Protecting ***Manx Wildlife***
for the future

The Isle of Man Shark Tagging Programme

End of Year Report 2020

Written for:

The Department of Environment, Food and Agriculture (DEFA)

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Introduction

The Small Shark Tagging Programme in the Isle of Man has been operating since May 2013, with the Manx Wildlife Trust (MWT) working on behalf of the Department of Environment, Food and Agriculture (DEFA) to collect data. Sharks, rays and skates are currently subject to multiple threats from fisheries and harvest, including small-scale subsistence fishing, large scale harvesting and unintentional bycatch. These species are therefore protected in many jurisdictions. However, little is known about the distribution, movement or population sizes of these cryptic species in Manx waters. The Small Shark Tagging Programme aims to work with local anglers to tag small sharks and rays with identification tags or streamers, on a catch and release basis. The data are hoped to provide much needed information on the distribution and numbers of these small shark populations. Going forward, this fundamental understanding is crucial in providing effective and evidence-based data for the future management of these species and the best ways to protect them. The present report is a continuation of this project, summarising the findings of the seventh year of the programme.

To date over 57 anglers have received small shark tagging training, with over 300 sharks tagged. The most predominant elasmobranch species caught by anglers in Manx waters are bull huss (*Scyliorhinus stellaris*), spurdog (*Squalus acanthias*) and tope (*Galeorhinus galeus*). These are the only species tagged to date. Bull huss are considered 'Near Threatened' with a decreasing population trend (Ellis *et al.,* 2015). It is estimated that the species has declined by almost 30% in European waters for the three-generation period (45-60 years) due to overfishing (Baino *et al.,* 2001). Both spurdog and tope are classified as 'Vulnerable' by the IUCN Red List (Fordham *et al.,* 2016; Walker *et al.,* 2006). This assessment is based on a continuing sharp decline in the number of mature individuals and severely fragmented populations. In a promising step for the programme, one of the individuals tagged was recaptured in May 2018 in the Netherlands. This highlights that if more individuals are tagged, the more likely further recaptures are to happen again in the future. The programme has also recaptured individuals from other international programmes including Cefas and the Scottish Shark Tagging Programme.

Although the Scottish Shark Tagging Programme was subsequently disbanded, it contributed greatly to this programme and showed what can be achieved through citizen science programmes. Up until its closure in 2018 the Scottish Shark Tagging Programme shared knowledge and resources from the inception of the MWT programme. This included the deployment of two officers who trained Manx local anglers in 2013 (funded by DEFA), design of a project logo and the annual provision of tags/tagging equipment. Through their work the Scottish programme helped to protect several species of sharks, rays and skates through providing evidence of distribution, abundance and sex. They tagged over 3000 individuals during the programme, with recapture rates for common skate at 35%. In addition, they also increased public awareness highlighting the need for shark protection, the importance of sea angler's conservation efforts, and contributed to shark fisheries management.

<u>Project Aims:</u>

- Promote public awareness on the importance of small shark species and the need for their protection.
- Engage with local anglers to undertake tagging and record subsequent recaptures.
- Utilise the data collected to determine the abundance and distribution of Manx small shark populations.
- Examine local threats to small shark species to inform management plans and conservation activities.

Methodology

The project is advertised locally and interested anglers targeting small sharks are invited to partake in the programme. Unfortunately, no additional anglers were trained due to a limited number of tags available and the result of the global pandemic (Covid 19). A total of 57 anglers having been trained since the beginning of the programme in 2013.

All trained anglers were given a minimum landing size crib sheet, recording cards and tagging equipment (Appendix 1 and 2). Prior to tag application, the condition of each shark was visually assessed to ensure normal appearance and minimum landing size. Any injured or otherwise abnormally appearing sharks, or those below the minimum landing size, would have been rejected from the tagging pool. Next, information was recorded on the species, location, date, length, girth, sex and condition. The tagging equipment consisted of a canula with five Floy ® streamer tags (Appendix 3) and a micro gun with ten micro-tags for tagging smaller sharks. Tag equipment was replaced in small quantities when required, depending on angler's likelihood of being able to fish. One external tag with imprinted unique identification numbers was applied to each fish, which was recorded on the recording card.

Streamer tags were inserted using a canula tool and inserted at a 45^{o} angle to a depth of around 35 mm, with the tag barb pointing upwards. Following insertion, the canula was twisted 90^{o} to anchor the tag, then the tool was removed, and the tag lightly tugged to set the dart. The micro-tags were also inserted at a 45^{o} angle, then the trigger was pushed to insert the tag. The needle was then removed, and the tag lightly tugged to set the dart. Following tagging, all sharks were released and monitored to ensure normal post capture behaviour. Currently, the data is stored with the MWT. Previously data had also been stored with the SSTP. Anglers were able to email tagging information directly to the MWT.

