



**Biotica  
Research  
Today**

**Vol 2:7** <sup>658</sup> / <sup>660</sup>  
**2020**

# Minimum Legal Size: A Tool For Sustainable Fisheries Management

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Open Access

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## Keywords

Exploitation, Recruitment overfishing, Spawning stock, Sustainable

## Article History

Received in 24<sup>th</sup> July 2020

Received in revised form 27<sup>th</sup> July 2020

Accepted in final form 28<sup>th</sup> July 2020

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Article: RT0242

## How to cite this article?

Takar and Gurjar, 2020. Minimum Legal Size: A Tool For Sustainable Fisheries Management. Research Today 2(7): 658-660.

## Abstract

In the fisheries sector, the exploitation of juvenile fish became rampant and started affecting the global fish landing. A huge amount of juvenile fishes are brought to the landing center since many fishing vessels do not use the net with the proper mesh size. Minimum legal size (MLS) sets the smallest size at which a particular species of fish can be validly retained if caught. MLS is an important tool to protect juvenile fish, govern the sizes of fish caught and sustain spawning stocks for future generations.

## Introduction

Minimum legal size (MLS) means, the smallest size at which a specific species of fish can be lawfully retained if caught. This is a fisheries management tool with the ability to protect juvenile fish, maintain spawning stocks and control the number and sizes of fish caught (Suja and Mohamed, 2014). Fisheries resources play a significant role in providing food security for the world's growing population if properly managed. Fisheries, as most renewable resources, involve both an important human and as well as natural dimension. But, nowadays stocks are continuously declining due to the indiscriminate fishing practice, which is a cause of unsustainable of the biological fish stock. Thus, marine fish stocks decreased worldwide continuously from 1974 to 2015. In 2015, maximally sustainably marine fished stocks accounted for around 60% and under fished stocks for 7% of the total assessed stocks (FAO, 2018).

Hence, this technical measure is important to manage the indiscriminate exploitation of biological stock in fisheries resources. By increasing the size at which fishes are caught or maintaining the size of the spawning stock, this tool is important measures to sustainable the stock which can be used to assist in addressing of two major problems in fisheries management such as growth overfishing and recruitment overfishing. Recruitment overfishing means as harvesting too many fish before they have matured, thus that the replenishing potential is restricted while, growth overfishing as the excessive harvest of juvenile fishes. If the undersized of fish stock will be permitted to grow up to MLS, the harvest weight could have increase upto an average 20% with economic growth.

In the Indian waters, the need for some forms of control of fish catches and sales. In India, minimum legal weight (MLW) has been officially notified for export only for valuable rock lobsters. In India, the first Kerala state has implemented MLS under the Kerala Marine Fishing Regulation Act (KMFRA), 1980. The Department of Fisheries, Kerala recommendations of CMFRI for MLS where, reference for 58 commercially

important species in which included of 40 finfishes, 13 crustaceans and 5 Molluscs (CMFRI, 2014).

### Goals of MLS

The objective of MLS to preventing the catching, possession and sale of fish below a specified size is by the proclamation and implementation of strict regulations.

- Avoid the growth overfishing,
- Prevention of recruitment overfishing,
- Protection and conservation of immature fishes,
- Control of the numbers and sizes of fish landed,
- Promotion of aesthetic values of fish,
- Maximisation of marketing and economic benefits from fisheries resources,
- Conservation and sustainability of fisheries resources.

### Why MLS in Fisheries

The fisheries sector plays the most important role in the food security of future generations. Presently, growing fishing and environmental pressures due to the need for management of fisheries resources. For that purpose, one of the important measures as MLS will help resources remain sustainable for future generations. This is a key to sustainable fishing activity and to food security of future generations in developing countries. During last few years back in India MLS and minimum legal weights (MLWs) was introduced to place a lower limit on the marketable size of fish and to conserve stocks based on the consistent ideas such as:

- Fish should have the opportunity to reproduce at least once before being liable to capture that means length at first mature ( $L_m$ ).
- This measures will help to protect the breeding stocks across the fishery resources in India, particularly when they are mated and vulnerable to capture.
- It will be to improve the resilience and performance of resources for future sustainability.
- MLS is an important tool to conserve the brooders overexploitation its allow to go first stage maturity.
- This statement is the main role to sustainable, conservation and management of fish stocks.

### How MLS Applied in Fisheries

Nowadays, for the conservation and management of fisheries resources for various parameters are using, which are based on the species-specific characteristics as well as input and output control. Following important characters based on biological characteristics

which are included such as:

- Size at sex differentiation into male and female,
- The minimum size of sexual maturity,
- Size at first maturity,
- Weight at first maturity,
- Size at complete maturity.

Another parameter based on input and output control like:

- The selectivity of gears,
- Optimum mesh sizes for gill and seine,
- The ideal size of cod-end such as trawl gears,
- Technical measures such as closed season and area.

Input and output is a type of traditional methods of fisheries management like regulating fishing effort through gear restrictions, harvest amount, size restrictions, and seasonal openings so as to sustain spawning stock biomass of wild stocks, have proven difficult to enforce and ineffective in most fisheries.

### Implementation Measures

- Should be strict restrictions on the individual catch quota as well as numbers of fish,
- An effective gear monitoring mechanism like Monitoring control surveillance be implemented where resources are continuous decline,
- Initiatives to conduct awareness programmes among fishermen and make them understand the threats of juvenile and brood stock exploitation,
- Amendment the KMFR Act, insertion of various provisions for regulating juvenile fishing and other illegal, unregulated, unreported fishing,
- Should implement the strict rules for spatial-temporal variations,
- Restriction on specific fishing gears and crafts on the basis of mesh size and vessel length.

### Challenges in Implementation of MLS

MLS conservation of deep-water fisheries resources that are either dead at capture or incapable of return to the depths alive in the sea due to inflated swim bladders or scale-loss and short-lived species with high natural mortality. For commercial resources where the absolute numbers of fish taken as per catch make the application of an MLS impractical. There are some important issues when implementing the MLS such as:

- Inappropriate sizes of craft and gears,

- For migration behaviour of migratory species,
- Differences in age size which depends on geographical areas,
- Problems with the identification of taxonomic characteristics,
- Discarding the catch due to undersized fishes,
- Mixing of stock due to multispecies, multi-gears and multi-location in tropical countries like India,
- Limitation of Jurisdiction in the different coastal state has different limits under Marine fisheries regulation act (MFRA),
- Lack of restrictions in the neighbouring states or countries,
- Less awareness about the threats of fisheries resources among fishermen,
- Lack of strict enforcement of the law in developing countries and inadequate workforce.

### Conclusion

**M**LS is an effective tool for fisheries management. Implementing the MLS would increase the economic efficiency of the fishery. Currently, fisheries resources showing a declining trend so that it is

beneficial for managing the fisheries resources based on developing the restrictions on how, when, where, and how much fish can be caught.

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