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Chinese Taipei 2013 Annual report

2013 National Report of Chinese Taipei to SPRFMO Scientific Committee on the Squid Jigging Fishery in the Southeast Pacific Ocean

1. Description of the Fishery

Jumbo flying squid (*Dosidicus gigas*) is the target species of Chinese Taipei's squid-jigging vessels in the Southeast Pacific Ocean (SEPO). Although exploratory fishing for this squid was conducted by the squid fleet of Chinese Taipei in the waters off the EEZ of Peru in 1992, the fishery did not continue because of low market price resulting from sour taste of this squid. However, the fishery has started developing from 2002 as poor catches of Argentine shortfin squid (*Illex argentinus*) in the Southwest Atlantic for 2 consecutive years from 2000 triggered 18 Chinese Taipei's jigging vessels to start seasonal fishing for jumbo flying squid in the SEPO following the end of the *Illex* fishing season. The number of squid-jigging vessels of Chinese Taipei in the SEPO reached a historical high of 29 in 2004, decreased to a level below 20 after 2004, maintained at 13 during the period of 2007 to 2009, then increased to 20 and 21 in 2010 and 2011, respectively. However, in 2012, the number of vessels decreased to 14 because part of the vessels moved to other waters for operation. The annual variation in number of squid-jigging vessels of Chinese Taipei in SEPO is shown in figure 1.

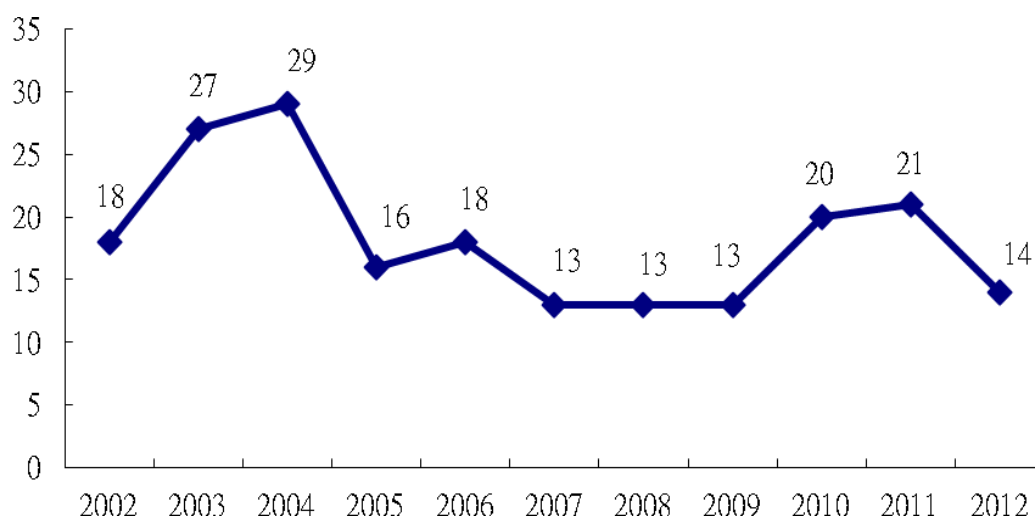


Figure 1: The number of vessels of squid fishery of Chinese Taipei in the Southeast Pacific Ocean between 2002 and 2012.

The monthly fishing days deployed by squid-jigging fleet of Chinese Taipei in the SEPO is shown in figure 2. There is a significant increase in May when squid-jigging vessels shifted from the Southwest Atlantic Ocean to the SEPO following the end of *Illex* fishing season.

