

Accepted Manuscript

Bycatch characterization and relationship between trawl catch and lunar cycle in single day Shrimp Trawls from Mumbai Coast of India

R. Samanta, S.K. Chakraborty, L. Shenoy, T.S. Nagesh, S. Behera, T.S. Bhoumik



PII: S2352-4855(17)30315-8
DOI: <https://doi.org/10.1016/j.rsma.2017.11.009>
Reference: RSMA 325

To appear in: *Regional Studies in Marine Science*

Received date : 18 September 2017
Revised date : 10 November 2017
Accepted date : 11 November 2017

Please cite this article as: Samanta R., Chakraborty S.K., Shenoy L., Nagesh T.S., Behera S., Bhoumik T.S., Bycatch characterization and relationship between trawl catch and lunar cycle in single day Shrimp Trawls from Mumbai Coast of India. *Regional Studies in Marine Science* (2017), <https://doi.org/10.1016/j.rsma.2017.11.009>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

Bycatch Characterization and relationship between trawl catch and lunar cycle in single day Shrimp Trawls from Mumbai Coast of India

R. Samanta^{1*}, S. K. Chakraborty¹, L. Shenoy¹, T. S. Nagesh², S. Behera² and T. S. Bhoumik²

¹Fisheries Resource Harvest and Post-Harvest Management Division, ICAR-Central Institute of Fisheries Education, Mumbai-400061, Maharashtra, India

²West Bengal University of Animal and Fishery Sciences, Belgachia, Kolkata, India

HIGHLIGHTS

- Bycatch and discards generated by single day Shrimp Trawls in Mumbai coast were studied.
- Identified 143 species including juveniles of commercially important fishes and shellfishes from the shrimp trawl bycatch.
- Mean monthly bycatch generated by shrimp trawling ranged from 11.82 to 20.65 kg h⁻¹ from October, 2015 to May, 2016.
- This study revealed that CPUE did not significantly vary with the lunar cycle.
- The findings would be helpful to the policy makers for regulating trawl net operation and also fishermen communities for preparing optimum fishing strategy and schedules for fishing trips.

ABSTRACT

Bycatch and discards are common and recurrent problems faced by fishing industry all over the world. In India, the bycatch issue is more complex due to the multi-species and multi-gear nature of the fisheries. Trawling remains a controversial method due to the non selectivity nature of the trawl net. A study was conducted during October, 2015 to May, 2016 using shrimp trawls in the traditional trawling grounds of Mumbai coast to reveal the catch composition, bycatch characterization and monthly variations in catch per unit effort (CPUE) generated by single day trawlers. The maximum catch was contributed by Sciaenids (35%), followed by Sharks and Rays (10%), Anchovies (10%), Prawns (8%), Bombay duck (6%) and other demersal species. The study identified 143 species including juveniles of commercially important fishes and shellfishes from the shrimp trawl bycatch. Catch was increased from new moon to full moon and from full moon to new moon irrespective of fishing effort. Mean monthly bycatch generated by shrimp trawling ranged from 11.82 to 20.65 kg h⁻¹, in different months with an overall average of 16.82±0.97 (SE, n=8) kg h⁻¹. The present study highlighted the urgent need for improving the selectivity of the trawl system, in order to mitigate its impacts on non-targeted resources. The results will be beneficial for researchers and policy makers associated with a co-ordinated plan to address trawl bycatch management options.

KEYWORDS

Trawling, Bycatch, Selectivity, CPUE, Mumbai, Lunar cycle, Management

Download English Version:

<https://daneshyari.com/en/article/8872651>

Download Persian Version:

<https://daneshyari.com/article/8872651>

[Daneshyari.com](https://daneshyari.com)