

©
കേരള സർക്കാർ
Government of Kerala
2015



Regn. No. KERBUL/2012/4507
dated 5-9-2012 with RHM
Reg. No. K1/TV(N)/24/2015.17

കേരള ഗസറ്റ്
KERALA GAZETTE

അസാധാരണ
EXTRAORDINARY

ആധികാരികമായി പ്രസിദ്ധപ്പെടുത്തുന്നത്
PUBLISHED BY AUTHORITY

വാല്യം 4 Vol. IV	തിരുവനന്തപുരം, വെള്ളി Thiruvananthapuram, Friday	2015 ജൂലൈ 24 24th July 2015	No. 1769
		1190 കർകടകം 8 8th Karkadakam 1190	
		1937 ശ്രാവണം 2 2nd Sravana 1937	

GOVERNMENT OF KERALA

Fisheries and Ports (B) Department

NOTIFICATION

G. O. (P) No. 40/15/F&PD. Dated, Thiruvananthapuram, 24th July, 2015
8th Karkadakam, 1190.

S. R. O. No. 477/2015.—WHEREAS, clause (c) of sub-section (1) of section 4 of the Kerala Marine Fishing Regulation Act, 1980 (Act 10 of 1981) provides that the Government may by order notified in the Gazette, regulate, restrict or prohibit the catching in any specified area of such species of fish and for such period as may be specified in the notification;

AND WHEREAS, the Government of Kerala have declared the "specified area" vide G. O. (P) No. 22/88/F&PD dated 2nd July, 1988 and published as S.R.O. No. 830/88 dated 2nd July, 1988 as per clause (h) of section 2 of the said Act:

AND WHEREAS, sub-section (2) of section 4 thereof provides that while making an order under sub-section (1) the Government shall have regard to the matters such as the need to protect the interest of the different sections of persons engaged in fishing, particularly those engaged in fishing using traditional fishing craft such as Catamaran, country craft or canoe, the need to conserve the fish and to regulate fishing on scientific basis and the need to maintain law and order in the sea;

AND WHEREAS, it has come to the notice of the Government that different species of juvenile fishes are being caught by some fishermen so as to sell the same for the use as manure and fish feed etc.;

AND WHEREAS, the Government has found that catching of juvenile fishes will adversely affect the marine eco system and significant depletion in the income of fishermen, particularly those fishermen engaged in fishing using traditional fishing crafts fish mongers and other persons engaged in connected trades;

AND WHEREAS, the Government has considered the matter in detail and has decided to prohibit the catching of different species of juvenile fishes in the above specified area for a specified period. This period is liable to be reduced to a shorter one after evaluation of the result of the aforementioned prohibition;

NOW, THEREFORE, in exercise of the powers conferred by clause (c) of sub-section (1) and sub-section (2) of section 4 of the Kerala Marine Fishing Regulation Act, 1980 (10 of 1981) the Government of Kerala hereby prohibits catching of the following species of juvenile fishes having less than the size noted against their names in the area specified in the Schedule hereunder for a period of five years from the date of this notification.

SCHEDULE

No.	Species Name	Common Name	Vernacular Name	Recom-	Decision Logic	Remarks
				mended MLS (cm)(g)		
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Major Pelagic Fish Stocks						
1	<i>Sardinella longiceps</i>	Oil sardine	Mathi/ Nei-chala	10 TL	SSD (length of transition from juvenile to adult). MSM is 13 cm	This is a small pelagic having high abundance in the ecosystem. Recruitment is subject to environmental changes and stock is capable of withstanding high fishing pressure. Juvenile fish shoals can be voluntarily avoided by fishers.
2	<i>Rastrelliger kanagurta</i>	Indian mackerel	Aiyala	14 TL	MSM	This is also a small pelagic, but its abundance is not as high as of sardine, and therefore needs a more conservative protection measure like MSM.

(1)	(2)	(3)	(4)	(5)	(6)	(7)
3	<i>Euthynnus affinis</i>	Little tuna	Kera choora	31 FL	MSM	
4	<i>Auxis thazard</i>	Frigate tuna	Eli choora, Urulan choora	25 FL	MSM	
5	<i>Trichiurus lepturus</i>	Ribbon fish	Pambada	46 TL	SSD	
6	<i>Decap-turus russelli</i>	Indian scad	Thiriyam Chamban	11 TL	MSM	

Major Demersal Fish Stocks

7	<i>Nemip-terus japonicus</i>	Threadfin bream (yellow)	Kilimeen puthiyappla kora	12 TL	MSM	
8	<i>Lactarius lactarius</i>	White fish	Parava/ Adavu	10 TL	MSM	