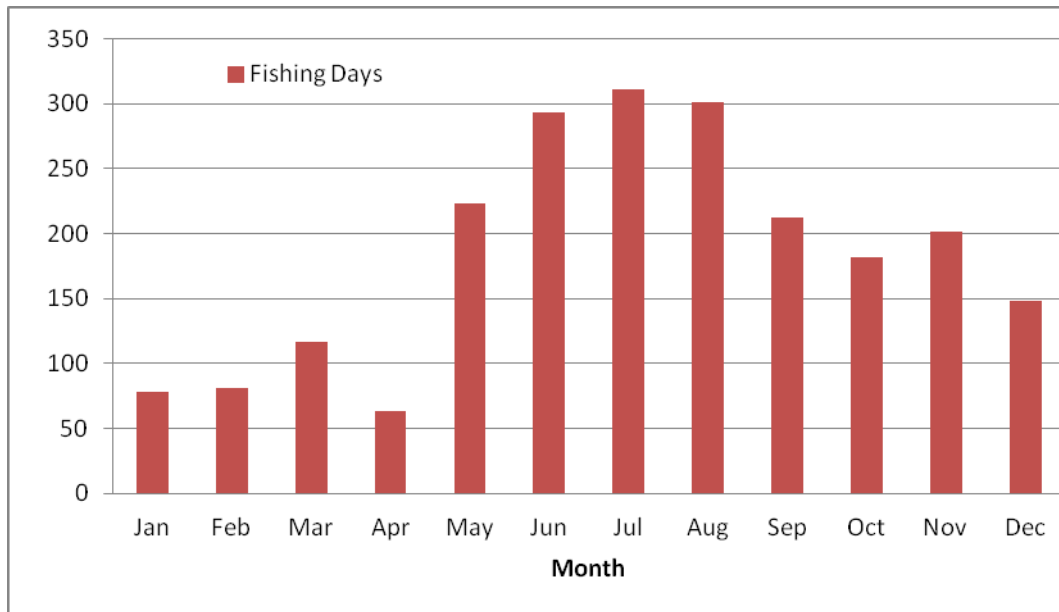


Figure 2: Monthly fishing days deployed by squid-jigging fleet of Chinese Taipei in the Southeast Pacific Ocean in 2012.

Monthly number of vessels of squid-jigging fishery of Chinese Taipei in the SEPO is shown in figure 3. In 2008, parts of the squid-jigging vessels operated in the SEPO all year round rather than seasonally. In 2009 and 2010, due to good catches of *Illex* in the Southwest Atlantic Ocean, there was only one vessel operating in the SEPO from January to March of these 2 years. In 2012, there were 4 vessels operating in the SEPO in January, and the number of vessels increased to 11 in May as vessels shifted from the Southwest Atlantic Ocean to the SEPO. A pattern can therefore be inferred that vessels tended to shift fishing grounds, from Southwest Atlantic Ocean to the SEPO, in April or May in recent years.

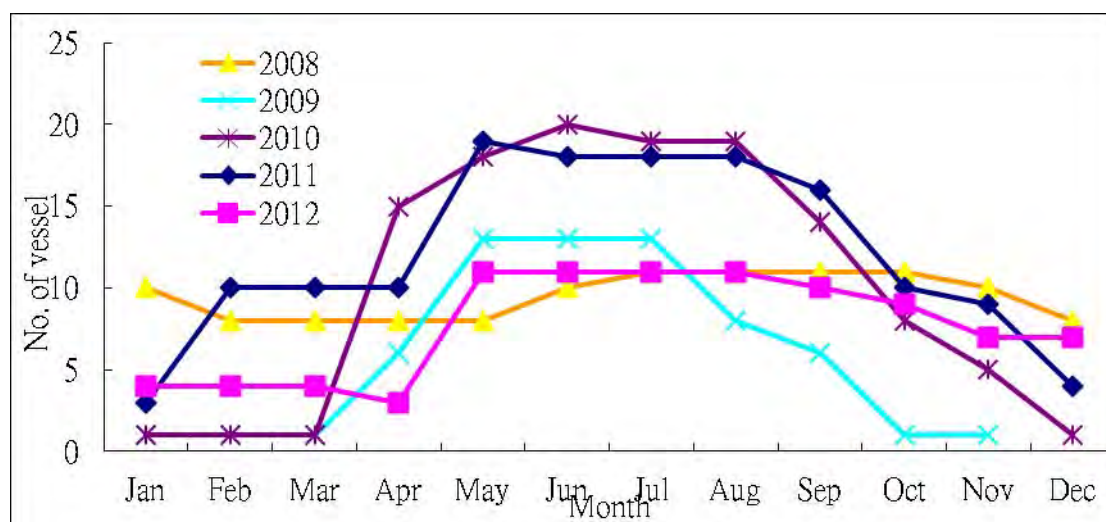


Figure 3: Monthly number of vessels of squid fishery of Chinese Taipei in the Southeast Pacific Ocean between 2008 and 2012.

2. Catch, Effort and CPUE Summaries

The annual catch and fishing effort of Chinese Taipei's squid-jigging fleet in SEPO between 2008 and 2012 are shown in Table 1. It is noted that the catch decreased along with the reduction in the number of fishing vessels and fishing days deployed in 2012. No bycatch was recorded in logbooks retrieved from fishing fleet because Chinese Taipei's squid fleet harvest squid by jigging which is a highly selective fishing gear for target species.

