



NAFC

Marine Centre

Shetland Fisheries Training Centre Trust
Annual Review 2009/10



WELCOME

As Chairwoman of The Board of Trustees for the NAFC Marine Centre I have great pleasure in introducing the Centre's Annual Review for 2009/10. Reading all that we have achieved over the last 12 months is truly inspiring; especially in the difficult economic climate we all find ourselves in.

The marine and allied industries in Shetland are worth a staggering £300 million per annum, which is equal to nearly three quarters of the islands' annual economy. Furthermore, there is not one person living in Shetland that does not depend on the sea in some way or other, for transport through the ferry links, for fishing or aquaculture, for tourism or for allied professions such as boat fabrication.

It is therefore absolutely crucial that Shetland Islands Council and the local community work together in partnership to manage this resource in a sustainable way; harnessing its potential both now and in the future to safeguard the economy of this island community. The NAFC Marine Centre plays a crucial role in this ongoing process.

I hope that as you read through this report it will give some indication of the level and diversity of work carried out by the Centre over the last 12 months. There is a bright future for the NAFC Marine Centre, especially working in partnership with the local industry, training providers and the Shetland community. If we are to continue to manage the important marine resources

of the Shetland Islands to ensure that they are sustainable for the long term, whilst also protecting the fine reputation that the Islands have for the quality of their produce, then we have work to do, but I am confident that in working together this can be achieved.

On behalf of The Board I'd like to express our thanks to the team at the NAFC Marine Centre for their continued hard work and dedication.

Councillor Iris Hawkins
Chair of the Trustees





The Shetland economy is largely based around the sea and associated maritime industries, and our prime reason for existing is to support those industries. We have a crucial role to play in contributing to the sustainability of that economy and, ultimately, helping it to continue to grow.

DURING 2009/10 THE CENTRE HAS:

Designed, developed and delivered internally and externally funded work programmes that provide answers to gaps in current knowledge, technology or best practice: We acknowledge that the sea provides many resources which society can continue to benefit from. Our objective is to ensure that these benefits are maximised to a level that can be sustained. One example of this would be our working in partnership with Shetland Shellfish Management Organisation, towards Marine Stewardship Council accreditation for four local fish stocks.

Offered nationally accredited courses for industry in specialist fields, and developed and delivered bespoke short courses designed to provide training to industry that responds to legislative, market and knowledge driven changes in their operations: This includes delivering SVQ Level 2 and 3 in Aquaculture, and the Scottish Progression Award in Aquaculture, to pupils from local schools as part of the widening curriculum offer.

Provided a wide variety of courses across a range of disciplines – afloat and ashore – to meet the needs of the Merchant Navy, engineering and fishing industries: This year was another successful year for Shetland School of Nautical Studies. Seven Merchant Navy engineer officer cadets – including their first ever female engineer cadet – passed their orals, while seven deck officer cadets were successful in achieving their Officer of the Watch (Unlimited) Certificates of Competency.

Offered a range of 'commercial' services from consultancy to knowledge exchange/commercialisation of research outputs: The Centre values regional and national impact derived from its activities above academic progression and this is reflected in our highly applied outputs and close collaboration with industry.

Invested time and resources to reach out to the wider community; engaging with schools and local interest groups to evoke a better understanding of the marine environment, its importance and the people who make a living from it: Activities range from organised programmes, which expose school goers to the marine environment and some of the creatures that live in it, to public lectures, attendance at careers and science fairs, and a public 'Discovery Zone' section on our website.

LOOKING INWARDS, OUTWARDS AND AHEAD

Quality Management Excellence

We have made significant progress in our self-assessment, which has provided insight and knowledge of our strengths and areas for improvement. Using the European Foundation for Quality Management Excellence model, a comprehensive review of our staff's perception of the Centre's performance was undertaken. Three quality improvement projects have now been initiated as a result.

Funding Matters

We continue to reduce our reliance on local financial support from Shetland Islands Council and increase our funding streams through external avenues. Two good examples are: our two-year industry-focused bioassay study to better understand the current pattern of sea lice resistance to chemical treatments in Shetland; and our new fish welfare training course. We secured funding from the European Fisheries Fund to progress both of these initiatives.

Forging Partnerships

As well as proactively looking outwith Shetland to source funding, we are also looking further afield to forge collaborative links with like-minded institutions through research and training. We hope to share best practice and enhance our knowledge base to better support the development of our maritime industries. An example of this would be our work on the Northern Periphery Programme funded project 'Warning of Algal Toxin Events to Support Aquaculture in the Northern Periphery Programme Coastal Zone Region'. Together with partners in Galway, Oban, Aberdeen, Faroe, Norway and Shetland, we are investigating whether the onset of harmful algal blooms can be predicted.

