, April and May with the peak during April; Lc50: 34.32 cm (Combined sexes); Over-exploited as Emax= 0.636 & Ecurrent= 0.72 Stock biomass smaller than that required to achieve MSY.
Smalltooth emperor *Lethrinus microdon*	Oman	Biomass estimate Stock spatial distribution	MSFC	Trawling Survey	Quarterly survey at sea	Biomass estimate Stock Spacial distribution Maturation Age and growth
	Qatar	Reproductive Biology; Current status of fish stock evaluated against the exploitation rate.	Fisheries Department	Commercial catch sampling; Length Frequency Distribution Analysis	Monthly commercial catch sampling. Length frequency recording in a daily manner.	Spawning season: April, May, June, July, August, September and October with the peak during Jun; Lc50: 29.20 cm (Combined sexes); Sustainably exploited as Emax= 0.833; E10= 0.717 & Ecurrent=0.720
Indian white prawn *Penaeus indicus*	Oman	Biology and Fisheries Management	Marine Science and Fisheries Center (MSFC)	Trawlers Fisheries	Monthly Commercial Catch Sampling	Biomass estimate Size composition Age and growth Exploitation Rate = 0.68 Bycatch analysis Gear selectivity Long term Monitoring program