



Which Type of Gamefish Tag to Use

Tag and release of billfish is an integral part of game fishing in many countries. The strong fishing club structure and past commitments to tag 50% of striped marlin catch has contributed to the importance of tagging in New Zealand. Handing in a tag card has been used by clubs and contests as a way of validating a catch and release and the data is used to show the proportion of catch released by clubs nationally.

Striped marlin have the low recapture rates compared to other marlin. Most recaptures are within the first year where as its closest relative, white marlin in the Atlantic, record recaptures after 5 or 6 years with the longest recovered after 15 years at large (Ortiz et al. 2003). Tag shedding is a likely cause of lower recapture rates and shorter recovery times.

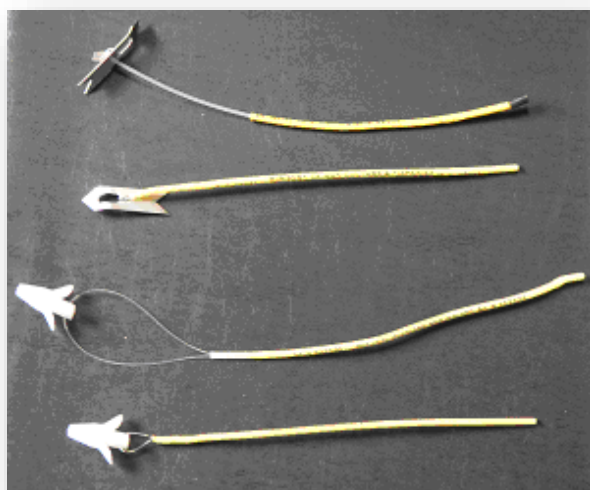


Figure 1: Tag types used in the NZ Gamefish Tagging Programme from top down:

Floy stainless steel FH-69
1975 to 1985

Hallprint stainless steel dart
wire leader 1985 to present

Hallprint PIMA nylon leader
2005 to 2007

Hallprint PIMA wire leader
2007 to present.

The NZ Gamefish Tagging Programme has been using two types of tag for some time. Here is a summary results for the current tags in use. There have been 26,360 striped marlin tagged with the Hallprint S/S tag for 91 recaptures (0.35%) and 2026 striped marlin tagged with the Hallprint nylon tag for 4 recaptures (0.20%). Of these 478 were double tagged, mainly from top charter boats, with a tag of each type for 3 recaptures (0.63%). All 3 of these striped marlin had the S/S tag on recapture, one of which had both tags. So far the longest term recapture for a NZ striped marlin is 4 years with a S/S tag. To date the nylon tags have not out-performed the S/S tags.

However, it is a different story for broadbill swordfish with 379 tagged with the Hallprint S/S tag for 3 recaptures (0.80%) and 263 tagged with the Hallprint nylon tag for 4 recaptures (1.52%). Of these 94 were double tagged, from top charter boats, with a tag of each type all 4 were the nylon tag recaptures, none of which had the S/S tag still in the fish. The nylon tags are clearly better for swordfish. The record time at liberty from a swordfish tagged in NZ was a 12 kg fish tagged by a longliner recaptured 10 years 8 months later on the Wanganella Banks by an Aussie longliner at about 160 kg. The S/S tag looked almost brand new.

Only 210 blue marlin have been tagged with the NZ nylon tags with no recaptures. All 8 recaptures have come from the 1472 with S/S tags (0.54%). The average time at liberty was 18 months for blue marlin.

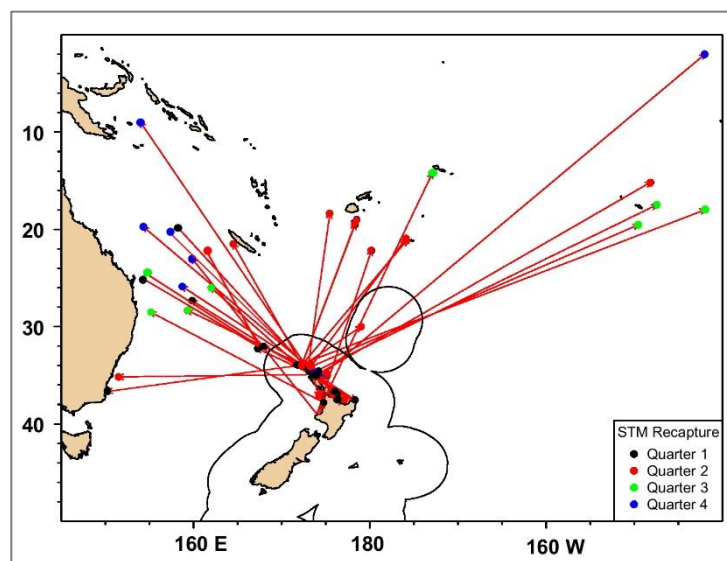
Quote from:

A global overview of the major constituent-based billfish tagging programs and their results since 1954.

Marine and Freshwater Research. 54; 489–509

“The type of tags used for highly migratory species in general (Yamashita and Waldron 1958) and used specifically for billfish (Prince *et al.* 2002) have been reported to affect the number of tag returns. Based on a double tagging experiment conducted in the Atlantic Ocean over a 10-year period, Prince *et al.* (2002) found higher tag retention for most istiophorid billfish using the double barb nylon anchor tag, compared with the standard stainless steel dart tag.

Our analysis of tagging results by tag type are consistent with the conclusions of Prince *et al.* (2002) that the **double barb nylon dart tags are retained better compared with the stainless steel dart tags for blue and white marlin, and, to a lesser extent, sailfish. However, this did not seem to be true for black and striped marlin in the Pacific, although the fact that less double barb nylon tags have been used on the Pacific marlins makes it difficult to draw definitive conclusions in these cases. Moreover, it is important to reiterate that non-reporting of recoveries, or exclusion of longline fishing activity in areas of marlin abundance can confound conclusions drawn about tag performance.**”



Gamefish tag recaptures have helped define the natural range of striped marlin. The SW Pacific is managed as a regional sub-stock. Large commercial fleets have years of data on where and when marlin can be caught, but little information on where they come from. Most spawning occurs between 15° and 25° South in the Coral Sea, Fiji Basin and French Polynesia from October to January.

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