Focused Support

Since it was first established in 1992, the NAFC Marine Centre remains focused on supporting Shetland's maritime industries, which are worth £300 million to the local economy. We are here to help ensure those industries receive the support they need and that our marine resource is managed sustainably now and for future generations.

EDUCATION AND TRAINING

Benefiting the people of Shetland through:



Aquaculture Training

During the last year, 12 SVQ students were successful in obtaining certificates in Aquaculture (Salmon Sea) at Level 2 and Aquaculture (Finfish) at Level 3.

Staff have been working with LANTRA and other industry representatives to rewrite the National Occupational Standards on which both the SVQ and Modern Apprenticeship programmes are based.

Five Secondary 4 school pupils completed the two-year Scottish Progression Award (SPA) in Aquaculture. The Centre's Aquaculture section has collaborated with Scottish Qualifications Authority (SQA) and Barony College to upgrade and modernise this SPA; replacing it with two new National Progression Awards (NPAs), levelled at SCQF4 and SCQF5. The first class to study for the NPA at Level 4 (which is equivalent to Standard grade General or Intermediate 1) will start in September 2010 with an intake of nine students.

A new fish welfare course has also been developed and subsequently accredited by the RSPCA (operators of the Freedom Foods standard for Aquaculture). A number of these courses have been run both in Shetland and on the Scottish mainland, with some funded places made available through the European Fisheries Fund.

Nautical and Engineering

612 students passed through the doors of the Shetland School of Nautical Studies this year to undertake specialist training in a number of areas, including:

Merchant Navy Cadet Programme

A new cadet programme was introduced in 2009 to replace the existing cadet course. The new programme was developed in partnership with several other major UK nautical colleges, and introduced a National Certificate (NC) in Shipping and Maritime Studies for the first time. This NC is common to both Deck and Engineer cadets, and so, for the first time, lecturers from the nautical and engineering sections shared the delivery across the cadet intake.

12 engineer cadets started the new programme in September 2009 and 12 deck cadets started in November 2009, giving a full complement of 24 new cadets on the three-year programme. The later than usual deck cadet start was in response to a request from industry to allow time for more cadet berths to become available.

This year, seven deck and seven engineer cadets joined the Merchant Navy as officers after successfully completing the cadet programme and passing their examinations.

Engineering

A full range of courses is provided for Shetland's maritime and general engineering industries, including National Certificate and Modern Apprenticeship programmes.

The 'Skills for Work, Engineering Skills' initiative continues to be successful in providing progression into further education and engineering courses, with three ex-pupils now employed as modern apprentice engineers, and one joining the engineer cadet programme.

The Merchant Navy and Fishing vessel professional CoC course students achieved an impressive 100 per cent pass rate in both their SQA written and MCA oral examinations, resulting in three Shetland Islands Council ferry employees achieving second engineer qualifications.



Fishermen

During 2009/10, several more under 16.5 metre Skippers Certificates were awarded to local fishermen who completed the full range of mandatory short courses at the Centre. The Centre continues to offer training at all levels to the fish catching sector, including the Class 1 and Class 2 Certificates of Competency Deck and Engineering.

The majority of the local pelagic and white fish fleet have achieved accreditation into the Responsible Fishing Scheme, with coaching provided by Centre staff and auditing services by SSQC Ltd. This initiative is fully supported by Shetland Fish Producers' Organisation and is an excellent example of team working leading to national recognition of the quality of local produce.

Staff at the Centre are involved in the development of a new entrant programme and a proposed Modern Apprenticeship scheme for new entrants to the fishing industry. This will replace the existing SVQ qualification which expires in March 2011. Staff are also assisting in writing new HN units for deck officer fishing Certificates of Competence, which will be part of any new scheme.

During 2009/10, Centre staff delivered a variety of other training courses throughout the year, including 5 Day Bridge Watchkeeping, Sea Survival, Safety Awareness, Stability and SVQ Level II (Fishing).

Benefiting the people of Shetland through:

Marine Policy Advice

Section staff managed the maintenance and operation of the Centre's vessels, *Atlantia*, *Moder Dy* and small boats; engaging in a range of activities including training, sample collection, survey work, fishing trials and research. One piece of work involved a survey of the distribution and abundance of small cod around Shetland, carried out in response to a request from local fishermen.

