

# Scottish Sea Angling Conservation Network

## Scottish Shark Tagging Programme Christmas Newsletter 2011



Scottish Natural Heritage  
All of nature for all of Scotland

Welcome to the December 2011 issue of the SSACN Newsletter. In this newsletter we will look at recent developments in efforts to protect vulnerable shark, skate and ray species in Scotland, the annual SSACN Spurdog Tagathon and a range of stories we hope you find interesting and informative!

As another successful year comes to a close it is apparent just how far we have come; just seven years ago nobody was interested in the work of SSACN and no new research was on the horizon. Now, the value of SSACN's work is widely recognised and we have already played an important role in the shaping the future of sea angling and conserving marine biodiversity in Scotland.

This year alone two PhD's based on Scottish elasmobranchs have begun and a major acoustic tagging project was initiated in the Sound of Jura targeting populations of common skate. See below for more details on these exciting projects!

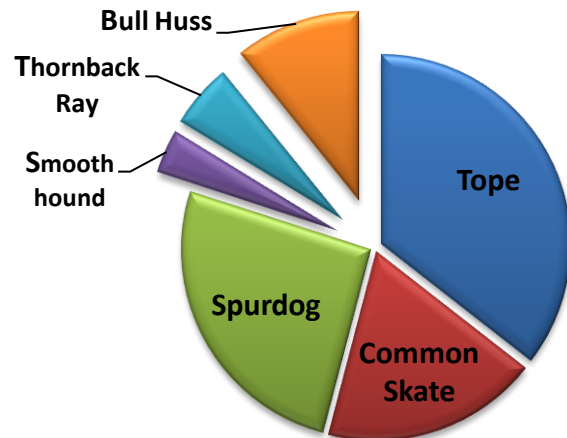
As always we are very eager to hear from anglers and welcome any involvement ranging from angling stories and pictures to raising conservation issues that are relevant to sea angling in Scotland.

Enjoy!

### A Summary of the SSTP's Work

One important part of SSACN's work is the Scottish Shark Tagging Programme (SSTP) which aims to collect data on shark, ray and skate species in Scottish waters through tagging carried out voluntarily by recreational sea anglers.

Below is a short summary of the fish tagged under the SSTP between 2009 and the time of writing this newsletter.



A total of 2,430 fish were tagged by anglers over a period of just three years. Almost 80% of this total was made up from just three species: tope, common skate and spurdog.

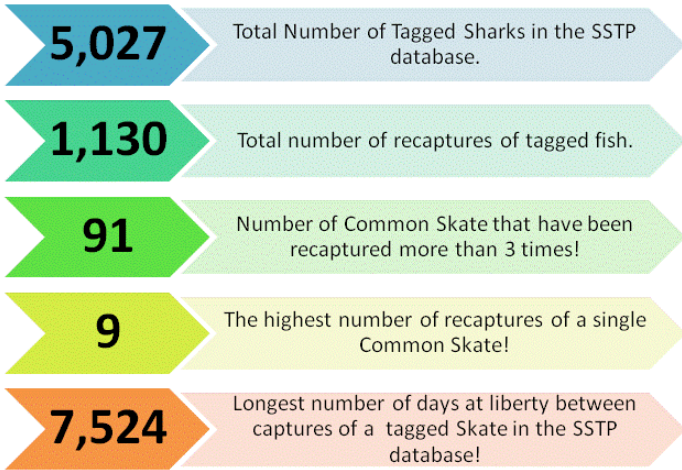
The rate of recapture varies significantly between species as shown below:

- Common skate = 50.39%
- Tope = 6.12%
- Spurdog = 3.57% (5.4% in Loch Sunart and Etive)
- Thornback Ray = 1.45%

This data goes some way to suggest that common skate are relatively static in some areas with the vast majority of skate recaptures coming from the same area where they were tagged.

Species such as tope are highly migratory and SSTP fish tagged in Luce Bay in the Solway Firth have been recaptured as far south as the Bay of Biscay off Portugal and as far north as Iceland!

