

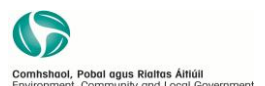
Inishowen Basking Shark Study Group

Final Report 2012

MONSTER MUNCH PROJECT



*Inishowen Basking Shark Community Awareness
Bridging the gap between local communities
and marine science*



CONTENTS

Summary

Background

IBSSG

The project

- Community awareness

- Creative Art

- Conservation Science

- The sharks

- Presentation Night at the Museum

Media and public awareness

Terms of reference delivered

Funding

Conclusion and Recommendations

Acknowledgements

Appendix

- School Handout

- Anon. Feedback Form

- Project Team

- Participants

SUMMARY

The Monster Munch Project Aim:

To engage the fishing communities of Inishowen on a personal level and develop a working relationship between local people and the scientific community undertaking marine research on the Inishowen coast

The project successfully engaged the fishing communities of Inishowen on a personal level and has enabled the development of a positive working relationship between local people and the scientific community undertaking shark research on the Inishowen coast. All of the projects objectives were achieved and all outputs were completed within the set time limit. The coastal communities engaged fully with the project and its aims, with direct tangible results seen throughout this years shortened shark season.

The delivery of a community based awareness programme, combined with satellite tag deployments and practical field trips worked well and significantly increased the local and regional understanding of the basking shark and conservation led research. The importance of reporting sightings has been taken on by the communities and as a result the team was able to undertake a considerable amount of surveys and tag deployments even though the length of the shark season was extremely short. Other unforeseen positive side effects were the recording of Killer whale and Bottlenose dolphin videos which both featured on international and national news media. The RTE program 'Living the Wildlife' recorded during this season will air in 2013. This will reinforce our development of Inishowen and in particular Malin head as an Internationally significant hotspot for marine wildlife.

The Monster Munch project, a first of its kind in Ireland was a resounding success in all aspects with excellent feedback from both the communities and other conservation groups. Looking to the future the IBSSG feel the best way to build on the now established relationships, lies with a community initiative focused closer to employment age with Malin head and Glengad areas at its core. This can take the Inishowen Basking Shark Study Group closer to its overall objective of encouraging the development of a community initiated internationally recognised Marine Park and Shark Sanctuary centred at Malin head.

BACKGROUND

Inishowen tourism is at a critical stage in its development. The sector needs champion projects to raise its profile and show what the peninsula offers to visitors. The basking shark project on Inishowen has raised the profile of the area as well as delivering scientific research of international significance. A good working relationship has been formed between a numbers of different stakeholders with separate goals IDP, QUB and IBSSG. Over the past 5 years we have laid the foundations for a large scale project based around Malin head. We are focused on facilitating the local communities in developing a Marine Park with shark conservation at its heart around Malin head. In order to do this we must first put in place a number of key foundation blocks. Since the successful completion of the Depth Charge project in 2011 we understood that further commitment by the general local community was needed to take the project forward to the next level.

2012 was the right time to encourage the local community to take ownership of the species and for them to view the sharks as a sustainable tourism resource. Monster Munch was a targeted project which involved the youth of the area and encouraged the community to engage with the species on many levels, this is often the catalyst for local ownership developing. The project also continues the positive International association of Inishowen with the iconic species that is the basking shark.

At present basking shark watching, diving, swimming etc. are not viable tourism products because of the perceived difficulty in predicting sharks presence and behaviour. This project set out to address that gap, by bringing together members of the fishing community and research scientists it aimed to create a practical and understandable form of shark reporting, rapid information dissemination and knowledge. We can then begin to demonstrate the value of shark sightings and the way that information is used to generate public interest in the species. The sightings data is essential information held by the fishing community on a daily basis which can enable marine and land based tourism operators to understand and predict the suitable conditions and locations for basking shark watching throughout Inishowen waters.

This project aimed to increase the awareness, appreciation and understanding of Inishowen's and Ireland's most iconic marine species. It provides essential knowledge for the sustainable management, conservation and development of basking sharks as an eco-tourism product in Inishowen waters. The project directly brings numerous research and media teams to the peninsula. Through the fostering of the projects community sightings network it highlights and secures the cultural link that Inishowen coastal communities have to the sea. It contributes to the conservation of Inishowen's established marine heritage by linking present day sighting events with relevant stories and folklore, were possible it also records and collates available historic information on marine species around the Inishowen coast.

The fishing/ coastal communities have much to offer Inishowen tourism and the basking shark is an ideal medium through which their knowledge and enthusiasm for their own local environs can be utilised. Accordingly we aimed to involve 5 schools located at strategic coastal/ fishing locations around the peninsula. (Buncrana, Malin head, Glengad, Culdaff and Greencastle)

INISHOWEN BASKING SHARK STUDY GROUP

Is a locally based initiative which Aims

To promote the conservation and scientific study of basking sharks in Inishowen and Irish waters by ensuring their protection, increasing awareness and improving our understanding of their ecology and habitat requirements

The group has a strategic plan of which this project is an essential step and our constitution has set objectives, which set out our long-term aim for the species and area. A core value of the group as highlighted in our mission statement is the sustainable management and conservation of the species and local marine resources.

Our members are Marine biologists, Fishermen, Community leaders, Wildlife enthusiasts, Lifeboat crew, Leisure boat owners and interested members of community.

THE MONSTER MUNCH PROJECT

The Monster Munch project aimed to engage the fishing communities of Inishowen on a personal level and develop a working relationship between local people and the scientific community undertaking research on the Inishowen coast.

The objective was to build on previous tagging projects and deliver an interactive awareness programme which included schools, communities and the tracking of sharks via satellite tags and the web. The programme targeted the youth of each community and through the basking shark they discovered and deepened their cultural, heritage and commercial links with the maritime environment.

By increasing the understanding of the shark and following its movements over time each community named, adopted and is now following 5 individually satellite tagged sharks. The awareness programme created an environment where youths learned about and discovered their communities historic relationship with basking sharks and the potential for future sustainable exploitation of the sharks.

The educational programme promoting the Basking Shark was delivered into five coastal community schools on the Inishowen peninsula: Malin Head, Glengad, Culdaff, Greencastle and Buncrana.