Table 1: The annual catch and fishing effort of Chinese Taipei's squid fishery in the Southeast Pacific Ocean from 2008 to 2012

Year	2008	2009	2010	2011	2012
No. of vessel	13	13	20	21	14
Fishing days	2,744	1,403	2,874	3,597	2,211
Catch (tons)	31,161	12,319	29,206	35,418	14,177

The nominal CPUE trend of Chinese Taipei's squid fishery in the Southeast Pacific Ocean from 2008 to 2012 is shown in Figure 4. The nominal CPUE ranged from 11.4 tons/day in 2008 to 8.8 tons/day in 2009, and maintained at a stable level of about 10 tons/day in 2010 and 2011. However, the CPUE decreased significantly in 2012 and reached the lowest level of 6.4 tons/day.

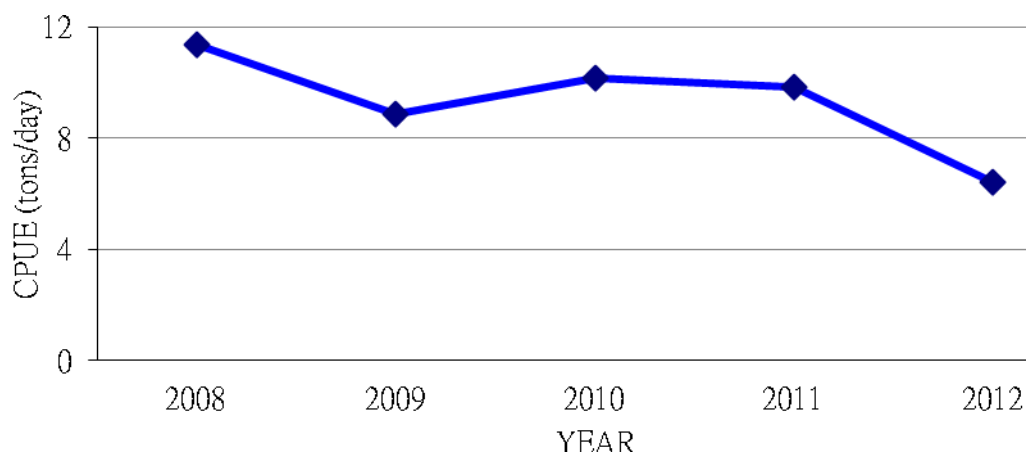


Figure 4: The nominal CPUE trend of squid fishery of Chinese Taipei in the Southeast Pacific Ocean from 2008 to 2012

Spatial patterns of annual average CPUE (tons/day) of squid fishery of Chinese Taipei in the SEPO from 2008 to 2012 are shown in Figure 5. The major fishing areas were located at around 75–85 °W and 5–30 °S. There were vessels operating within the EEZ of Peru between 2008 and 2010 under the licenses issued by the Peruvian government. In 2011 and 2012, the fishing fleet operated only on the high seas because no vessel applied for fishing license to operate within the EEZ of Peru.