A substantial amount of time was also spent providing support, advice and assistance to Shetland Fishermen's Association (SFA) throughout the year. This included assisting SFA to evaluate and respond to new and proposed Scottish and European fisheries management measures. An analysis was also carried out for SFA of the economic effects of the Cod Recovery Plan on the Shetland white fish fleet during its first year of operation.

The section continued to support and facilitate the work of SHOAL (Shetland Oceans Alliance) during 2009/10. Work involved preparing responses to a number of consultations on SHOAL's behalf, including: Seafish's Strategy for 2010-13 (Seafish); Fishing Opportunities for 2010 (European Commission); and the Reform of the Common Fisheries Policy (European Commission). Section staff also prepared detailed submissions to the Scottish Government's Inquiry into Future Fisheries Management, helped facilitate the visit of the inquiry team to Shetland and provided support to SHOAL members while they gave oral evidence to the inquiry.

Throughout the year, a series of information notes were also produced and circulated to the Centre's Trustees, Shetland Islands Council members, fishing industry representatives and others. These covered a variety of topics including: scientific advice on the state of fish stocks; fisheries negotiations and future fishing opportunities; new fisheries management measures; and Shetland fisheries statistics.

Fisheries Science

Shellfish research is mainly carried out to support local fisheries management through the provision of an annual stock assessment and targeted fisheries research projects. This includes an ongoing fisheries data collection programme, which supports one of the most detailed inshore fisheries data sets in Europe. Recent projects include an assessment of the quality of lobsters in long term storage.

Ongoing work has mainly focused on the provision of data and support for the Shetland Shellfish Management Organisation (SSMO), which has recently submitted for assessment four of the main fished species for accreditation under the Marine Stewardship Council.

The Shellfish team, alongside the Marine Planning, Policy and Advice section, is involved in the provision of a spatially referenced fisheries management tool. They also carry out planning, consultation and research on closed areas for sensitive habitats within the scallop fishery in collaboration with SSMO. Both initiatives demonstrate an innovative use of data in a fisheries management context.

The Fisheries Science team continues to undertake the analysis and reporting of the annual Fishers' North Sea Stock Survey. This survey provides ICES with fishermen's perceptions of the state of the main fish stocks in the North Sea.

After the successful completion of an earlier study on megrim, research is now continuing under the framework of a three-year study; part of which should lead to a PhD for one staff member. Megrim is a species of flatfish that is commercially important locally. However, very little is known of its biology or ecology. The research being undertaken will address some of the knowledge gaps and should contribute to better informed management.



Aquaculture Research

During 2009/10, work has continued in the marine hatchery using all available eight 20 cubic metre tanks for immunology work using spurdog. This work is now in its third season and the associated client seems pleased with the project developments and results to date.

Salmon farmers are looking again at the potential of using wrasse species as cleaner fish to control parasite burdens on their stocks. The Centre identified that Ballan wrasse was the species of most interest and six tank populations of mature fish are being domesticated for potential broodstock under three different photoperiod regimes. Possible options for the broodstock are being considered and a further three similar-sized tanks are being used to quarantine juvenile Ballan wrasse for a Knowledge Transfer Partnership (KTP) project.

There was a significant delay in commencing the KTP project due to the compulsory following of the NAFC trials' cage site after the diagnosis of Infectious Salmon Anaemia in the area during January 2009. Work has recently re-started under the re-approved KTP scheme to study the use of Ballan wrasse as cleaner fish.

Funding was also obtained for a new purpose-built farm work vessel. Work was at planning stage at the end of the financial year.

MARINE SCIENCE

Benefiting the people of Shetland through:



Marine Spatial Plan

The Marine Spatial Plan for Shetland was launched for its third public consultation and formal Strategic Environmental Assessment from February to June 2010. There was widespread interest and engagement with these consultations and there is no doubt that the many comments received will add significant value to the marine spatial planning process in Shetland.

With its implementation in 2009, work has continued to ensure the Plan's benefits are realised by developers and advisors, as well as ensuring its implementation through local council planning regimes.

Data gaps in seabed habitats were addressed by translating historical fish farm surveys and by undertaking new surveys. This will increase confidence in the current seabed habitat for Shetland and help fill gaps in knowledge.

Over the past year, work has focused on raising the profile of the data and making it as accessible as possible to all. This has included a ground-breaking achievement that sees the information compliant with EU INSPIRE Directive requirements, archiving it with data archive centres in the UK and developing a new section on the NAFC Marine Centre's website where users can download the spatial data.