This involved a number of separate elements

1. Three days of in class community awareness programme – on sea safety, maritime heritage, marine biology, shark ecology and conservation
2. In class Art project – construction of a single life size basking shark by the 5 schools
3. Two single day field trips per class ; To their local pier and surveying for sharks in a fully licensed boat
4. The deployment of Five satellite tracking tags on basking sharks off Inishowen coast – each community adopts a shark and track their movements via the google maps web tracker.
5. A competition on reporting of shark sightings promoting community engagement.
6. A final presentation day of projects, life size shark and talks by students and marine professionals in Greencastle

This project was the first initiative to rapidly integrate information gathered by and held within the fishing community with a web portal that disseminates information valuable to tourists. It was also the first community programme linking GPS tracking of a marine animal in Ireland.

COMMUNITY AWARENESS

Through the Monster Munch project 5 community based schools were engaged and the children were used as a vehicle to increase the whole community's awareness and appreciation of the basking shark. Each school undertook an interactive programme of art and science (Jan – May one day a month), during which they learnt about the basking shark throughout history and shark ecology. The project was designed from scratch by the awareness facilitator Rosemary McCuskey. The first three days were held within the classroom environment where students were encouraged to design field studies and develop the necessary skills and knowledge to deliver them. The last two days involved field trips to the participant's local pier where they implemented their study design and undertook the surveys themselves. The final day involved a field trip on a coded charter vessel, this enabled participant's to take their knowledge into the field and experience what marine based research is actually like. These last two field based days were ambitious through the desire to bring young students into the dangerous environment of the sea, but they also proved the most rewarding and clearly had the greatest positive impact on all members of the communities involved.

The programme was broken into five modules which took the participants through from a basic level to being responsible and safe marine scientists in the field.

1. The sea and us
2. Basic marine biology
3. Surveying the marine preparation
4. Surveying our coast – Pier Fieldtrip
5. Surveying the sharks – Boat Fieldtrip

In Class Education



Glengad School measure out the length of a basking shark and Rosemary McCloskey delivers a pier safety session prior to the field trip at Port Mor.

Boat Trips



Pupils from the Malin Head and Culdaff on their boat survey field trips

CREATIVE ART

The participant's engaged in a bridge building art project by creating a fifth part of a life size basking shark, i.e. tail, mouth dorsal fin etc. which was then brought together for a final presentation 'Night at the museum' in June at the Inishowen Maritime Museum, Greencastle.

This element of the project was taken in conjunction with the indoor educational programme. It involved the use of hand tools, willow weaving, net making, paper Mache and painting. The students worked in small groups with the facilitator and local artist Brenden Farren. Many of the students enjoyed this aspect of the project as it was out of the norm and easily demonstrated the sheer size and bulk of the basking sharks.



Buncrana Kids prepare the gill rakers of the shark model and Preparation of the shark body begins with a lesson in willow weaving by Artist Facilitator Brenden Farren



Artist Brenden Farren demonstrates how just two of the shark boards will fit

The completed life size shark model was unveiled at the 'Night at the Museum' presentation evening and is now on permanent display at the Inishowen Maritime Museum, Greencastle.

CONSERVATION SCIENCE

Since 2010 the Inishowen basking shark study group have developed a close working relationship with the marine biological faculty in Queen's University Belfast. This ensures that all of our projects are pioneering in aspect and cutting edge in design. The Monster munch project was designed to blend internationally significant shark ecology studies with a relevant positive input from local communities.

What little is known about basking shark movements in and out of Irish waters has been discovered by our team. Previous to this project we have developed simple ways to investigate the sharks movements, these included visual tags and old type archival satellite relay tags. The preliminary findings from these tags showed that some movement of sharks did happen between Scotland and Irish waters. However proving this without doubt is another step and being able to interpret how and more importantly why the sharks make these ranging cross political movements is difficult in the dynamic marine environment.

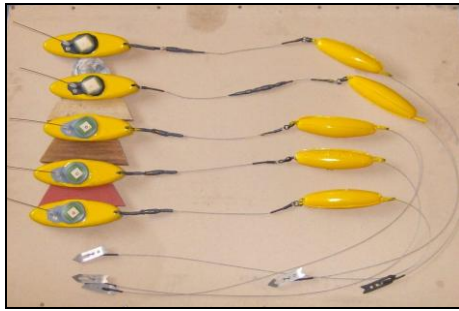
The study aimed to use the core of a new type of tag developed by wildlife computers in the USA called the MK10 PATF fastloc GPS tag. These have been previously deployed on swordfish, sunfish and seals. Based on our study initiatives in 2010/2011 there was also an unsuccessful attempt of deployment on basking sharks in the pacific by NOAA. For the 2012 Monster Munch project we modified the initial tag design and leadering, thus aiming to gain greater time on the surface for the tag and enabling a better chance of satellite uplink.

Each of the five communities had a shark to name which was tagged with one of the described satellite relay tags. These tags have not been successfully deployed on any shark species before and all five are now transmitting their locations in real time (3 day relay time).

Members of the public and local communities are now able to follow their adopted sharks via the google maps 'Shark Tracker' mapping portal on the website www.baskinghark.ie. The tags had been earmarked to be deployed in April or May but this year proved a short and unusual shark season with the tags being deployed in July.

Each tag lasts approximately 5 months and when they pop off a considerable amount of data will be relayed to the team via satellite. This will allow us to recreate the sharks track in 3D and also investigate behaviour of the animals during the little known summer to winter transition period. The tags are also providing valuable scientific data which will be used to promote shark conservation, publication of research and aid species management decisions.

CONSERVATION SCIENCE



Five developed and tested MK 10 PATF Fastloc GPS Tags and a Timed Depth Recorder with visual tag ready for deployment



E. Johnston prepares tags for deployment off Malin head



E. Johnston on Tagging approach



Colm doesn't Cille with sat tag attached and a google maps Shark Tracker portal view of the five shark locations up to the 2nd October 2012,

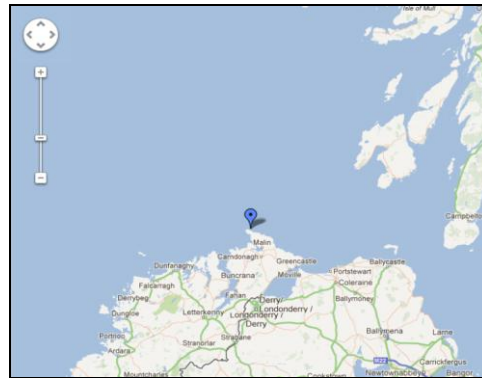
Isacagáin

School: Scoil Iosagain, Buncrana
Tag ARGOS ID: 108915
25th July 2012
Location: 55 23 09.9N
Size 2.5m
Markings: no
Video: no

Teacher: Pauric Mckinny
SERIAL NO: 11A0489
Time 13:22
007 21 17.7W
Sex :Unknown
Parasites: no
Fin photo: yes- quality poor



Isacagáin with tag attached



Isacagáin – Possible Tag failure.