The common skate acoustic tagging project ongoing in the Sound of Jura (detailed below) will likely serve as an exciting conclusion to the SSTP's common skate tagging project around mainland Scotland though the programme will aim to expand into new areas over the coming years.



However it is important that tagging of other species continues in order to collect the invaluable data that continues to help preserve both our native stocks of elasmobranchs and recreational sea angling.

A more comprehensive review and of the SSTP's work and an analysis of data will be published in our annual progress report expected in Easter 2012. A short summary of our work and the tagging database is available in Annex I at the end of this newsletter.

### Protection for Scotland's Sharks

In early 2012 the Scottish Government intends to introduce a protection order that will help protect some of Scotland's most vulnerable shark species.

The protection order will extend the current provisions of the EU Common Fisheries Policy for the conservation of elasmobranchs in Scottish waters. In June, Fisheries Secretary Richard Loch stated that:

*"Protecting vulnerable marine species is crucially important. Some shark, skate and ray populations are critically endangered and already protected from commercial fishing. However, these species need additional protection and so Scotland intends to introduce a new protection order to help stock recovery."*

*"The measures announced today will support, and clearly demonstrate, our continued commitment to*

*the European Shark Action Plan, following changes to Scottish shark finning policy introduced last year."*

The order will cover 26 elasmobranch species including tope, common skate and spurdog which are extremely popular target species for recreational sea anglers.

Recreational angling for these species will be permitted on a catch-and-release basis (which is already practised voluntarily by the majority of anglers targeting these species) and allows recreational sea anglers to continue tagging sharks in order to help increase the Governments scientific knowledge of Scottish shark species in a non-destructive manner.



The new protection order will protect Scottish sharks whilst allowing recreational sea angling for popular species including tope (shown above), common skate and spurdog to continue on a catch-and-release basis which is already widely practised by anglers in Scotland.

The species covered by the order were previously considered for inclusion under the Wildlife & Countryside Act which aims to give protection to native species that are considered threatened.

Had the species mentioned above been included in the Wildlife & Countryside Act it is very likely that recreational anglers would have been banned indefinitely from targeting the species in question.

Thanks to the hard work of SSACN and SSTP members and volunteers the species were omitted from the Act and instead will be incorporated in the upcoming protection order due early 2012.

This represents a major step forward in both the conservation of Scottish elasmobranchs and the representation of recreational sea angling at a Government level in Scotland and for that we would like to thank everyone who has been involved!

## Spurdog Tagathon 2011

Over the weekend of the 11-13<sup>th</sup> of November anglers descended on Loch Sunart and Loch Etive for the annual SSACN Spurdog Tagathon. The weekend was one of mixed weather and mixed fishing success though that didn't stop everyone having a great time! At times the spurdog were patchy and difficult to track down with some anglers reporting excellent catches while others struggled to find the fish.

### Spurdog Tagathon 2011 at a glance:

- 62 Anglers
- 20 Shore fishing
- 19 Boats
- 32 Fish tagged
- 4 Tagged spurdog recaptured (Loch Sunart)
- Many undersized fish returned untagged

Over the course of the weekend training courses were coordinated and ran by the SSACN Education Lead and sea angling coach David McNair.

On Friday, classroom sessions were held at the Scottish Association of Marine Science at Dunstaffnage to teach students about angling, tagging and safely handling sharks. After these sessions students were accompanied by more experienced anglers to the shore for a few hours of fishing; unfortunately neither the fish nor the weather played ball and nothing was caught though everyone enjoyed the session!

On Sunday, SAMS kindly donated boat time on their vessel MV Calanus for a day's fishing on Loch Etive, the spaces for which had been snapped up by students in the weeks leading up to the event.

Blustery conditions made fishing difficult and yet again the spurdog were hard to find. Shoals of

pouting and whiting were considerably less difficult to locate and kept the boat of 12 aspiring anglers busy and entertained for most of the day! Two small spurdog eventually made an appearance alongside an undersized thornback ray, all of which were caught by students on their first fishing trip.