OTHER DEVELOPMENTS IN THE YEAR

Under the spotlight:



Discovery Zone

The Centre introduced a new section to its website this year – the **Discovery Zone** – in which unusual marine species caught by local fishermen, or found by members of the public, in and around the seas of Shetland are identified.

The zone includes a Google Map, which plots the co-ordinates of where each species was found. Site visitors can also find further information about the vessel or person that found the species, as well as photos of the sea creatures.

The new section should prove a great point of interest and will continue to grow as more discoveries are brought to the Centre for identification.



Science and Technology Exhibition

The Centre exhibited at the Science and Technology Fair held at Clickimin Leisure Complex in Lerwick; an excellent opportunity to connect with the young people of Shetland and demonstrate the hugely important work carried out by staff and future career opportunities available.

The exhibition stand comprised a 'touchy feely' tank of sea creatures, touch screen quizzes and other interactive and hands-on displays to help bring the Centre's work to life.

As well as the tank of sea creatures, visiting children and adults found out more about barnacles from the Marine Science and Technology department (in recognition of Darwin 200 – the bicentenary of the birth of Charles Darwin); heard about the services Shetland Seafood Quality Control Ltd provide for Shetland's seafood industries; and met with members of staff from Shetland School of Nautical Studies who had organised a number of engineering activities and had brought a ship simulator to the stand.



Furthest Travelled Group of Trainees

This year the Centre welcomed its furthest travelled group of trainees. Eight Iranians came to Shetland to undertake a specialist training programme involving the Centre's state-of-the-art simulator.

The group of tug masters chose Shetland because, through their research to find places in the world that would provide the requisite simulator training, the Centre was identified as meeting their requirements in terms of duration, cost and the experience of training staff.

One representative commented: "I've worked in the marine services industry for 37 years and, after only a few minutes in the simulator, I could appreciate the value and sophistication of the equipment, and the professionalism of the staff in meeting our requirements. I'm very impressed with the facility."

TRUSTEES



Shetland Islands Council/Shetland Oceans Alliance

Iris Hawkins Shetland Islands Council (Chairperson of the Trust)

Leslie Angus Shetland Islands Council

Elizabeth L Fullerton Shetland Islands Council

James H Henry Shetland Islands Council

Joseph Simpson Shetland Oceans Alliance (SHOAL)

Fisheries Industries

Hansen Black Chief Executive, Shetland Fishermen's Association

Gordon Drummond Chairperson, Seafood Shetland

David Sandison General Manager, Shetland Aquaculture

Arthur Nicolson Independent

Magnus Shearer Independent

The Shetland Islands Council (SIC) provided the largest source of income for 2009/10.

This grant provides NAFC's core funding to deliver a range of services for the local fisheries industry (including training, monitoring, advice and some research and development). Funding for additional activities has to be sought from external sources.

SFTCT Income 2009/10

59%	SIC Grants
5%	Other Funders
9%	Project Income
11%	Student Fees
3%	Port Arthur House
13%	Other Income



SFTCT Expenditure 2009/10

60%	Salary and Other Staff Costs
16%	Maintenance and Services
3%	Professional Fees
11%	Equipment and Materials
10%	Depreciation



STAFF IN POST

(as at 31 March 2010)

First Name	Last Name	Job Title	Position	Section
Akbar	Ali	Lecturer in Nautical Studies	Full time	SSNS
Simon	Allan	Chef	Full time	Da Haaf
Gregg	Arthur	Hatchery Manager/Scientist	Full time	Marine Science and Technology
Anne	Birnie	Receptionist/Admin Assistant	Full time	Admin and Finance
Alan	Bourhill	Business Development Manager	Full time	Business Development
Muriel	Cheyne	General Operative	Part time	SSQC Ltd
John	Clayton	ICT Technician	Part time	Estates Management
Susan	Davie	Library Assistant	Part time	Estates Management
Brian	Duncan	Analytical Chemist	Full time	SSQC Ltd
Mark	Fullerton	Lecturer in Nautical Studies	Part time	SSNS
Bobby	Gear	PhD Researcher	Full Time	Marine Science and Technology
Daniel	Gear	Shellfish Research Assistant	Full time	Marine Science and Technology
Mark	Gibson	Aquaculture Instructor/Technician	Full time	Marine Science and Technology
Kenny	Gifford	Aquaculture Vocational Training Manager	Full time	Marine Science and Technology
David	Grant	Lecturer in Engineering	Full time	SSNS
David	Gray	Director	Full time	
Lorraine	Gray	Marine Spatial Planning Manager	Part time	Marine Science and Technology
June	Hamilton	Finance Assistant	Full time	Admin and Finance
Alan	Harpin	Section Leader - Marine Farm Services	Full time	SSQC Ltd
Vicki	Henderson	Marine Surveyor	Full time	SSQC Ltd
Lynne	Henry	Finance Officer	Full time	Admin and Finance
Joanne	Herculson	Catering Assistant	Part time	Da Haaf
David	Hopwood	Estates Manager	Full time	Estates Management
Lisa	Jamieson	Cook	Full time	Da Haaf
Anna	Johnson	Catering Assistant	Part time	Da Haaf
Arthur	Johnson	Fisheries Technician/Vessel Skipper	Full time	Marine Science and Technology
Isobel	Johnson	Accountant	Full time	Admin and Finance
Caroline	Keith	Liaison Officer	Full time	SSNS
Kaleem	Khan	Lecturer in Nautical Studies	Full time	SSNS
Duncan	Kidson	Section Leader - Engineering	Full time	SSNS
Chevonne	Laurenson	Senior Fisheries Scientist	Full time	Marine Science and Technology
Kenny	Leask	Lecturer in Engineering	Part time	SSNS
Beth	Leslie	Senior Shellfish Scientist	Part time	Marine Science and Technology
Paul	MacDonald	Fisheries Scientist	Full time	Marine Science and Technology
Louise	Malcolmson	Benthic Lab Technician	Part time	SSQC Ltd
Vicki	Mordue	Restaurant Manager	Full time	Da Haaf