Description:

Very small 2-3m shark tagged 1 mile north of Malin Tower. No distinctive fin or body features. Dived immediately after tag deployment and did not re-surface within local area. Initially spotted within 30m of boat feeding in moderate water conditions along the end of a distinctive west going tidal feature running through the Garvan isles. This shark tag deployment will provide a useful comparison between juvenile sharks and larger more mature shark behaviour.

Name:

‘Iascagáin’ is a Gaelic word play on the school name, where ‘Iosa’ or Jesus is transformed into ‘Iasc’ or Fish. The Gaelic language has shown a strong revival in Buncrana (Foot of the Crana River) and the Inishowen peninsula in recent years. This word play reminds us of Buncrana’s substantial fishing heritage.

Buncrana, located on the eastern shores of the fjord like Lough Swilly is the largest urban centre on the Inishowen peninsula and was for many years primarily a fishing town and naval base. It became an attractive Victorian Spa with the arrival of the railway, and retains much of its original sea front character including sandy beaches and coastal walks. Large Mackerel and Herring fleets from Ireland and Scotland used the safe water around the town and its transport infrastructure to unload and process fish during historic boom fishing periods. Today it is an attractive holiday destination with numerous traditional music and fiddle playing festivals. It is home to Lough Swilly RNLI lifeboat station, a substantial pier used by seasonal trawlers and crabbers, the Lough Swilly Ferry, two dive clubs and numerous leisure boaters.

Banba 'Bob'

School: Scoil Naomh Mhuire, Malin Head

Tag ARGOS ID: 108916,

26th July 2012

Location: 55 20 14.1N

Size 5m

Video – yes – port side

TDR A063473

Markings: circular scar on rear of dorsal, right pectoral fin tip and nose

Parasites: Lampray – rear of dorsal on scar tissue and just forward of anal fin

Teacher: Diarmuid Walsh

SERIAL NO: 11A0490

Time 11:28

007 25 07.8W

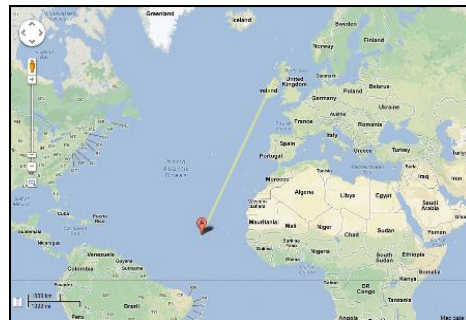
Sex: Female

Fin Photos –excellent both sides

White tag 571



Banba 'Bob' with tag attached



Pop-off Position

Description:

5m Female shark with distinctive scarring behind dorsal fin and on right pectoral fin. Good notches in Dorsal fin for photo ID. Visual tag ID 571. Video was taken before tag deployment. This shark was docile and remained on the surface after tagging and also received a timed depth recorder with visual tag. It was spotted south of Malin head in calm sea conditions feeding on a distinctive tidal line with high concentrations of plankton. The distinctive identification marks on this sharks makes this deployment extra special as this shark may be recognisable in future months and years.

Name:

'Banba' is one of the three ancient queens of the island of Ireland. Malin Head, Irelands most northerly point is called 'Banba's Crown' in her honour. This name represents one of the few places on the island where memory of the alternate two queens of the island besides Erin are remembered. Malin Head's dramatic windswept landscape forms a finger like projection out into the North Atlantic. The cliffs and rocky shores of this Atlantic community make the first and last visual landfall for merchant ships utilising the northern transatlantic routes. It is a close knit island like community with fishing at its heart. Maritime heritage is littered across the parish with the Lloyd's Signal Tower a particular feature for tourists to gather at and weather watch or dream of what lies north. A substantial set of old Coast Guard buildings and a Met Eireann weather station over look Port Mór (big harbour) the centre of the community. Although these waters are regarded as some of the roughest in the North Atlantic, Malin head Fishermans Coop is busy year round with Lobster and Crab fishing predominant. During summer the pier at port Mhór and near-by Port Ronan are host to diving and substantial leisure boating excursions. Basking Sharks often cruise into the harbours rubbing off the pier walls.

Colm doesn't Cille

School: Scoil Cholmcille, Glengad

Tag ARGOS ID: 116545

Date: 8th August 2012

Location: 55 13 50.7N

Size: 4m

Video: unknown

Markings: port side of fin distinctive vertical white scarring lines

Parasites: unknown

Teacher: Mary Harkin

SERIAL NO:11A1163

Time: 09:21

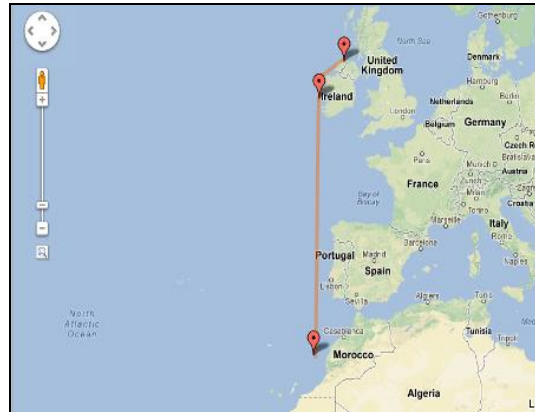
007 33 42.9W

Sex: unknown

Fin photos: only top half of fin



Colm doesn't Cille dorsal fin shot



Pop –off position

Description:

A 4m shark with distinctive vertical white lines on the port side of the dorsal fin. This shark was tagged in the early morning cal south of Lenan head, well within the mouth of Lough Swilly. A small juvenile shark with few distinguishing marks. It did not surface again once tagged. This shark will prove an excellent example for the juvenile bracket of the species.