Above: Willie Kennedy with a 10lb spurdog (Loch Sunart). Despite occasionally difficult conditions some good spurdog were caught and tagged from both the boat and shore.

We were delighted to see four spurdog recaptures in Loch Sunart over the Tagathon weekend. Three of the fish had previously been caught and tagged by gold tagger, Gordon Goldie and the fourth by platinum tagger, Dale Robertson. The fish were caught by Gordon Goldie (1 year at liberty), Willie Kennedy (3 years at liberty), Billy Findlay (70 days at liberty) and Barry Sharpe (286 days at liberty).

We would like to thank everyone who helped make

### What has spurdog tagging data shown us so far?

410 Spurdog tagged in Loch Sunart and Loch Etive (22 recaptures = 5.4%)

244 Spurdog tagged excluding Sunart and Etive (1 recapture = 0.4%)

Not only are recaptures more than 10 times more common in Sunart and Etive than outside those lochs but the fish are caught throughout the year which goes some way to indicating they are resident stocks.

the event a success and in particular to all the anglers that attended. As we have said before, without you there is no event so your involvement is always greatly appreciated!

We hope you all enjoyed the Tagathon and we look forward to seeing you at future events, the dates of which are below:



**Skate Tagathon**  
13-15<sup>th</sup> April 2012  
Sound of Jura



**Sharkatag**  
15-17<sup>th</sup> June 2012  
Solway



**Spurdog Tagathon**  
2-4<sup>th</sup> November 2012  
Loch Etive and Loch Sunart

For more detailed information on the Spurdog Tagathon 2011 including excellent pieces by Andy Hibbert and David McNair check out the official post-event newsletter at:

<http://www.tagsharks.com/spurdog-tagathon-2011-newsletter>

## Acoustic Tagging of Common Skate in the Sound of Jura

In the past few months we have ran several stories regarding the exciting common skate acoustic tagging project ongoing around Crinan in the Sound of Jura on the west coast of Scotland.

To date, 1,873 common skate have been tagged in Scottish waters by volunteers with many recaptures.

This data has provided a valuable insight into the movements, distribution and growth of these majestic skate that are currently considered critically endangered and declining as a result of overfishing.



Above: The tagging team with a 174lb female skate caught by Patrick Lawlor (pictured on the right) aboard Onyer Marks with Ian Burrett. The picture below shows the same skate with the white data storage tag on her wing.

A Marine Scotland project began in October 2011 and aims to build on existing data using sophisticated electronic acoustic and data storage tags. Black acoustic pinger tags attached to each skate's wing emit a unique coded signal that can be picked up by any of the 10 hydrophone receivers distributed in the Sound of Jura. This data will be downloaded after one year and used to accurately map movements of the skate. It is extremely important that anglers do **NOT** remove the black acoustic pinger tags!

White data storage tags continuously record a range of parameters including water depth and temperature. These clearly labelled tags should be removed by anglers who recapture the skate and returned to Francis Neat at Mar Lab Aberdeen, for which the captor will receive a £100 reward. It is hoped that this data will help reveal some of the driving forces behind common skate movements.

tag their skate and congratulate the anglers who landed their first skate or PB on the trip!

For more information and regular updates on this project check out [www.tagsharks.com](http://www.tagsharks.com).

### **New Ventures for Skate Tagging**

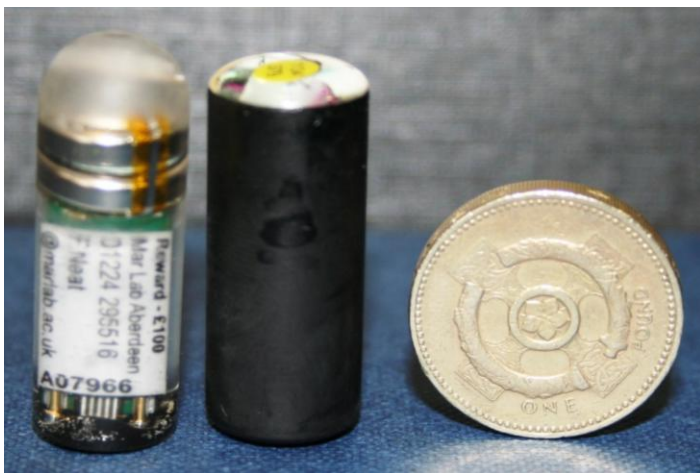
It is likely that the completion of the above acoustic tagging project in the Sound of Jura will serve as a conclusion to the SSTP's common skate tagging project around mainland Scotland.

