

引用本文:

【打印本页】 【HTML】 【下载PDF全文】 【查看/发表评论】 【EndNote】 【RefMan】 【BibTex】

← 前一篇 | 后一篇 →

过刊浏览

高级检索

本文已被: 浏览 820次 下载 1193次

字体: 加大+ | 默认 | 缩小-

分享到: 微信 更多

长江口及其邻近海域渔业资源结构的季节变化

孙鹏飞, 戴芳群, 陈云龙, 单秀娟, 金显仕

1. 农业部海洋渔业可持续发展重点实验室 山东省渔业资源与生态环境重点实验室 中国水产科学研究院黄海水产研究所 青岛 266071 青岛海洋科学与技术国家实验室 海洋渔业科学与食物产出过程功能实验室 青岛 266071 中国海洋大学环境科学与工程学院 青岛 266100; 2. 农业部海洋渔业可持续发展重点实验室 山东省渔业资源与生态环境重点实验室 中国水产科学研究院黄海水产研究所 青岛 266071 青岛海洋科学与技术国家实验室 海洋渔业科学与食物产出过程功能实验室 青岛 266071 中国科学院海洋研究所 青岛 266071; 3. 农业部海洋渔业可持续发展重点实验室 山东省渔业资源与生态环境重点实验室 中国水产科学研究院黄海水产研究所 青岛 266071 青岛海洋科学与技术国家实验室 海洋渔业科学与食物产出过程功能实验室 青岛 266071

摘要:

基于2012年8月(夏季)和11月(秋季)、2013年1月(冬季)和5月(春季)长江口及其邻近海域的渔业底拖网调查数据,对渔业种类组成、数量分布、群落多样性及其与环境因子的关系进行了研究。结果显示,共捕获渔业种类114种,隶属于17目66科90属,其中鱼类12目36科50属58种,鲈形目种类最多(26种),甲壳类2目25科33属49种,头足类仅3目5科6属7种。长江口及其邻近海域渔业资源优势种季节更替明显,仅龙头鱼(*Harpodon nehereus*)为全年优势种。秋季平均单位网次渔获量最高(29.20 kg/h·net),春季(17.95 kg/h·net)高于夏季(14.60 kg/h·net),冬季最低(10.15 kg/h·net),各季节均以底层鱼类和甲壳类为主,中上层鱼类渔获量仅春季较高,占总渔获量20.1%。春、夏季群落多样性指数较低、冬季高,春季(163)和夏季(176)渔业资源群落更替指数较高,群落稳定性较低,夏季(6)和冬季(-5)迁移指数接近于零,渔业生物迁入和迁出处于相对平衡状态。各季节渔获种类数和总渔获量分别与底层鱼类和甲壳类渔获量呈极显著正相关;秋季渔获种类数与表层温度呈显著正相关,与深度呈极显著正相关。长江口及其邻近海域渔业低质种类呈增加趋势,并且渔业资源结构存在明显的季节变化,渔获种类数、总渔获量及群落多样性指数与表层温度及深度关系密切。

关键词: [长江口](#) [渔业资源](#) [群落结构](#) [季节变化](#) [环境因子](#)

DOI: 10.11758/yykxjz.20150602

分类号:

基金项目: 国家国际科技合作专项项目(2013DFA31410)和山东省泰山学者专项基金共同资助

Seasonal Variations in Structure of Fishery Resource in the Yangtze River Estuary and Its Adjacent Waters

SUN Pengfei^{1,2}, DAI Fangqun^{1,3}, CHEN Yunlong^{1,3,4}, SHAN Xiujuan^{1,3}, JIN Xianshi^{1,3}

1. Key Laboratory of Sustainable Development of Marine Fisheries, Ministry of Agriculture, Shandong Provincial Key Laboratory of Fishery Resources and Ecological Environment, Yellow Sea Fisheries Research Institute, Chinese Academy of Fishery Sciences, Qingdao 266071; 2. College of Environmental Science and Engineering, Ocean University of China, Qingdao 266100; 3.2. Function Laboratory for Marine Fisheries Science and Food Production Processes, Qingdao National Laboratory for Marine Science and Technology, Qingdao 266071; 4. Institute of Oceanology, Chinese Academy of Sciences, Qingdao 266071

Abstract:

In this study we analyzed the spatial distribution and the diversity of the fishery species in the Yangtze River estuary and its adjacent waters, and explored how they are affected by the environmental factors, based on the bottom trawl survey data collected from August 2012 to May 2013. A total of 114 fishery species (17 orders, 66 families and 90 Genera) were collected, including 58 fish species (12 orders, 36 families and 50 Genera), the richest species was found in Perciformes (26 species), 49 crustacean species (2 orders, 25 families and 33 Genera) and 7 cephalopod species (3 orders, 5 families and 6 Genera). The dominant species were season-dependent, whereas *Harpodon nehereus* was the only all-year-round dominant species. The average catch per haul was highest in autumn (29.20 kg/h-net), followed by that in spring (17.95 kg/h-net), summer (14.60 kg/h-net), and the least in winter (10.15 kg/h-net). Generally the demersal fish and crustaceans constituted the majority in the catch in all seasons, and the percentage of the pelagic fish was only slightly higher in spring (20.1%). The diversity indices of fishery species in spring and summer were higher than those in autumn and winter. The migration index and alternate index of fishery species were higher in spring (163) and summer (176), which meant the higher stability in fisheries community in the Yangtze River estuary. The migration index was close to 0 in summer (6) and winter (-5), suggesting that the immigration and emigration of the fishery species were in a state of balance. The number of fishery species and total catches were significantly positively correlated with the catches of the demersal fish and the crustaceans respectively in all seasons ($P < 0.01$). The number of fishery species in autumn was positively correlated with both the sea surface temperature ($P < 0.05$) and the water depth ($P < 0.01$). These results showed a trend of increase in the low-valued species in the Yangtze River estuary and the adjacent waters. Our study suggested that there were significant seasonal variations in the structure of the fishery resource, and that the number of fishery species, the total catches and the diversity indices were highly related to the sea surface temperature and water depth.

Key words: [Yangtze River estuary](#) [Fishery resource](#) [Community structure](#) [Seasonal variations](#) [Environmental factor](#)

版权所有 《渔业科学进展》编辑部 鲁ICP备05024434号-5

主管单位：中华人民共和国农业农村部

主办单位：中国水产科学研究院黄海水产研究所 中国水产学会

地址：青岛市南京路106号, 黄海水产研究所《渔业科学进展》编辑部 邮编：266071

电话：0532-85833580 E-mail: yykxjz@ysfri.ac.cn

技术支持北京勤云科技发展有限公司