Name:

'Colm Doesn't Cille' is a reminder of Colmcille a famous Donegal monk who brought Christianity to Scotland. Like recent harmless visually tagged basking sharks he travelled north from Inishowen's shores to the western isles of Scotland. It is a most suitable name for the Glengad shark because on clear days Islay, Colonsay and the Paps of Jura are visible from the windows and front doors of this coastal community, including the local community school.

Glengad parish is one of the most remote rural communities on the Irish Atlantic edge. It lies at the base of a steep sided valley and has traditionally been linked with other regions by sea. A close knit island community in all senses but the twisting access roads, it is sheltered by steep hills from the mainland. VHF signal is often better here than Mobile phone reception. There is a strong maritime heritage with many islanders from near-by Inishtrahull settling here when the island was abandoned during the turn of the century. Fishing remains the stable way of life within the community with crabbing and lobster potting dominant. Basking sharks have been a feature of summer life here for as long as people can remember, stories of youth's spent unwinding sharks from Salmon nets in the 1950's are often told in the local Fishermans Inn.

Bunagee Beauty

School: Scoil Naomh Buadáin, Culdaff

Tag ARGOS ID: 116546

Date: 8th August 2012

Location: 55 22 39.8N

Size 5m

Video: no

TDR A08747

Markings: distinctive dark vertical bands on fin.

Parasites: unknown

Teacher: Bernardine Quinn

SERIAL NO:11A1164

Time: 14:51

007 19 01.4W

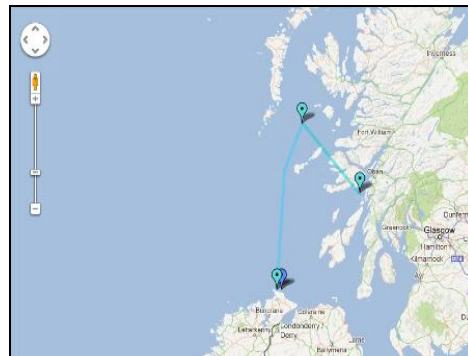
Sex: unknown

Fin photos: top quarter of fin

White Tag 575



Bunagee Beauty Dorsal Fin picture



Latest position

Description

A 5m shark which was feeding with nose above the water surface. This shark was tagged in the afternoon in the Garvan Isle sound. A strong tidal flow was present and the shark was feeding along the obvious tidal eddies where plankton had collected. An average sized shark with good features, this shark should be recognisable in future years.

Name:

‘Bunagee Beauty’ is an apt choice for this small but picturesque coastal community. Culdaff is a sleepy village facing onto a sheltered bay backed by unspoilt golden beaches. Surfing, kayaking and angling is popular during the summer months. Bunagee Pier is the centre of maritime activity with two resident charter angling vessels (Inishowen boating) and numerous other craft engaged in seasonal crab and lobster potting. Culdaff hosts an annual water-sports and angling festival, large music and cultural events as well as the Charles Macklin Autmun School, a celebration of artistic heritage.

Green Marine

School: Scoil Cholmcille, Greencastle

Tag ARGOS ID: 116547

Date: 8th August 2012

Location: 55 22 07.8N

Size: 6m

Video: yes with tag excellent

TDR A0874

Markings: vertical indent in top of fin 5-7 inches long.

Parasites: none

Teacher: Ms Monaghan

SERIAL NO: 11A1165

Time: 10:39

007 14 38.3W

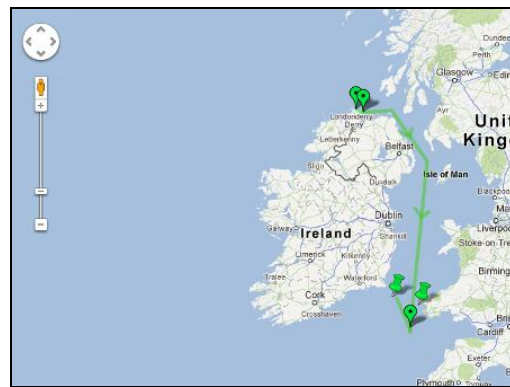
Sex: female

Fin photos: excellent quality

White Tag 582



Green Marine with tag and TDR attached



Pop-off Position

Description:

At 6m Green Marine is the largest and most placid of the satellite tagged sharks. This Female shark was docile and allowed excellent video shots and fin pictures to be recorded subsequent to deployment. The shark remained feeding on the surface for a minimum of one hour subsequent to tagging. Not surprisingly this largest shark has been the first to establish an uplink with the satellites and relay data back from the tag. To view a video of green marine go to <http://www.youtube.com/watch?v=paMXY5vTxsQ&feature=context-gau>

By a series of elimination votes the title 'Green Marine' was bestowed on the Greencastle shark.

Greencastle is home to one of Ireland's largest fishing fleets, the BIM National Fisheries College and an inspiring Maritime Museum. Maritime heritage is strong here with the majority of population working in or servicing the marine sector. In July 2012 Greencastle will host the start of the final leg of the Round World Clipper Race.

PRESENTATION NIGHT AT THE MUSEUM

To complete the educational part of the project a presentation day was held at the National Fisheries College Greencastle during which each community was given an opportunity to display their work and present a talk on their chosen shark subjects. On the day we also invited presentations from professionals from the marine industry who have a local connection (Rosemary McCloskey: Oceanographer and Fisheries Scientist, Dr. Maurice Clarke: Marine Institute, Dr. Marianne O'Connor: University of Ulster, Charlie Cavanagh Maritime Insurance and Irish Coastguard, Paul Bryson Master Mariner and assistant harbour commissioner Derry Port). This event attracted considerable local media attention with a large crowd of pupils, parents and teachers, official representatives, interested individuals and locals in attendance.