The project has run for a many years with much effort focused around the Sound of Jura, Sound of Mull and Firth of Lorne and has provided invaluable data. However we are very conscious of the hazards of collecting data for data's sake.

As such we feel the future of common skate tagging projects in Scotland will be based on expanding our horizons and ensuring tagging effort in Scotland is spread over as wide an area as possible. One arm of the project that is likely to be developed in the future is that of the Western Isles and Outer Hebrides.

The Outer Hebrides have produced many notable fish in recent years (the current Scottish shore record for common skate was set in the Isle of Lewis) with several 200lb+ fish and two recaptures of tagged fish over the last few years...all from the shore!

## ***"IF THE TAG IS BLACK, PUT IT BACK!!"***



This image shows the data storage tags used by Marine Scotland in the Sound of Jura. White data storage tags should be returned to F. Neat at Mar Lab Aberdeen; black pinger tags should be left on the fish!

It is hoped that these tags will help provide a more detailed insight into the movements of a complex species and that the data will show if Common Skate reside in the Sound all year long or if they move out of the area to migrate offshore at any point.

Despite a relatively slow start to fishing in October – with the team only tagging seven fish over the first week of tagging – the taggers were able to return to try again several weeks later. During the second trip 13 more common skate were tagged bringing the total up to 20 tagged skate.

SSACN and the Marine Scotland tagging team would like to thank all the anglers who allowed the team to



Click here to join over 500 supporters on Facebook for live news and information on shark fishing, conservation and events!

<http://www.facebook.com/pages/Scottish-Shark-Tagging-Programme/345375996487>

### **Loch Etive Acoustic Tagging**

Tagging evidence from anglers has long suggested that Loch Etive on the west coast of Scotland may hold a resident population of spurdog, a species

generally considered to be highly migratory. Anecdotal evidence from anglers fishing these areas has also suggested that some sea lochs may be important pupping areas for spurdog populations.

Some readers may recall that this evidence led to the initiation of an acoustic tagging project in Loch Etive towards the end of 2010 led by James Thorburn. The aim of this investigation was to test the theory that there is a resident population of spurdog inside Loch Etive which do not migrate.



Twelve spurdog in Loch Etive were anaesthetized and fitted with acoustic tags by home office licensed taggers in 2010. This year, acoustic data receivers placed to monitor the movement of the fish were recovered and the data analysed.

The project was carried out by fitting several spurdog with acoustic tags and setting up an “acoustic gateway” at the mouth of the Loch that would pick up any tagged fish leaving or re-entering the Loch.

Last month one of the acoustic gateway receivers was recovered from Loch Etive, data was downloaded and revealed that only one of the tagged spurdog had passed the gateway.

This data goes some way to suggesting that the loch may hold resident populations of spurdog. However, we await the retrieval of the second hydrophone receiver before any firm conclusions can be drawn from this tagging project.

It should be noted that this project does not dispute the fact that spurdog are generally a migratory species and that large scale migrations of spurdog do occur. It does however aim to test the hypothesis that there may be some level of residency in coastal waters along the west coast of Scotland with localised populations of spurdog that do not migrate.

### SSTP School Visits

As part of SSACN’s Scottish Shark tagging Programme (SSTP) has been visiting primary schools throughout Scotland running education and awareness events.

School visits have proved extremely popular with pupils who have been keen to take part in activities and learn about Scottish marine life.

