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渔业多鱼种综合开捕网目尺寸和捕捞努力量管理目标确定方法探讨

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摘要:

本研究基于B-H模型创建了一种多鱼种管理方法,即把针对单鱼种的“开捕年龄”和“捕捞死亡率”管理目标替换成面对多鱼种的“开捕网日尺寸”和“捕捞努力量”管理目标,从而实现多鱼种管理。利用文献参数,对东海两种主要经济鱼种带鱼和小黄鱼的综合管理进行了尝试和探讨。结果显示,带鱼和小黄鱼由于体型和个体大小差距较大,最适产量重叠范围较小,两个鱼种不适宜综合管理;可以针对不同渔场、不同专捕渔船进行单独管理。该模型具直观、易判、及时等优点;同时存在短期有效、要求体形相近等缺点。若要推广该模型,需要积累足够的基础数据以获取必要的模型参数;另外还需要探讨捕捞努力量标准化方法,进一步提高模型准确性。

关键词: [多鱼种管理](#) [B-H模型](#) [网目尺寸](#) [捕捞努力量](#)

DOI: 10.11758/yykxjz.20150601

分类号:

基金项目:农业部专项“东海区海洋捕捞基础信息动态采集分析”(2011-2013)、农业部专项“中日暂定水域渔业资源调查”(2011-2013)、农业公益性行业科研专项“东海渔业资源评价和增殖养护技术与示范”和中央级公益性科研院所基本科研业务费专项资金(中国水产科学研究院东海水产研究所)资助项目(2009M01)共同资助

A Multi-Species Management Model Combining Fishery Catchable Mesh Size and Fishing Effort

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Abstract:

B-H model, a single-species management model, is not suitable for multi-species coexistence situation due to several limitations. In this paper, a multi-species management approach is created based on B-H model by replacing "catchable age" and "fishing mortality" of single species management model with "catchable mesh size" and "fishing effort" of multi-species management model to achieve multi-species management objective. The multi-species management approach was used to test with the two typical species of the East China Sea, hairtail and small yellow croaker based on literatures. The big differences in body shape and body size between hairtail and small yellow croaker and the small optimum yield overlapping area demonstrated that these two species are not suitable for the integrated management, which should be managed separately by different fishing areas or different fishing vessels. This model has merits like intuitive, easy-judging and timely but with limitations of short-term effectiveness and similar shape requirements. To promote the application of this multi-species management approach, it needs to further accumulate various basic data for the relevant elementary parameters, standardize fishing efforts and explore ways to improve the model accuracy.

Key words: [Multi-species management](#) [B-H model](#) [Mesh size](#) [Fishing effort](#)

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