Programme for Night at the Museum

Opening address – Emmett Johnston Monster Munch Project Coordinator

Speakers and Presentations

Rosemary McCloskey: Oceanographer and Fisheries Scientist, Education Facilitator for the Monster Munch Project

Scoil Iosagain, Buncrana Presentation

Dr. Maurice Clarke: Team Leader – Pelagic Fisheries, Marine Institute, Galway

Scoil Naomh Mhuire, Malin Head Presentation

Charlie Cavanagh: Area Officer with Irish Coast Guard and Specialist Marine Insurance Broker

Scoil Cholmcille, Glengad Presentation

Dr. Marianne O'Connor: Research Associate at the Centre for Coastal and Marine Research, ESRI, University of Ulster

Scoil Naomh Buadáin, Culdaff Presentation

MM Paul Bryson: Asst Harbour Master Derry/Londonderry Port and Harbour Commissioners

Scoil Cholmcille, Greencastle Presentation

Unveiling of the life size shark by project artistic facilitator Brenden Farren and students who presented on behalf of their class.

Buffet and opportunity to view poster presentations by individual schools

Close and Thanks: Emmett Johnston Project Coordinator

SELECTION OF NEWSPAPER REPORTS

Let us know what is happening at your school by emailing your news and photos to info@inishtimes.com

SCHOOLS



A Monster learning experience

By Laura Glenn
reporter

PUPILS who took part in the enlightening Monster Munch Project were full of enthusiasm and praise for the initiative when they presented what they had learned and unveiled their basking shark at the Greenacastle Mar-

Delighted pupils laud unique shark project

■ Ellen McGarry (left) and Naomi Doherty (Calduff NS) check out the jaws of the life-size basking shark unveiled at the Monster Night.





■ From left, Naomi McGarry and Sarah and Ali Michaelides discovered they could all fit in the mouth of a basking shark.



■ Maurice Clarke (Greenacastle), of the Marine Institute, speaking the Monster Munch Night at the Museum.



■ Charlie Cavanagh, officer-in-charge, Greenacastle Coast Guard, speaking at the Monster Munch night.



The model of the large basking shark unveiled at Greenacastle Maritime Museum. (110658.90)



Marlene O'Connor, research associate, ESRI, University of Ulster addressing the finale of the Monster Munch project. (110658.45)



Pupils detail how they built a basking shark at the Greenacastle Maritime Museum. (110658.47)



Paul Bryson, assistant harbour master, Londonderry Port and Harbour (110658.46)

Above pupils and speakers address the large crowds gathered for the Monster Munch Night at the Museum in Inishowen Maritime Museum, Greenacastle. Also shown is the life size shark model completed as part of the creative art theme within the project.

TERMS OF REFERENCE DELIVERED

Objectives Achieved

- Construction of 5 MK 10 PATF fastloc satellite tags for deployment on basking sharks
- Deployment of 5 MK10 PATF fastloc tags on basking sharks in Inishowen waters
- Sufficient data recovered from the tags so as to follow the sharks movements and display this on the web
- Web based visual portal created using google maps to display ARGOS satellite tracked animals.
- An awareness programme delivered on maritime heritage, marine biology and conservation
- An Art project completed involving the construction of a life size basking shark
- A visual rapid response sightings database developed on the web
- A final presentation day held to promote the projects with guest speakers in Greencastle Maritime Museum.
- One television media production facilitated for RTE
- Comprehensive promotion of the positive environmental link between Inishowen and marine life with focus on the basking shark undertaken via international, national and local media.

Deliverables and Anticipated Outcomes Achieved

Successful delivery of this project has included:

1. An increase in the perceived value of basking sharks to Inishowen coastal community's
2. An increase in the publics association of Inishowen/ Malin head with Basking sharks
3. 15 visual tags deployed on basking sharks in Inishowen waters
4. 5 sat tags deployed on basking sharks in Inishowen waters
5. 4 Genetic samples taken
6. The established photo I.D. database added to on www.baskingshark.ie
7. The capture of quality underwater video for study, and media/ web promotion
8. One television Programme facilitated
9. The capture of quality photographs for tourism providers, web and print media promotion
10. Four focused promotional talks and lectures delivered to wide range of audiences
11. A significant increase in our knowledge of telemetry of marine mega-fauna in Inishowen waters
12. Further development of the knowledgebase for potential commercial tour boat operators on the behaviour of basking sharks in Inishowen waters
13. The results of this project will contribute to our species action plan and ultimate aim to gain legal protection of the basking shark in Irish waters to at least within the 12nml zone.

MONSTER MUNCH PROJECT OUTPUTS ACHIEVED

- Delivery of five full weeks of community awareness classes and field trips for the youth.
- Undertaking a brief questionnaire of households investigating the extent of current marine resource dependence within the communities.
- Delivery of three full weeks of artistic development including the construction of a fifth part of a life size Basking shark by each of the five communities.
- Completion of the basking shark model for permanent exhibit in the Greencastle Maritime Museum.
- Development of a shark reporting database and input field for the website
- Development of a Shark Tracker google maps based web section for the five tagged sharks
- Purchase, construction, programming and field testing of Five Satellite Tags.
- Deployment of all five satellite tags
- Received/ relayed data interpretation and management
- Deployment of 8 Timed Depth Recorder Tags
- Deployment of visual tags and Photo ID recording
- Underwater video shark ID recording
- Genetic slime sampling x 4
- One presentation in the Natural History Museum, Dublin.
- One presentation in Queens University Belfast – Biological Symposium
- One presentation in Ulster Museum – Lunch time lectures
- One programme recorded for RTE Living the Wildlife, Colin Stafford Johnson.
- Numerous interviews with media including RTE – Mooney show, BBC N.I. lunch time news and good coverage in regional news papers has also been achieved.

Promotional work

- Shark blog on the UK shark trust website is to be undertaken by the tagging team – reaching over 50,000 site visitors a day in the UK.
- Two article features in the Irish times by Lorna Siggins
- One presentation in the Natural History Museum, Dublin – Gallery talk series.
- One presentation in Queens University Belfast – Biological Symposium
- One presentation in Ulster Museum, Belfast – Lunch time lectures
- One interview with Ray Darcy on Today FM
- One interview BBC radio 1 daytime news programme
- Two interviews with BBC Foyle – Mark Patterson and evening news
- Local Radio station interviews: Highland, ICR and SWDCR
- Numerous articles in local press: Derry Journal, Inish times, Inishowen independent, Donegal on Sunday and Donegal Democrat.
- Killer whale and Bottlenose Dolphin videos for BBC News and UTV as well as international print and web based media.
- One photo included in the RTE gallery ‘The month in pictures’
- Final pop-off tracks featured in international media press including top 3 articles on Google news for ten days, BBC news, RTE news, Irish times, Irish Independent, French and Canadian national papers, American and Australian national papers.