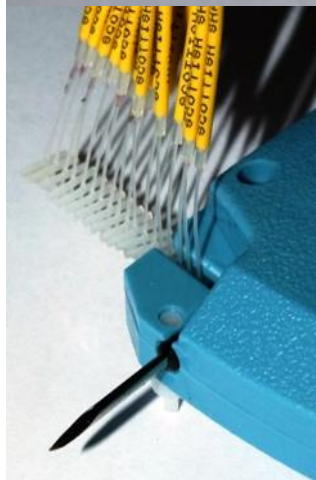
Events have included treasure hunts, games and shark and ray egg case hunts on the shoreline used to teach pupils about native marine life. In September, despite the Scottish weather, pupils from Mull Primary School and Tobermory Primary school were undeterred and managed to find and identify a range of shark and ray egg cases (with some pupils finding not only the common name for each species but also the Latin name with flawless pronunciation!)

The SSTP would like to give a big thank you to all the pupils who have been involved in school visits so far and have made each visit so much fun! If you would like to arrange a visit from the SSTP to your local school please send an email to [contact@ssacn.org](mailto:contact@ssacn.org)!

### A New Way to Tag!

During this year’s Spurdog Tagathon the SSTP began distributing new tagging guns to regular taggers. The tagging guns will replace floy darts and canulas for tagging smaller species including spurdog, smoothhound and rays.

The tagging guns are loaded with a strip of small, consecutively numbered plastic t-bar tags. When tagging a fish the thin needle is inserted into the fish and the trigger of the gun depressed. Pushing the trigger of the gun drives small piston that inserts a single tag along the needle into the fish whilst loading the next tag.



We hope the roll out of these guns will further streamline the tagging process and minimise stress to both the fish and angler!

The guns allow quicker tagging and even tagging without removing the fish from the water.

We have also revamped out tagging record cards which are now available online. The new record cards have been designed to include undersize fish that have not been tagged which are recorded as a simple tally mark.

New record cards can be downloaded in .pdf format by following the link below:

<http://www.tagsharks.com/wp-content/pdf/2011%20Record%20Card.pdf>

## Two PhD's based on Elasmobranchs in Scotland

Two PhD's began this year which aim to answer some questions about Scottish elasmobranchs. The PhD's will be undertaken by James Thorburn (previously of the SSTEP) and Cecilia Pinto, in parts the projects aim to use SSTEP tagging data to provide more information about sharks and skate in Scotland. We spoke to Cecilia about the aims of her PhD.



Cecilia Pinto (left) and Francis Neat battle common skate in the Sound of Jura!

Cecilia said: *"I would like to model the distribution of the common skate on the west coast and relate it with environmental data as depth, temperature, salinity. The idea is to try to see if one of these variables is affecting the distribution of the common skate more than others."*

*"Once we have our movement data we would like to build a dynamic mathematical model in which we describe how the individuals move and when."*

It is hoped that the integration of the different environmental aspects and pressures influencing common skate movements will allow the definition and identification of the most suitable areas for common skate in Scottish waters. This data would allow more informed decisions to be made regarding the protection of common skate in Scotland.

James Thorburn will be looking at the populations and movements of elasmobranchs in Scotland (and further afield) using genetic and hormonal techniques and sophisticated electronic tags.

We wish both James and Cecilia the best of luck on their PhD's!

## “Sores” on Tagged Skate

In the past few months some anglers had expressed concerns “sores” around the tag site on recaptured common skate.

In the article “Sores on Tagged Sharks” available at <http://www.tagsharks.com/sores-on-tagged-sharks> We discussed how the auto immune response of elasmobranchs to plastic dart tags may in some rare cases appear to cause a sore around the tag.

In addition to this article we recently received a letter from Dr Francis Neat who is currently involved in the common skate acoustic tagging project in the Sound of Jura (detailed above). In an extract from the letter, Dr Neat stated that:

*“The cause of the inflammation could be that insufficient time had passed since the tag had been implanted or that the tag was inappropriately implanted to begin with. It is critical that the tags are implanted correctly and in the appropriate place and I would recommend guidance and training by an experienced tagger be considered before a novice attempts to tag fish.*

*“It is my opinion that any short-term effects caused by tagging are relatively minor, do not persist in the long term and that tagging can be ethically justified given the long-term conservation benefits that can be gained from understanding the movements of the fish.”*

The letter can be read in full by following the link below. Please note that the views presented here are those of Dr Neat and not of Marine Scotland.