First Name	Last Name	Job Title	Position	Section
Susan	Morrison	Laboratory Technician	Full time	SSQC Ltd
Cameron	Mullay	Laboratory Analyst	Full time	SSQC Ltd
Ian	Napier	Senior Policy Advisor	Full time	Marine Science and Technology
Michael	Nisbet	ICT Technician	Full time	Estates Management
Margaret	Nugent	Technical Manager/Microbiologist	Full time	SSQC Ltd
Niall	O'Rourke	Analytical Services Manager	Full time	SSQC Ltd
Roger	Pascal	Lecturer in Engineering	Full time	SSNS
Laurence	Pearson	Fish Farm and Small Boats Manager	Full time	Marine Science and Technology
Jan	Rigden	Head of School of Nautical Studies	Full time	SSNS
Martin	Robinson	Head of Marine Science and Technology	Full time	Marine Science and Technology
Noelia	Rodriguez	Graduate Trainee Benthic Taxonomist	Full time	SSQC Ltd
Sathappan	Saravanan	Hatchery Scientist/Trainer	Full time	Marine Science and Technology
Richard	Shelmerdine	Shellfisheries Scientist	Full time	Marine Science and Technology
Jurij	Sinicyn	Lecturer in Engineering	Full time	SSNS
Marion	Slater	Shellfish Sampling Officer	Part time	Marine Science and Technology
Agnes	Smith	Trainee Benthic Laboratory Analyst	Full time	SSQC Ltd
Leanne	Smith	Catering Assistant	Part time	Da Haaf
Daniel	Stone	NPP WATER Project Scientist	Full time	Marine Science and Technology
Leslie	Tait	Commercial Fisheries Liaison/Vessels Manager	Full time	Marine Development
James	Thomas	Lecturer in Engineering	Full time	SSNS
Howard	Thomson	Lecturer in Engineering	Full time	SSNS
Elizabeth	Tulloch	Microbiology Laboratory Analyst	Full time	SSQC Ltd
Fiona	Tulloch	Admin and Finance Manager	Full time	Admin and Finance
Fazal	Wadood	Lecturer in Nautical Studies	Full time	SSNS
Leslie	Watt	Quality Control Inspector	Full time	SSQC Ltd
Mark	Wemyss	SMED Project Officer	Full time	Marine Science and Technology
George L	Williamson	Shellfish Sampling Officer	Part time	Marine Science and Technology
Margaret	Williamson	Inspectorate Assessor	Full time	SSQC Ltd
Sean	Williamson	Shellfish Sampling Co-ordinator	Full time	Marine Science and Technology
Steven	Williamson	Fish Farm Operative and Boatman	Full time	Marine Science and Technology
Arlene	Willmore	Admin Assistant	Full time	Admin and Finance
Kathryn	Winter	Shellfish Sampling Officer/Shellfish Research Assistant	Part time	Marine Science and Technology
Matthew	Wright	Assessor	Full time	SSQC Ltd
Geoff	Young	Estates Technician	Full time	Estates Management



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NAFC Marine Centre is an academic partner in UHI Millennium Institute

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The Trust is a Management Agent for the Shetland Islands Council