MEDIA AND PUBLIC AWARENESS

A number of TV productions expressed an interest in coming in 2012. Including a two Gaelic language productions based both in the republic and the North. If possible they will be facilitated in 2013. As we are only able to practically facilitate one production in any given year, we choose the highest profile, with the Gmarsh production for RTE 'Living the Wildlife', this program was not completed during 2012 and there is outstanding sequences to be filmed before final production in 2013.

Once again the significant issue of Insurance and boat coding was raised a number of times by the TV and Radio production companies during initial discussions. The issue is that of Insurance on the water and in the research vessel. Unfortunately the team do not have a coded boat and it is not possible to cover commercial operators or productions working for profit without a coded vessel. This is a serious concern for the ability of the project to facilitate TV productions in the future.

A positive by-product of the project has been reporting of other species to the team. The killer whale videos and pictures reached national news and created a sensation for Inishowen at the start of the holiday season. The bottlenose Dolphins gained 28,000 hits on the Irish American tourism website a reflection of the interest in marine life by potential visitors.



E. Johnston Photo of a killer whale tail which was featured on RTE in the month is pictures



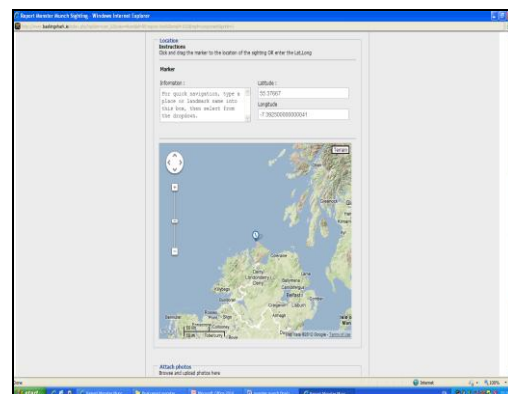
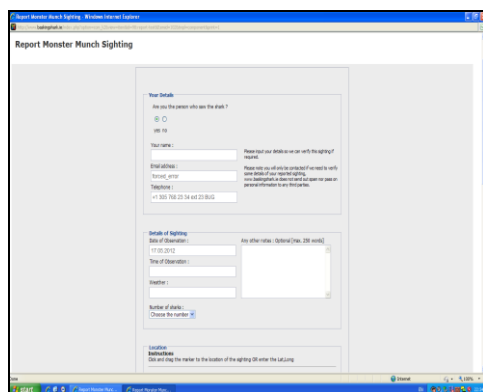
Photos by E. Johnston of Orca and Bottlenose dolphins both of which featured heavily in news media

WEBSITE

This project saw the development of a new sightings database which enables members of the public to easily report their sightings. It utilises google maps icons in order for persons to record their sightings. This is the first of its kind for a marine based site and another illustration of how the group is breaking new boundaries not just in shark ecology but also the application of IT to conservation science. The database also assists us to analyse and interpret the results in a more easily assimilated manor. This is a hugely significant development for the group and means that in the near future we may apply to become the official national biodiversity database for the species.

The development of the shark tracker google maps portal displays the sharks movements and tracks in a format which the majority of persons are used to operating. This will be invaluable for displaying current tracking projects an also new projects which the group may initiate in the future.

As well as the new developments of the shark tracker and sightings report database and portal numerous articles, pictures and videos were also put up on both the website and facebook page. These generated considerable interest and web views regarding Inishowen, Malin head and basking sharks on visitinishowen and basking shark sites.



Screen Grabs of the new Sighting report portal with google maps drop locator icon

Requests for Information

During 2012 the project again received over 100 requests for information from potential 'tourists' (people who reside outside Donegal) on how to view, swim with or encounter basking sharks. 52 of these were by email, 31 by Phone and 27 by personal contact. A number of contacts were made by dive photographers and dive clubs in both Germany and Holland. The contacts were mainly from Irish residents based in Dublin or Galway with approx. 40 % from UK and NI residents. Visit Inishowen highlighted a number of aspects of the project and received excellent market penetration with the pictures, video and articles supplied by the team. More market research is needed on visitor numbers with an interest in marine activities; web traffic monitoring is an easily monitored guideline of public interest but it is difficult to establish the conversion from interest to foot fall.

FUNDING

The Inishowen Basking Shark Study Group secured 75% funding for Monster Munch project from the Inishowen Development Partnership.

Three other funding applications were made to the National Geographic Society Conservation Trust, Save our Sea's Foundation and the Heritage Council all of which expressed good initial interest but ultimately turned down the application.

Accordingly the Inishowen Basking Shark Study Group was required to fill the 25% gap in the projects budget. A number of issues with the teams survey vessel also impacted on the groups financial position with a large unforeseen outlay for repairs needed at the start of the season. These unplanned costs coupled with the usual annual outlays for running the surveys and the group now result in the group being unsure of its ability to continue into the future.

CONCLUSION AND RECOMMENDATIONS

This project took applied science into the classroom and remote coastal communities. It built bridges between fishing dependent communities and professional marine scientists who often make decisions on quotas and marine conservation matters.

The project delivered on its key outcome with the basking shark now being recognised as a central medium within the Inishowen context to bring together significant peninsula based projects and to further enhance the tourism draw and marketing of the peninsula. A number of locally centred organisations and institutions have also made contact due to the projects publicity requesting the development of an enhanced role for them within future plans (Visit Inishowen Tourism, Youth groups, secondary schools, Donegal Co. Council). In addition the Inishowen Basking Shark Study Group and the Monster Munch project team have worked well together and developed an excellent working relationship with future plans already in development.

The Monster Munch project was designed to develop citizen science in the Inishowen marine environment by bringing together professional scientific research and local communities. This has been achieved through the delivery of a community awareness programme involving the youth and specific sectors of each coastal community such as the indigenous fishing industry. Each sector of the community has shown full engagement with the project and a respectful relationship through deeper understanding has developed between the various groups, parties and stakeholders involved in the marine sector, scientific research and tourism. However to take an initiative past the concept stage a community must first understand what is involved but also see the results and benefits first hand.

Recommendation: Cement the new and tentative link between the Malin head community and Marine researchers by engaging through a more employment focused segment of the local population.