Major Crustacean Stocks

9	<i>Panulirus homarus homarus</i>	Scal- loped Spiny lobster	Kadal konchu	200g	WFM	Notified as MLS for export by MPEDA
10	<i>Panulirus polyphagus</i>	Mud spiny lobster	Kadal konchu	300g	WFM	
11	<i>Panulirus ornatus</i>	Ornate spiny lobster	Kadal konchu	500g	WFM	
12	<i>Thenus unimacu-latus</i> (= <i>T.orientalis</i>)	Sand lobster	Adippan	150g	WFM	

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Major Molluscan Stocks						
13	<i>Paphia Malabarrica</i>	Short-neck clam	Kallikakka	2 APM	SFM	
14	<i>Villorita cyprinoides</i>	Black clam	Karuthakakka	2 APM	SFM	

Abbreviations:—TL-Total Length, FL-Fork Length, MLS-Minimum Legal Size, MSM-Minimum Size at Maturity or the size of the smallest mature fish, WFM-Weight at First maturity or weight of animal were 50% of the fishes are mature, SFM-Size at the first maturity or the Size at which 50% of fishes are mature, APM-Anterior Posterior Measurement of Length or Bivalves, g-gram.

By order of the Government

P. MARA PANDIVAN,

Principal Secretary to Government.

Explanatory Note

(This does not form part of the notification, but is intended to indicate its general purport.)

It has come to the notice of the Government of Kerala that tonnes of juvenile fishes are being caught by mechanized fishing vessels to cater exclusively to the requirement of fish meat plants outside the State of Kerala. Along with the juvenile fishes, other non-edible biota, which are vital to the existence of marine eco-system, are being landed on a daily basis at different fishing harbours in the State. This type of unscientific, uncontrolled practice of fishing will lead to heavy destruction of juvenile fishes and will affect adversely the bio-diversity of the marine eco-system and the livelihood of traditional fisher folk. Government has, therefore, in exercise of the powers conferred by the Kerala Marine Fishing Regulation Act, 1980 (10 of 1981) decided to prohibit the catching of different species of juvenile fishes in the specified area for a period of five years at the first instance. This period is liable to be reduced to a shorter one after evaluation of the result of the aforementioned prohibition.

The notification is intended to achieve the above object.

CMFRI

Policy Guidance on Minimum Legal Size [MLS] for commercially exploited marine species¹

Ref: Letter from DOF-GOK G2/7527/2014 dated 26-06-2014

Background

Exploitation of juvenile fish results in considerable economic loss, in terms of what could have been obtained had the fishers waited for a few months and allowed the animal to grow in size and weight. This phenomenon called as growth over-fishing also causes serious damage to the fish stock in terms of long-term sustainability of the resources. A minimum legal size (MLS) is seen as a fisheries management tool with the ability to protect juvenile fish, maintain spawning stocks and control the sizes of fish caught. The MLS sets the smallest size at which a particular species can be legally retained if caught. MLS could be used to protect immature fish ensuring that enough fish survive to grow and spawn, control the numbers and sizes of fish landed, maximize marketing and economic benefits and promote the aesthetic values of fish.

Setting a MLS and implementing the same would increase the economic efficiency of the fishery besides affording protection to juveniles and allowing them to grow in weight and length. Because of the relative fast growth rates in tropical species (as in Kerala), higher weights can be reached very quickly within a few months resulting in higher harvest biomass, and therefore, higher incomes to fishers.

Objective

- To prevent growth overfishing by prescribing MLS for major commercially exploited marine fish stocks of Kerala State.
- Maintain healthy stock of marine fishes off the coast of Kerala.
- Ensure better incomes to marine fishers of Kerala on a sustainable basis.

Treatment

Analyses were carried out with maturity data collected by scientists of CMFRI. SFM (size at first maturity or size at which 50% of fish are mature) and MSM (minimum size at maturity or size of the smallest mature fish) were determined by logistic curve method. Only female fishes have been considered in this analysis, as males mature at earlier sizes and are reproductively more active.

¹ Prepared by K. Sunil Mohamed, P.U. Zacharia, G. Maheswarudu, T.V. Sathianandan, E.M. Abdussamad, U. Ganga, S. Lakshmi Pillai, K.S. Sobhana, Rekha Nair, Josileen Jose, Rekha D Chakraborty, S. Kizhakudan and T.M. Najmudeen

Decision Logic

CRITERIA	EXPLANATION	LOGIC
SSD	Size at sexual differentiation into male and female	This metric can be used to prevent juvenile exploitation and growth overfishing in those stocks which are very abundant, have high reproductive potential and whose biomasses are not affected by high fishing pressure.
MSM	Minimum size at maturity or size of smallest mature fish	This metric can be used to prevent growth overfishing in stocks which are moderately resilient to fishing pressure.
SFM	Size at first maturity or size at which 50% of the fishes are mature	Conventionally used as a metric to prevent growth overfishing completely and recruitment overfishing partially. Can be used in situations where the stock is depleted or rebuilding.
SCM	Size at complete maturity or size at which 100% of the fish are mature	Can be used to prevent recruitment overfishing by capping the maximum legal size of capture. Seasonally applicable to fishes which grow to large size and exhibit slow growth rates.