Results

As a result of Covid 19 and the global pandemic no tagging or training was undertaken this year. As highlighted in last years report there was also a shortage of tags. A quote was agreed with DEFA but had to be reviewed in light of Covid 19. A new quote for fewer tags was generated and agreed with DEFA. The tags will be ordered in the new year once a purchase order has been provided. Hopefully, the pandemic will be under control in 2021 and the programme can start tagging again.

This is the first time the programme has had to acquire its own tags, usually the Scottish tagging programme provided them for free.

Conclusions and Recommendations

In total, 303 small sharks have been tagged since 2013. An additional 13 small sharks were tagged prior to the formal commencement of the Small Shark Tagging Project in 2013. Only two recaptures have occurred from other areas, one individual tope in 2018 and another tope in 2014 from Scotland. A greater occurrence of recaptures, and thus more substantial data, had been anticipated throughout the project. At present little data has been obtained about the migration patterns of small sharks utilising Manx waters. Additional tagging, and even more so, the capture of previously tagged individuals (recaptures) are necessary to obtain useful information about the distribution and population structure of small sharks in Manx waters. Further research into the abundance and distribution of bull huss around the Isle of Man may

be crucial in determining the localised conservation status of this species, as no individuals have been tagged in the past five years.

Based on the present data set, particular areas requiring greater protection (perhaps in the form of restrictions or reserve formation) are suggested. Therefore, it may be necessary to implement conservation activities that apply to Manx waters in their entirety, in order to conserve these threatened small shark species. Currently, there are three Marine Nature Reserves (MNRs) protecting the key hotspots where small sharks have been tagged: The Calf and Wart Bank MNR, Langness MNR and Little Ness MNR. However, these sites only cover up to the 3 nm boundary of Manx waters. Further protection is needed in the wider 3-12 nm zone around the Island to protect these areas from damaging marine developments and fishing. Protecting the wider area of the Calf and Wart Bank MNR would provide wider protection for this key area. Additionally, protecting the other key hotspot off Langness, within the 3-12 nm boundary, will further aid the conservation of small shark species.

Unfortunately, due to a limited number of available floy tags and Covid 19 pandemic, no small sharks were tagged this year.

The Manx Wildlife Trust is grateful for the support of this programme, both by the volunteer anglers and also DEFA for funding the programme, and is optimistic concerning the potential for future data collection.

References

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Appendices

Appendix 1. Tagging guidance crib sheet.

SSTP Floy Dart Tagging Guidelines

Floy dart tags are inserted using a sharp, clean canula.

1. Insert the tag into the canula (take a note of the tag number)
2. Insert the canula at an angle of 45° to a depth of around 35mm with the tag barb pointing upwards
3. Twist the canula at least 90° to anchor the tag
4. Remove the canula and give the tag a short tug to set the barb

Submit your data to Eleanor – eleanor@manxwt.org.uk or drop in at 7-8 Market Place, Peel, IM5 1XF or online at:

www.tagsharks.com

These tagging guidelines are for floy darts and canulas ONLY.

SSTP minimum sizes are set to protect fish, if for any reason you are unsure about tagging please **do not tag the fish!**

SSTP Floy Dart Minimum Tagging Sizes	
Common Skate (wingspan)	55cm (5.3lb)
Tope	100cm (10.0lb)
Spurdog	90cm (6.4lb)
Smooth-hound	100cm (6.5lb)
Bull Huss	100cm (7lb)
Rays (wingspan)	50cm (5.25lb)

SSTP Micro-Tag Guidelines

Micro-tags are inserted using a tagging gun. When not in use we recommend that you use the needle guard to prevent injury!

1. Fit a strip of micro-tags into the tagging gun
2. Insert the needle at an angle of 45°
3. Push the trigger to insert a single tag into the fish
4. Remove the needle and give the tag a short tug to set the barb

Submit your data to Eleanor – eleanor@manxwt.org.uk or drop in at 7-8 Market Place, Peel, IM5 1XF or online at:

www.tagsharks.com

These tagging guidelines are for tagging guns and micro-tags ONLY.

SSTP minimum sizes are set to protect fish, if for any reason you are unsure about tagging please **do not tag the fish!**

SSTP Micro-Tag Minimum Sizes	
Common Skate (wingspan)	Canula
Tope	65cm (2.8lb)
Spurdog	65cm (2.3lb)
Smooth-hound	70cm (2.2lb)
Bull Huss	65cm (2.5lb)
Rays (wingspan)	35cm (2.1lb)

Appendix 2. Record card.

Please send details to Eleanor by email: eleanor@manxwt.org.uk
Or drop in/post to: 7-8 Market Place, Peel, IM5 1XF

Name/s: _____

Email address: _____

Date: _____ Time start: _____ Time end _____

Location (please circle): NE NW SW SE

Lat/Long (this will NOT be made public):

_____N _____W

In association with:

Tag No.	Species	Sex	Length (cm)	Girth (cm)	Condition

Appendix 3. Floy ® streamer tag.