<http://www.tagsharks.com/update-sores-on-tagged-skate>

After consultation with Dr Neat we believe that the sore observed on the skate was a result of the tag not being pushed deep enough: this allowed the tag to move and would have prevented the site from healing properly.

As such tagging canulas will now be issued with a small plastic pipe depth gauge set at 35mm (the optimum depth for tag placement in common skate and tope) as shown in the picture below.



The SSTP have long recognised that appropriate tag placement and good tagging practice are vital to the programme. As such the SSTP offer tuition in handling and tagging sharks in the form of a short, free course that has now been running for over 18 months, if you would be interested in starting tagging please send an email to [contact@ssacn.org](mailto:contact@ssacn.org).

## An Interesting Recapture

Analysis and mapping of common skate tagging data over the last few weeks brought one particular recapture to light. A female skate, originally tagged by Brian Swinbanks west of the Isle of Mull in 1990 was recaptured a staggering 19 years, 10 months and 14 days later in the Sound of Jura by Ian Burrett!

During this time she had grown from 83lb in weight to 191lb and had travelled a minimum distance of 78.23km (a straight line between the two points of capture).

She was then recaptured a second time in the Sound of Jura by David Murray 9 months and 10 days later, only 5.09km from the point of the second capture. By the time of the second recapture the fish had topped 200lb in weight.

At 7,524 days this recapture represents one of the longest times at liberty of tagged fish using an external dart tag ever recorded. In general the longest times at liberty are recorded in fish with internal tags that are not shed by the fish over time, the longest of which was a male tope tagged in the south Pacific in the 1950's and recaptured almost 42 years later!

Information like this has come to light since the Scottish Shark Tagging Programme took on historical shark tagging data from Glasgow Museum and the UKSTP. The SSTP is currently funded by Scottish Natural Heritage, Dumfries & Galloway LEADER and Argyll & Bute LEADER and continues to work on both gathering new tagging data and maintaining archival records.

## Fishing and ID Guides

Over the past few months the SSTP has released a range of Species Fishing and ID Guides which aim to give anglers information about the biology of sharks and also information on how to target each species.

Fishing and ID guides can be found at <http://www.tagsharks.com/category/tutorials>.

We would like to say a huge thank you to Dr Dietrich Bürkel for kindly supplying the stunning illustrations used in each guide. We are sure you would all agree that each illustration is a work of art!



© Dietrich Bürkel

An excellent illustration by Dr Bürkel showing a spurdog. Stay tuned to [www.tagsharks.com](http://www.tagsharks.com) to see more of Dr Bürkel's stunning illustrations over the coming months.

We would also like to thank all the anglers who submitted photographs for each ID guide, your

contribution is always greatly appreciated by us here at SSACN and the SSTP!

## SSACN Involvement in the Scottish MPA Project

As the Scottish MPA project drives towards establishing marine protected areas in Scottish waters to conserve marine life, members of SSACN have been involved in putting forward proposals for MPAs designed to promote the development of recreational sea angling in Scotland.

SSACN members have also been involved in stakeholder workshops held by Marine Scotland, the aim of which was to identify so-called "MPA search sites": that is sites that will be considered further as possible protected areas.

SSACN will continue to be involved in the Scottish MPA project to ensure that conservation issues of importance to sea angling are appropriately represented.

The project is still in a relatively early stage though more information is likely to be forthcoming over the next few months as Scotland looks to change the way native marine bio- and geodiversity in Scottish territorial waters is managed for the benefit of both current and future generations.

## A New SSTP Appointment

In July 2011, Lewis Cowie was appointed as the SSTP Project Officer for Dumfries & Galloway.