Net & Mesh Sizes

Exploitation of juveniles of all fishes can be reduced to a very large extent by strictly implementing the optimum net size and mesh size for different gears as prescribed in the recent Trawl Ban Committee Report (2014) already submitted to the DOF-GOK.

Recommendation

1. The CMFRI recommends to the DOF-GOK to implement the suggested MLS (for 58 commercial species) either by promulgating an ordinance or by amending the KMFRA, the former as an immediate measure and the latter as a more permanent measure.
2. The earlier advisory by CMFRI (Pillai, N G K, Vivekanandan, E, Ganga, U and Ramachandran, C (2009) Marine Fisheries Policy Brief-1. CMFRI Special Publication 100: 1-24) may be considered as revised.
3. For determining violations of the MLS, the DOF is advised to take a random species-wise sub-sample of the catch (about 25-50 numbers), take appropriate measurements, and consider the catch as a violation if more than 50% of the catch sample is composed of fishes at or below the prescribed MLS.
4. Inspections may preferably be carried out at sea or in the landing centre using an unsorted sample.

Recommended MLS for major marine fish stocks of Kerala State to be implemented by the DOF-GOK

No	Species Name	Common Name	Vernacular Name	Recommended MLS (cm) (g*)	Decision Logic	Remarks
Major Pelagic Fish Stocks						
1	<i>Sardinella longiceps</i>	Oil sardine	Mathi/ Neichala	10 TL	SSD (length of transition from juvenile to adult). MSM is 13 cm	This is a small pelagic having high abundance in the ecosystem. Recruitment is subject to environmental changes and stock is capable of withstanding high fishing pressure. Juvenile fish shoals can be voluntarily avoided by fishers
2	<i>Rastrelliger kanagurta</i>	Indian mackerel	Aiyala	14 TL	MSM	This is also a small pelagic, but its abundance is not as high as oil sardine, and therefore needs a more conservative protection measure like MSM.
3	<i>Euthynnus affinis</i>	Little tuna	Kera choora	31 FL	MSM	
4	<i>Auxis thazard</i>	Frigate tuna	Eli choora, Urulan choora	25 FL	MSM	
5	<i>Katsuwonus pelamis</i>	Skipjack tuna	Varayan Chooraa	35 FL	MSM	
6	<i>Thunnus albacares</i>	Yellowfin tuna	Kera	50 FL	MSM	
7	<i>Auxis rochei</i>	Bullet tuna	Eli choora	18 FL	MSM	
8	<i>Sarda orientalis</i>	Bonito	Neimeen choora	35 FL	MSM	
9	<i>Thunnus tonggol</i>	Longtail tuna	Kara choora	44 FL	MSM	
10	<i>Gymnosarda unicolor</i>	Dogtooth tuna	Pallan choora	50 FL	MSM	
11	<i>Scomberomorus commerson</i>	King seer	Neimeen/ Aiykora	50 FL	MSM	
12	<i>Scomberomorus guttatus</i>	Spotted seer	Seela neimeen	37 FL	SFM	The more conservative SFM is applied due to the fact that the stocks are in declining status
13	<i>Rachycentron</i>	King fish	Motha	61 FL	SFM	

	<i>canadum</i>					
14	<i>Coryphaena hippurus</i>	Dolphin fish	Cycle chain, Pulli motha	38 FL	MSM	
15	<i>Trichiurus lepturus</i>	Ribbon fish	Pambada	46 TL	SSD	
16	<i>Megalaspis cordyla</i>	Horse mackerel	Vangada	19 TL	SSD	
17	<i>Selar crumenophthalmus</i>	Big-eye scad	Aiyilakanni	16 TL	MSM	
18	<i>Decapturus russelli</i>	Indian scad	Thiriyam Chamban	11 TL	MSM	
Major Demersal Fish Stocks						
19	<i>Cynoglossus macrostomus</i>	Malabar sole	Manthal Nangu	9 TL	MSM	
20	<i>Nemipterus japonicus</i>	Threadfin bream (yellow)	Kilimeen Puthiyappla kora	12 TL	MSM	
21	<i>Nemipterus randalli</i>	Threadfin bream (red)	Kilimeen Puthiyappla kora	10 TL	MSM	
22	<i>Lactarius lactarius</i>	White fish	Parava/ Adavu	10 TL	MSM	
23	<i>Saurida tumbil</i>	Greater Lizard fish	Arana meen	17 TL	MSM	
24	<i>Saurida undosquamis</i>	Lizard fish	Arana meen	10 TL	MSM	
25	<i>Pampus argenteus</i>	Silver pomfret	Vella avoli	13 TL	MSM	
26	<i>Parastromateus niger</i>	Black pomfret	Karutha avoli/ Machan	17 TL	MSM	
27	<i>Priacanthus hamrur</i>	Bull's eye	Udupu oori/ kalava kuttan	14 TL	MSM	