This project successfully linked Irish and Scottish shark movements within a single season. It demonstrated the cross political and protection boundaries that the species moves through within short periods of time. It highlights the central role that Irish and Malin head in particular hold in the life cycle of the species. This newly discovered knowledge brings responsibilities for securing the protection of the species in Irish or local waters. The species remains unprotected under Irish legislation but local communities can if they feel strong enough provide a level of protection no legislative body can enforce.

Recommendation: Encourage and facilitate the community development of Ireland's first Marine Park and Europe's first Shark Sanctuary centred at Malin head.

In 2012 sighting reports by fishermen increased considerably. This is a positive reflection on the project generating increased levels of interest. To get the local community further on board and ultimately initiate a Marine Park centred on Shark Conservation at Malin head we need to engage the Malin head community at a more focused and personal level. A proven method of engaging local communities and highlighting local resources to the wider public is through high profile teenage youth based projects. In 2013 the research team aim to undertake a final community based shark project involving the Malin head and Glengad teenage youth group and four tracking tags. This project will engage the community and show what can be achieved by their own members.

Recommendation: A high profile teenage youth based project should be run to cement the local community's ownership of the project and the species.

The project highlighted a low level of species knowledge in some parts of the community. Distinguishing between species is essential to understanding what is unusual and what is usual, what may be of popular interest and what species will capture the media attention. Currently available ID books cover wide areas and include a large number of species. They are often difficult for unaccustomed persons to decipher and understand.

Recommendation: A waterproof Guide booklet to the Marine life of Inishowen should be developed concentrating on the Malin head Area.

Many tourists come to Malin head to view what is associated with the area. This now includes sharks. However there are currently no significant landmarks or displays on basking sharks in the Malin head area.

Recommendation: Build or develop a significant landmark highlighting the relationship between the Basking shark and Malin head.

Many tourists come to Malin head to view what is associated with the area. This now includes sharks. However there are currently no saleable goods associated with Malin head marine life and in particular the close association with basking sharks.

Recommendation: Posters, postcards, mugs etc. should be developed for sale at key tourism outlets highlighting the relationship between Malin head and Basking Sharks.

Once again the significant issue of Insurance and boat coding was raised a number of times by the TV and Radio production companies during initial discussions. The issue is Insurance on the water and in the research vessel. Unfortunately the team do not have a coded boat and it is not possible to cover commercial operators or productions working for profit without a coded vessel. This is a serious concern and limiting factor on the ability of the project to facilitate TV productions in the future.

Recommendation: The group need to purchase a coded vessel to facilitate future research, survey and media initiatives

Potential marine tour operators will need to understand that in depth knowledge of the species and its habits is essential in order to deliver a quality sustainable product to tourists. The Inishowen basking shark study group with its established partner Queens University Belfast are gathering that essential information but need further engagement with the coastal community and commercial marine users. Many marine operators are not computer literate and/or aware of the wealth of information available online. The ability to gather locally and disseminate nationwide the information present within the north Inishowen marine community on a daily basis can only be based on an internet portal. Therefore any future training provided for potential marine tour operators should involve IT skills and highlight the importance of reporting their sightings both locally and nationally. Marine focused tourists monitor up to date marine sightings on the IWDG, MCS and IBSSG websites, this information is regularly used to determine their weekend or summer vacation destinations.

Recommendation: Training for potential Tour Operators should focus on knowledge of the species and the value of IT as a tool for marine tourism product management.

The further developed website and web media provide a valuable portal for engaging with potential tourists and the local community. It highlights the wealth of marine life found around the coast of Inishowen and illustrates the realistic opportunities that are available to see basking sharks and other species on our coastline. The basking shark is not the only marine mega fauna species found on the coast around Malin head but it is one of the most predictable and numerous. It offers a sense of adventure which attracts high levels of both media and public attention. The research team encountered numerous other species during the survey work including whales, dolphins, porpoise, sunfish and other shark species. These species complement the basking shark tour product, but further research is needed on their habits and movements around the coast. It has been shown in similar locations nationwide that the development of a fledgling 'tourism Industry' based around a specialist subject matter involves focused targeting and development of facilities and knowledge for the specialist community before the general public start to engage. Good examples of this include Arts in Galway and Surfing in Bundoran. Therefore it is necessary to continue to support the positive promotion of the areas marine life through the subject matter discovered by relevant scientific research projects.

Recommendation: The website should be promoted as a tool for Tour Operators to use as a means of locally collating information (sightings) on a daily basis and disseminating that information nationwide as a 'Live' advertisement of the product.

This project established a partnership between a non- governmental conservation group, an internationally renowned marine research team and University Lab as well as a locally focused development organisation. It enabled access to skill sets and a substantial knowledge base which complemented each other in every way. The project continued the positive International promotion and association of Malin head as an internationally significant basking shark hotspot. The 2012 season was not an isolated event but formed an essential step within the IBSSG strategic plan and research programme for Malin head waters. It increased the awareness, appreciation and understanding of Inishowen's and Ireland's most iconic marine species. It recorded essential knowledge for the sustainable management, conservation and development of basking sharks as an eco-tourism product in Inishowen waters. It furthered the group's core value of sustainable management and conservation of the species and the areas marine resources.

Recommendation: The balance between relevant conservation led science or 'product development' and promotional activities should be maintained and reflected in future financial applications.

The involvement of the Inishowen Development Partnership in the 2012 season brought a high level of funding to the project and also established the research within the community's psychic as a locally funded and locally driven project. Internationally the scientific research demonstrates the potential that Malin head offers as a study site for marine mega fauna. It highlights the ease and quality of access to what are considered elusive and unpredictable animals. Sharks attract media and public attention. They invoke a sense of adventure that appeals to many individuals who want to experience untamed nature in a wild environment. Malin head offers an easily accessible location with a remote image and pristine natural habitat. It is the ultimate backdrop to the ultimate marine tourist icon. Developing the marine life of Malin head waters into a reliable and sustainable product will take time and considerable financial support. However it should be noted that the most important component in the development of a sustainable marine product at Malin head is the local community. They must engage with any proposals on a level that indicates they not the project organisers or funders claim ownership of the product. The basking shark is now established as a totem project for the development of sustainable marine tourism at Malin head and with the support of all levels of the community it has the potential to establish Malin head as the shark eco-tourism capital of Ireland and Western Europe.

