Tag and release of the pelagic shark species in the SBT fishery, 1998-2005

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ミナミマグロ漁場における外洋性サメ類の標識放流調査（1998－2005）

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【Abstract】

In the RTMP and EFP observer program, 2844 individuals of 9 shark species were tagged and released through scientific survey and observer programs in about 8 years from 1998. Blue shark was the most dominant species, occupying more than 79% of tagged sharks followed by porbeagle (16%). Seventeen tags attached to 15 blue sharks and 2 porbeagles were recovered. Overall recapture rate was 0.6 %. The longest period recorded from release to recapture was 1,105 days, and the longest distance of migration was 3,400 km. Both records were obtained from blue sharks, which suggest highly migratory nature of the species. But the low number of tag recapture is not enough to fully understand the migration pattern and population structure of pelagic sharks. For better management of pelagic shark resources, it is necessary to increase the number of tags deployed and recovered.

サメ類の標識放流は 1998 年に開始され、2005 年迄の 8 年間に、9 種の合計 2844 個体が調査船や科学オブザーバーによって放流された。種組成は、ヨシキリザメが 2252 個体（79%）と最も多く、ニシネズミザメが 447 個体（16%）で続いており、これら 2 種で殆どを占めている。再捕はヨシキリザメ 15 個体、ニシネズミザメ 2 個体の計 17 個体で、再捕率は 0.6%と依然として低かった。再捕までの日数と移動距離はヨシキリザメの 1105 日と 3400km が最も長く、季節や成長段階によって大きな回遊を行なう事が示唆された。しかし、未だに放流尾数も再捕尾数も少ないので、不明な点が多く残っている。今後は、これらを増やす事が必要である。

【Introduction】

A lot of pelagic sharks were caught by the tuna longline fishing vessels in the SBT fishery. In the RTMP and EFP observer program which started in 1992, many data have been collected and analyzed. Consequently, basic information about the biology and ecology of these sharks such as growth, distribution and stock status, has been accumulated. In contrast, there is little of knowledge as to the migration and the population structure. So we conducted the tag and release

of the main pelagic shark species in order to accumulate such information.

【Materials and Methods】

Tag and releases of sharks were conducted by research vessels and scientific observers. We used the reliable stainless dart tags made in USA. Usually, sharks were lifted on boards, measured, tagged near the dorsal fins and then released.

We distributed posters to fish markets, fishing boats and fishery-related organizations to ask reporting of recapture of tagged sharks. There are two types of posters. One type was made by the CCSBT which include not only sharks but also bony fishes. The other type includes sharks only. The latter was written in both English and Japanese on the water-resistant A4 size paper. It is striking because of the yellow background and black illustrations. It is also introduced in the home page of our institute. Reports of the recapture were sent from the research vessels, scientific observers and fishing boats. We sent caps as rewards to persons who reported the tag recovery. Color of the cap is brown, and logo mark is attached on the front side.

【Results and Discussion】

Tag and release of sharks was started in 1998, and 2844 sharks of 9 species were released with tags in about 8 years until now (Fig.2). Blue shark was dominant occupying more than 79% (2252 individuals), and porbeagle (15%, 447 individuals) followed it (Fig.3). These two species occupied most of the tagged sharks, which is considered to show the species composition of sharks caught by the tuna longline fishery (Matsunaga & Matsushita 2001).

Seventeen tags, 15 blue sharks and 2 porbeagles, were returned. Ratio of recapture was 0.6 % showing much lower value than the result in the North Pacific (1%, Matsunaga 2001). The longest time at liberty is 1105, followed by 936 and 743 days, all of which were blue sharks. The longest migration is 3400 km of blue shark moving from south to north. Next is 2200 km of blue shark from east to west. Though the migration patterns are much different between the two examples (Fig. 4), they suggest the large scale migration of blue shark.

Number of the recaptured sharks is not enough to know the migration pattern and the population structure. So it is desiable to increase the number of tagged sharks.

【References】

Matsunaga H. and Y. Matsushita (2001): Distribution of teleosts and elasmobranchs dominated in the SBT fishery. CCSBT-ERS submitted report, 10p.

Matsunaga H. (2001): Tag and release of pelagic sharks in Japan. Enyo 108, 9-12.