Speaking about his appointment Lewis said: *"I have been fishing around Scotland – and particularly in the Solway - for as long as I can remember. It was this interest that first led me to study marine biology at University.*

*"I am extremely excited to be a part of the SSTP and SSACN and hope that I can play a role in protecting the sharks that lure me out on to the Scottish coast week after week!"*

### Platinum Cap Congratulations!

Congratulations to Matthew Burrett who has earned his Platinum tagging award for tagging over 250 sharks. Matthew has tagged and provided data for over 400 sharks and joins Dale Robertson and Ian Burrett as the only holders of the SSTP Platinum award.

Close on Matthew's heels is Gordon Goldie, who this month submitted his 244<sup>th</sup> entry to the SSTP!



Make sure you get the cap you deserve by submitting your tagging data here:  
<http://www.tagsharks.com/tagging-programmes/submit>

A full list of recipients can be viewed here:  
<http://www.tagsharks.com/hall-of-fame-2/top-taggers/cap-awards>

### Volunteering Opportunities

SSACN and the SSTP are always on the lookout for volunteers; if you have a few hours to spare and would be interested in getting more involved please send a short email to [contact@ssacn.org](mailto:contact@ssacn.org).

The workload is ever increasing and many hands make light work so your help is always appreciated!

### Concluding Remarks

As we come to the end of an exciting year - not only for SSACN but also for sea angling and marine conservation throughout Scotland - we must once again thank all our members and supporters. You're support is always greatly appreciated and never goes unnoticed!

Without the hard work of our members, volunteers and supporters it is unlikely that these projects would have come to fruition.

Already, 2012 is shaping up to be another great year with events including our ever popular tagathons already scheduled and much more on the horizon.

We hope you have found this newsletter interesting, if you have any feedback or information for future newsletters or if you would like to become more involved with SSACN as either a member or volunteer please feel free to email [contact@ssacn.org](mailto:contact@ssacn.org).

Any omissions or mistakes in this letter are the fault of the editor.

**From all at SSACN and the SSTP...Have a Merry Christmas and a safe and productive new year of fishing!!**



## Annex I: A Brief Summary of Tagging Data

We are pleased to announce that we have recently merged all historical tagging data from both the Glasgow Museum and UK Shark Tagging Programmes into one master database managed by the SSTP. This has simplified the process of managing both new tagging data and recaptures.

Table 1 below shows a brief summary of SSTP tagging data in our database; the table shows the number of fish tagged under the SSTP each year from 2009 to 2011. The table also shows the total number of recaptures reported each year and the total number of tagged fish in our database (including historical data from the Glasgow Museum and UK Shark Tagging Programmes.)

We currently have 245 anglers contributing to the SSTP database, 53 of which are new taggers for 2011!

**Table 1: Tagging Data from the SSTP (2009-2011) and Historical Data.**

	2009	2010	2011	Total for SSTP (2009-2011)	Database Total (incl. Historical Data)
Number of Fish Tagged	440	1,022	968	2,430	5,027
Number of Recaptures	48	154	166	368	1,130
Total Number of Captures	488	1,176	1,134	2,798	6,157

Table 2 below shows tagging data for each species in our database. Table 2 also shows the number of each species tagged under the SSTP and the total number of tagged fish in our database (including historical data).

The number of recaptures of each species is presented, recaptures are shown for **all** tagged fish and not just SSTP tagged fish. The percentage of recaptures is calculated accordingly.

**Table 2: Tagging Data by Species including recaptures.**

Species	Total No. of Tagged Fish	SSTP Tagged Fish	Fish Tagged in 2011	Total Recaptures	Recaptures (%)
Common Skate	1,939	441	131	977	50.39
Tope	1,879	858	324	115	6.12
Spurdog	700	642	274	25	3.57
Smoothhound	109	89	45	7	6.42
Bull Huss	260	260	137	4	1.54
Thornback Ray	138	138	57	2	1.45
Blonde Ray	2	2	0	0	-

We hope you found this summary interesting. A more thorough analysis of Scottish shark tagging data will be made available by the SSTP in spring 2012.