28	<i>Otolithes ruber</i>	Tiger toothed croaker	Kora	17 TL	MSM	
29	<i>Otolithes cuvieri</i>	Lesser tiger toothed croaker	Palli kora	16 TL	MSM	
30	<i>Johnius sina</i>	Sin croaker	Mutti kora	11 TL	MSM	
31	<i>Johnius carutta</i>	Karut croaker	Kuttan kora	15 TL	MSM	
32	<i>Johnius belangerii</i>	Belanger's croaker	Kora	14 TL	MSM	
33	<i>Johnius glaucus</i>	Pale spotfin croaker	Kuttan kora	15 TL	MSM	
34	<i>Nibea maculata</i>	Blotched croaker	Korukka	14 TL	MSM	
35	<i>Pennahia anea</i>	Bigeye croaker	Kora	13 TL	MSM	
36	<i>Epinephelus diacanthus</i>	Spiny cheek grouper	Kalava	18 TL	MSM	
37	<i>Himantura Simbricata</i>	Scaly whipray	Mookan thirandi	14 DW	MSM	
38	<i>Himantura jenkinsii</i>	Pointed nose sting ray	Thirandi	61 DW	MSM	
39	<i>Gymnura poecilura</i>	Long-tailed butterfly ray	Perum thirandi	29 DW	MSM	
40	<i>Rhizoprionodon oliginx</i>	Grey sharp nose shark	Pal sravu	53 TL	MSM	

Major Crustacean Stocks						
41	<i>Charybdis feriatus</i>	Crucifix crab	Kurishu njandu	5 CW	MSM	Berried (with egg) female crabs are easily identifiable by fishermen and they should be encouraged to release such crabs back into the sea
42	<i>Portunus sanguinolentus</i>	Spotted crab	Kavalan njandu	7 CW	MSM	
43	<i>Portunus pelagicus</i>	Blue crab	Kavalan njandu	9 CW	MSM	
44	<i>Metapenaeus dobsoni</i>	Flower tail prawn	Poovalan chemmeen	6 TL	MSM	
45	<i>Parapenaeopsis stylifera</i>	Kiddi prawn	Karikadi chemmeen	7 TL	MSM	
46	<i>Metapenaeus monoceros</i>	Speckled prawn	Choodan chemmeen	11 TL	SFM	This species is depleted and needs additional protection, and therefore, the SFM is used as a conservative measure.
47	<i>Metapenaeus affinis</i>	Jinga prawn	Kazhanthan chemmeen	9 TL	MSM	
48	<i>Plesionika quasigrandis</i>	Oriental narwhal shrimp	Deep sea pullan	8 TL	SFM	Both these are deep sea shrimps have low regeneration capacities and hence as a conservative measure SFM is used as the metric to decide the MLS.
49	<i>Aristeus alcocki</i>	Arabian red shrimp	Red ring	13 TL	SFM	
50	<i>Panulirus homarus homarus</i>	Scalloped spiny lobster	Kadal konchu	200 g	WFM	Notified as MLS for export by MPEDA
51	<i>Panulirus polyphagus</i>	Mud spiny lobster	Kadal konchu	300 g	WFM	
52	<i>Panulirus ornatus</i>	Ornate spiny lobster	Kadal konchu	500 g	WFM	
53	<i>Thenus unimaculatus (=T. orientalis)</i>	Sand lobster	Adippan	150 g	WFM	

Major Molluscan Stocks						
54	<i>Uroteuthis photololigo duvauceli</i>	Indian squid	Koonthal Olakanava	8 DML	MSM	
55	<i>Sepia pharaonis</i>	Pharaoh cuttlefish	Kallan kanava	11 DML	MSM	
56	<i>Amphioctopus neglectus</i>	Ocellate octopus	Neerali Kinavalli	5 DML	MSM	
57	<i>Paphia malabarica</i>	Short-neck clam	Kalli kakka	2 APM	SFM	
58	<i>Villorita cyprinoides</i>	Black clam	Karutha kakka	2 APM	SFM	

Abbreviations

TL – Total Length

FL – Fork Length

SL – Standard Length

CW – Carapace width of crabs

DW – Disc width of rays

DML – Dorsal Mantle Length in the case of cephalopods

APM – Anterior Posterior Measurement or length of bivalves

SFM – Size at first maturity or the size at which 50% of the fishes are mature

WFM – Weight at first maturity or the weight of the animal where 50% of the fishes are mature

MSM – Minimum size at maturity or the size of the smallest mature fish