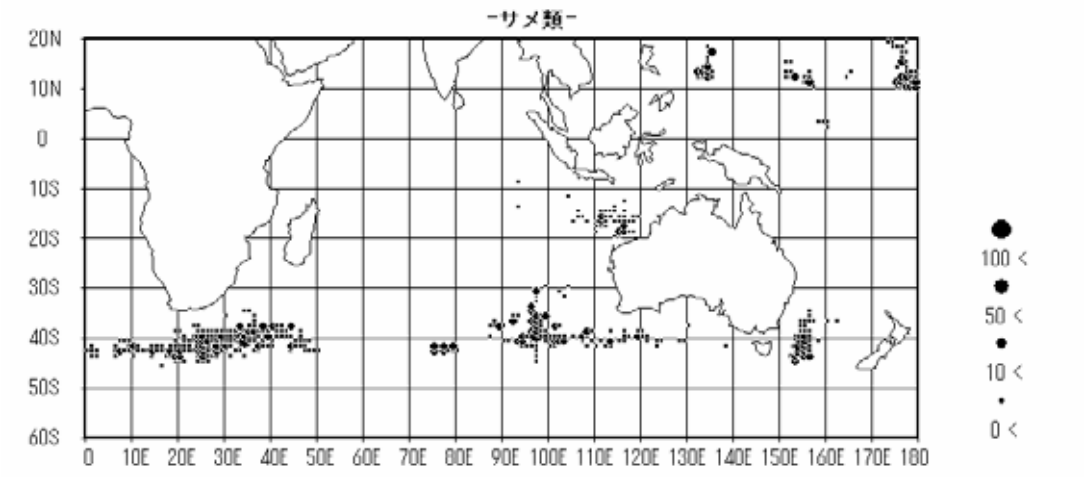

Fig.1 Tagging locations of pelagic sharks.

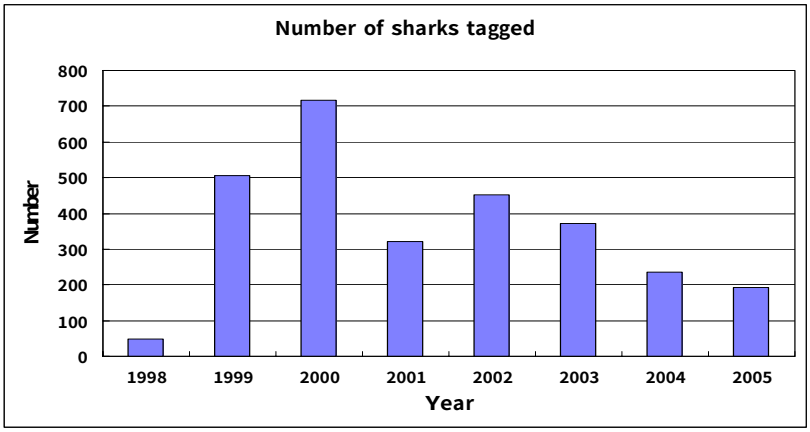

Fig.2 Number of sharks tagged and released.

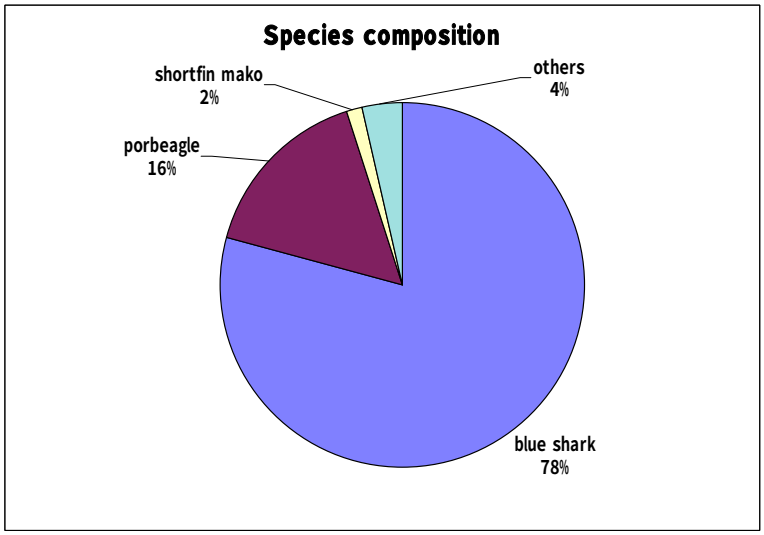

Fig.3 Species composition of sharks tagged and released.

