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Assessment on the Effects of Summer Fishing Moratorium in East China Sea

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Short Communication

The broad coastal waters in East China Sea (ECS) is an ideal natural spawning and feeding grounds for major economic fishes. Every year during spring and summer, numbers of fishes like small yellow croaker, hairtail, pomfret and white Chinese croaker will return to this area to spawn and prey [1]. ECS occupies an extremely important position in the Chinese fishery. Due to the quick growth of fishing effort, from the late 1970s to the early 1990s, notable changes had taken place in offshore traditional economy fish resources, which presented a serious recession [2]. The main phenomena and features were individual miniaturization, simple age structure and early maturation [3].

To deal with these problems, the government of China carried out summer fishing moratoriumin ECS and Yellow Sea in 1995. More than twenty years after implementation, the coverage, duration and fishing style has continued to expand.Till now, the summer fishing moratorium has expanded to the Bohai Sea, Yellow Sea, ECS, and South China Sea in China, involving 11 coastal provinces (autonomous regions and municipalities), Hong Kong and Macao. More than 300000 fishing boats and millions of fishermen have been involved. So far it has shown profound influence on protection and management of fishery resource in China [4].

During the first ten years after the implementation (1995-2004), the total catch in ECS increased dramatically. In the first three years, it increased from 4.82 million tons in 1995 to 6.15 million tons in 1998, represented 27.59% growth. The rise of total catch in ECS has slowed down after 2000, because the government has called for zero growth or negative growth in fishery production. It maintained at about 6 million tons during 1999-2004. After that, the production experienced fluctuation due to the development of fishing capacity and the destruction of ecological environment. Owe to the adjustment of summer fishing moratorium in 2009, the production has gradually rebounded in recent years. In 2013, it reached 5.7 million tons which was close to the historic levels and higher than the average level of 1985 to 1994 (about 2.36 million tons). The average production in ECS during 2005-2014 was 5.51 million tons.

Summer fishing moratorium has gained obvious effects on the fishery resources, especially on the protection of main economic fish larva and spawning group.In recent ten years, the ratio of economic species larva like hairtail, large yellow croaker and sepiella maindroni has increased in the production of fixed standing netting, while the larva proportion of small yellow croaker and pomfret has declined (still higher than the record prior to the implementation). During 2005-2013, the proportion of economic fish production is higher than that in the period before the implementation of summer fishing moratorium (1990-1994). Besides the percentage of hairtail and large yellow croaker decreased, the proportion of small yellow croaker, pomfret, Chinese herring, mackerel, sea eel increased 1.51%, 1.98%, 0.16%, 0.62% and 0.86%, respectively. It indicated that to some extend the fish community structure has improved.

Summer fishing moratorium also promoted the effective utilization of pelagic fish and crustacean. Compared to the historical production record in ECS, resource utilization has also changed as the structural adjustment of fisheries industry, yields of crustacean and pelagic fish have risen sharply. For example, hairtail production accounted for the percentage of the total production has declined year by year, from 17.62% in 1995 to 11.7% in 2013, represented 5.92% decline. Meanwhile, the proportion of mackerel and crustacean production in total production has increased annually, from 8.38%, 19.76% in 1995 to 11.53%, 23.88% in 2013, respectively.

The implementation of summer fishing moratorium has offered time and space for economic fish to grow and breed, which has slowed down the recession, but the individual

miniaturization and early maturation of many fish species have not been solved. Take hairtail as an example, it is one of the most important economic fish species in ECS, its single production accounted for the 13.7% of the total catch in ESC during 1995-2014. In the early 1990s, the minimum anal length of haitail at sexual maturity was140-150mm. In the early 21st century, it rebounded to 160mm [5]. In recent years, it maintained at about 150mm.

More than twenty years of practice has proved that summer fishing moratorium is the most feasible and effective measures to protect marine fisheries resources in ECS. Since the fishing quota system has not been consummated and massive cuts fishing vessels still have some difficulties, the summer fishing moratorium could play an unsubstitutable role for a long time in China.

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