Recommendation: The basking shark should be the totem species for the development of a broader marine tourism product involving all ecological aspects of the Malin head marine environment.

ACKNOWLEDGEMENTS

This project was financially supported by the Inishowen Development Partnership, Inishowen Basking Shark Study Group and Queens University Belfast

The local community of Inishowen is the biggest benefactor to the project and as such the project team would like to thank all who contacted us throughout the season with sightings and shark information.

Project Team

Emmett Johnston	Rosemary McCluskey	Brenden Farren
Jonathan Houghton	Mat Johnston	

QUB research assistants Alan, Gordon and Clare

All involved from the local community schools, without who's patience and trust the project would never have happened

Scoil Iosagain Buncrana
Scoil Naomh Mhuire Malin Head
Scoil Cholmcille Glengad
Scoil Naomh Buadáin Culdaff
Scoil Cholmcille, Greencastle

With special thanks also due to

Fahan marina	Crana Engineering	Redbay Boats
Boyd Bryce	Stephen Doherty	Danny McFadden
John O'Raw	Kevin 'Jack' Doherty	Donal Griffen
'GMIT' Dave	Paul Mayo	Donal Griffen
LSRNLI crew	Inishowen Boating	Rathmullan Charters
Paul Bryson	Charlie Kavanagh	Marianne O'Connor
Maurice Clarke	Inishowen Maritime Museum	Nigel Moyter

APPENDIX

Schools Handout

Anon Feedback Forms

Project Team

List of Participants

SCHOOL HANDOUT

Monster Munch

Basking Shark Community Awareness Programme

The Monster Munch project is an educational programme run by the Irish Basking Shark Study Group

The IBSSG have undertaken pioneering shark research of International significance on your coastline since 2008

Inishowen is now established as one of the top three global basking shark hotspots

The Monster Munch programme aims to

Increase the awareness, understanding and appreciation of basking sharks within fishing dependent communities

Encourage the sustainable management of sharks as a natural tourism product

www.baskingshark.ie



Monster Munch

Basking Shark Community Awareness Programme

The Monster Munch programme will involve:

- Three days in class learning on marine biology, conservation and the importance of the marine to your community
- Single day field survey trips to your local pier and coastline on a fully licenced vessel
- Building a life size basking shark between five community schools for permanent display in the Maritime museum
- An interactive web based sightings competition and shark tracker

We aim to deploy five satellite tags and 15 depth tags in 2012 and we need your communities help tracking the sharks movements

For more information see www.baskingshark.ie or contact Project Coordinator: Emmett Johnston : 087 185 7980

I agree that Photos and/or Video with my child may be used to raise awareness of and promote the Monster Munch project.

Signed Parent/ Guardian

Monster Munch Project

Anonymous feedback form

1) Has your child/children spoken to you about the basking shark project that they have been undertaking in school?

2) Do you or any members of your family/relatives...
(tick which is relevant)

- ☐ Work at sea
- ☐ Spend leisure time at sea
- ☐ Own boats
- ☐ None of the above

Please give details

3) How much do you feel that students benefit from getting access to projects like this in their curriculum? Please rate on scale of 1-5.

Strongly benefit

No benefit

☐ ☐ ☐ ☐ ⁴ ☐ ⁵

PROJECT TEAM

Project Coordinator: Emmett Johnston

Emmett has over 12 year's professional experience in ecological conservation. He has coordinated internationally significant shark research in Inishowen waters since 2008. Emmett has assisted and guided numerous high profile television and radio documentary teams on the North coast of Donegal. He is also a volunteer crew member with Lough Swilly RNLI.

Educational Delivery: Rosemary McCloskey

Rosemary holds a Degree in oceanography, Southampton University and is current Masters student of fisheries science at Swansea University. Rosemary brings subject specific educational experience and as a native of Buncrana, local community knowledge. She previously volunteered as a field assistant with the project in 2010 and 2011 and is a RNLI sea safety advisor.

Creative Art: Brenden Farren

Brenden brings substantial experience in the delivery of community led creative art projects including the Greencastle Drondhiem Mural. He has previous experience in building a life size basking shark head for the first national basking shark seminar, this is now on permanent display in the Maritime Museum, Greencastle.

www.biggreenart.com

Website Development: Matt Johnston

Matt brings substantial experience in the design and maintenance of web based databases and satellite tracking portals. Current conservation centred sites include www.goldeneagle.ie, www.nature.ie, www.iwdg.ie and www.baskingshark.ie

Scientific Research Oversee: Dr Jonathan Houghton

Dr Houghton is Lecturer of Marine Biology at Queen University Belfast, and has over 15 years experience leading marine mega-fauna telemetry research including the satellite tracking of Irish leatherback Turtles, Sun Fish (*mola mola*) and Jellyfish.

PROJECT PARTICIPANTS

Monster Munch Project

Inishowen Basking Shark Community Awareness Programme

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Tara O Connor
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Aimée Kelly
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Niall Mc Colgan
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Áine Mc Colgan
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Rachel Doherty
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Aimee Mc Laughlin

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Bernardine Quinn

John Ruddy
Neil Lynch
Geraldine Brennan
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Amy Doherty
Maurita Doherty
Niamh Doherty
Caoimhe Mills
Ella Mc Grory
Raewyn Murphy
Caoimhe Elizabeth Ruddy
Caoimhe Marie Ruddy
Emma Ruddy
Adam Crumlish
Aidan Cunningham
Thomas O' Brien
Joe O' Connor

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Jade Gallagher
Maeve Gillen
Toni Jay Kelly
Leona McCorkell
Niamh McLaughlin
Rachel Van Stiphout
Pauric Carey-Doherty
Conor Doherty
Adam Thomas Harkin
Matthew McLaughlin
Louis Michaelides
Paul Andrew Rowan
Ria McClenaghan
Eimear McLaughlin
Maria Gillespie
Aisling Meehan-McCormick
Conor McLaughlin
Danielle McDermott
Liam McCrudden
Ronan Bonner
Emma McCauley
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Ryan McLaughlin
Charlie McHenry
James McCauley
Ebony McClenaghan
Cormac Boyce
Jack Ferry
Ellen Gallagher
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