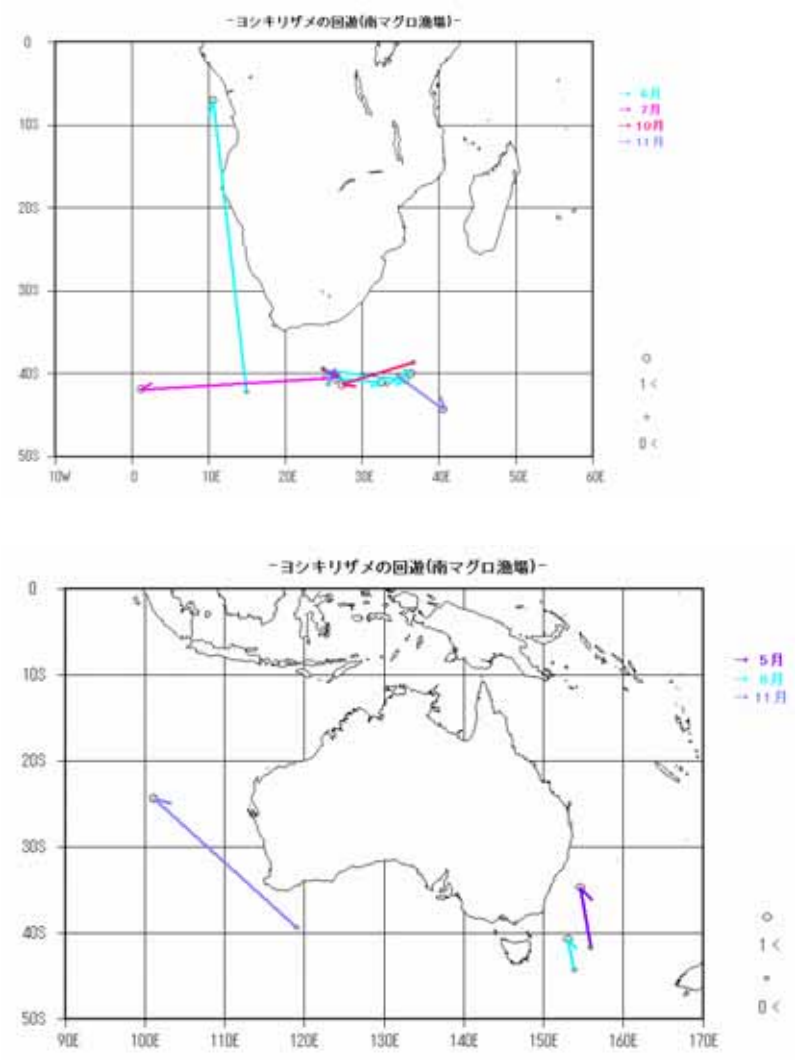

Fig.4-1 Migration of blue sharks

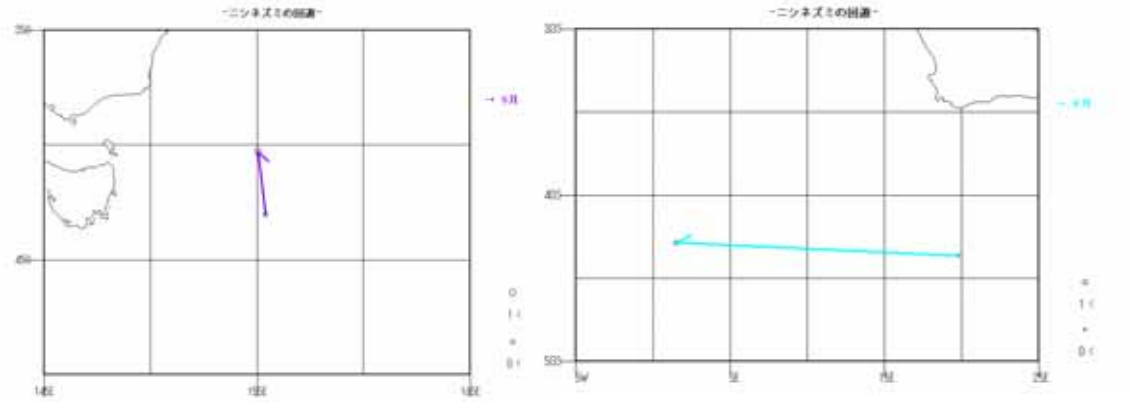

Fig.4-2 Migration of porbeagles