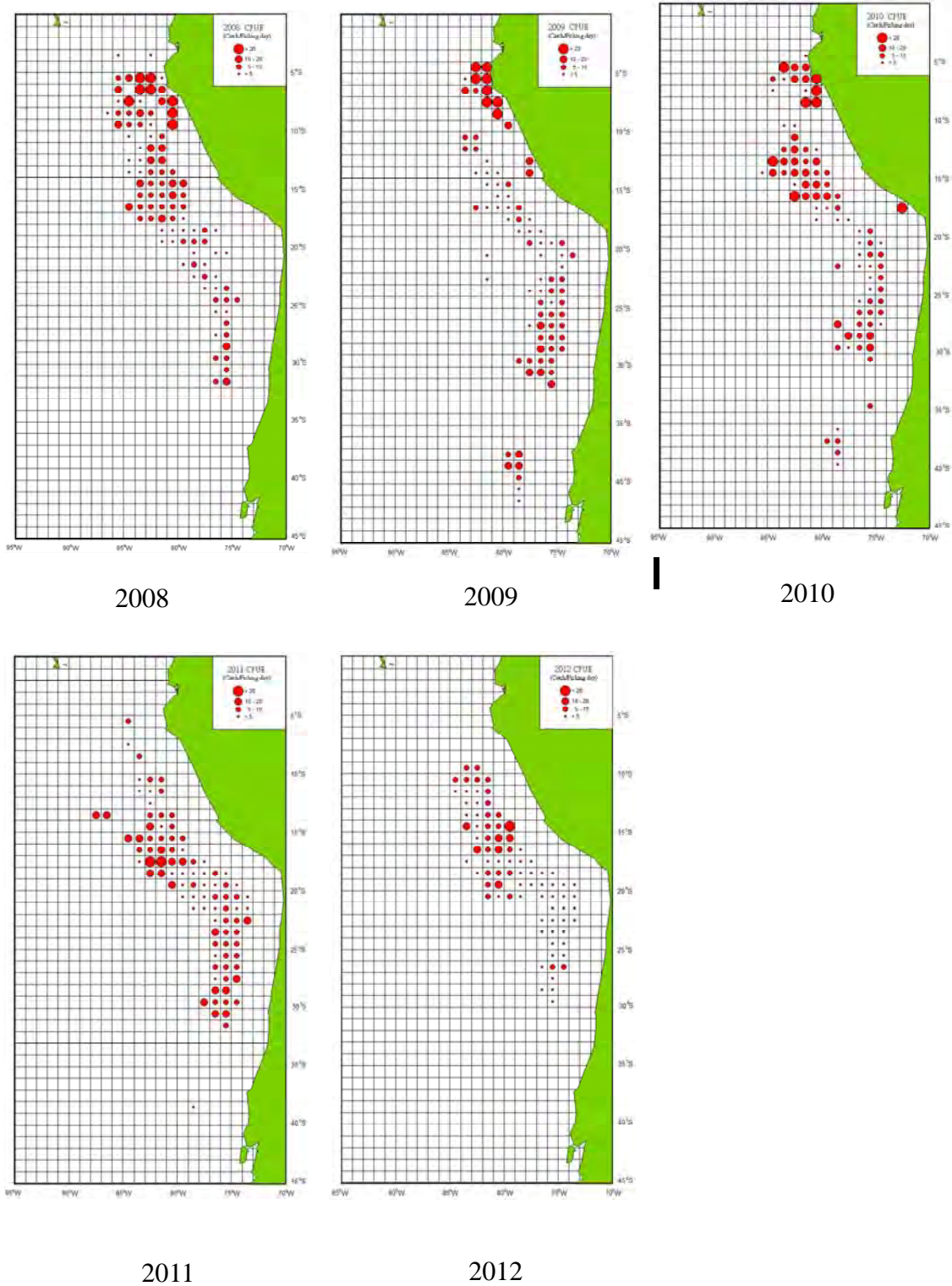


Figure 5: Spatial patterns of annual average CPUE of squid fishery of Chinese Taipei in the Southeast Pacific Ocean from 2008 to 2012

3. Fishery Data Collection and Research Activities

3.1 Logbook system

All the logbooks of Chinese Taipei's squid-jigging fleet in the SEPO have been retrieved. In addition, all squid jigging vessels have been required to report their catches in a timely manner through e-logbook system since 2007.

3.2 Transshipment data collection

In accordance with domestic regulations, relevant data on transshipment conducted by squid-jigging fleet of Chinese Taipei have been collected by the competent authorities. Chinese Taipei has submitted those data of 2012 to the Secretariat as required by CMM 1.03 (Conservation and Management Measure on Standards for the Collection, Reporting, Verification and Exchange of Data).

3.3 Research

Research on the effects by environmental factors on the abundance variation of jumbo flying squids was conducted. In recent years, research programs have been carried out on spatial distribution patterns, CPUE trend, stock status and exploitation rate of this species.

4. Biological Sampling and Length/Age Composition of Catches

The size composition data are collected from the logbooks in commercial category. The columns are designed to record the number of boxes containing squid for various categories of body weight (<1kg, 1~2kg, >2kg), as well as the number of boxes containing processed products (head, tube, and fin).

5. Summary of Observer and Port Sampling Program

Neither observer nor port sampling program is implemented for Chinese Taipei's squid-jigging fishery in the SEPO.

6. Implementation of Management Recommendations

Although there has been no similar conservation and management measure for squid fisheries as CMM 1.01 for fisheries of Chilean Jack Mackerel, Chinese Taipei, in accordance with relevant regulations stipulated in the

interim Data Standard, CMM 1.03 and the Guidelines for Annual National Reports, has been providing data on its squid fishery to the greatest extent possible.