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Under the Agriculture (Northern Ireland) Order 2004
By the Department of Agriculture, Environment and Rural Affairs
on the 25 January 2017.

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Agri-Food and Biosciences Institute
AFBI Headquarters,
18a Newforge Lane,
Malone Upper,
Belfast BT9 5PX
Northern Ireland

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FOREWORD FROM THE CHAIR



I am delighted to introduce the Annual Report and Accounts for the Agri-Food and Biosciences Institute (AFBI) for 2015/16.

The most significant developments during this, AFBI's 10th year, undoubtedly were the agreement with the Department of Agriculture, Environment & Rural Affairs (DAERA) on the major elements of AFBI's 2020 strategy and the Institute's response to the major reduction in DAERA grant-in-aid which was necessitated by the unprecedented pressures on Northern Ireland public finances. I and my Board colleagues fully understand that these pressures mean that AFBI must refocus its resources on a reduced programme of activity according to the funding available. We therefore supported the Executive in implementing a Voluntary Exit Scheme that resulted in 135 staff leaving the Institute in 2015/16 while a further 13 exited on 30 April 2016. While there has been an impact on AFBI's overall scientific capacity, the salary savings achieved greatly assisted in balancing AFBI's budget for 2015/16 and will contribute to financial sustainability as we re-balance the business for the years ahead. My Board colleagues and I acknowledge the dedicated service of the retiring staff to the Institute.

Having now largely completed the restructuring and the reduction in the staff complement, the Board is determined that AFBI now enters a period of growth in support of the local agri-food sector. In support of this objective, I have expanded the remit of the Board's Finance Sub-committee to include business strategy.

I have also had discussions with many stakeholders to hear their views on how AFBI can best support the local agri-food industry as we developed AFBI's 2020 Strategy. Having previously obtained Department of Agriculture and Rural Development (DARD) Minister Michelle O'Neill's agreement to the major elements of AFBI's strategy, I look forward to its implementation by the AFBI Executive. I believe that it will set AFBI on a path of sustainable growth over the next five years.

I would like to take this opportunity to thank Hilary McCartan and Bob McCann, who retired from the Board on 31 March 2016, for their dedication and support during their time in office. Hilary and Bob served with distinction as Chairpersons of the Finance and Audit Sub-committees, respectively, since their appointment in April 2011.

I am pleased to welcome Dr Michelle Costello-Smith, Ms Theresa Cullen, Ms Fiona Hanna, Ms Joan Houston, Dr Richard Horton, Ms Sharon Smyth and Mr Richard Solomon, who joined the Board on 1 April 2016. They bring a wealth of relevant business experience to the Board that will allow AFBI to address the significant challenges and opportunities that lie ahead. The appointment of an unusually large number of new Board members in one year will facilitate business continuity as six Board members will complete their terms of office on 31 March 2017.

I would like to pay tribute to our outgoing Chief Executive, Professor Seamus Kennedy who has played a significant leadership role in AFBI since its inception and as our CEO for the last six years. Seamus has been a tremendous servant to AFBI and DARD for many years and I wish him a long and very happy retirement.

Following Professor Kennedy's retirement his successor, Professor Elaine Watson joined the Institute on 1st June 2016. However, for personal reasons Elaine resigned from the Institute as of 31 October 2016 and has since been succeeded by Dr Sinclair Mayne. Sinclair is very well known and highly regarded by both AFBI's internal and external stakeholders. I wish Sinclair well in this post and the board and I look forward to working with him in the coming years.

As we celebrated AFBI's 10th anniversary on 1 April 2016, I would like to once again take the opportunity to thank all staff for their dedication and loyalty to the Institute. While we remain in a fiscally challenging environment, I am confident that the high calibre of AFBI's staff will allow the Institute to further develop as a world leading scientific organisation, supporting agri-food, our largest and most important sector, while providing a range of scientific services to an expanding worldwide customer base.



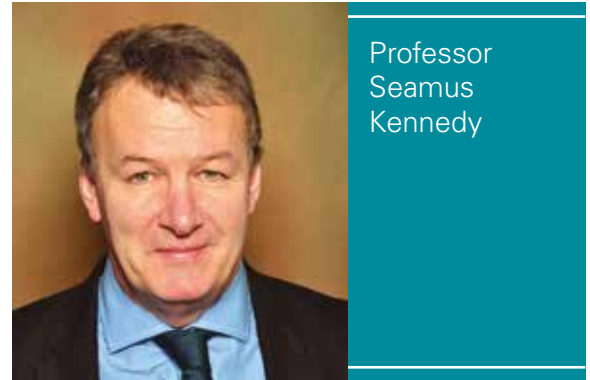
Colm McKenna
Chair

“I AM
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CHIEF EXECUTIVE'S REVIEW



As outgoing Chief Executive, I am delighted to present this Annual Report and Statement of Accounts for the 2015/16 financial year.

During the year, we presented AFBI's 2020 Strategy to the Department. The strategy was designed to reposition the Institute to meet the priority needs of government and industry, while addressing the current and anticipated future pressures on public finances. A central component of AFBI's strategy is to focus on the key scientific pillars in which AFBI can continue to deliver world class science to the local industry. The most significant elements of the strategy relate to the re-positioning of AFBI's estate requirements and the Department's funding for certain AFBI science programmes.

DAERA has confirmed that it will withdraw funding for AFBI's commercial potato breeding research programme from October 2016 and also review its contribution to the Institute's strategic potato breeding programme. DAERA has also indicated that it would no longer fund research in the areas of renewable energy, biomass and poultry production, and requested AFBI to explore alternative funding streams and operational models for its mushroom and top fruit research. The Institute will be exploring the potential for industry funding for some of these research programmes.

It is recognised by the Public Accounts Committee (PAC), Northern Ireland Audit Office (NIAO), DAERA and AFBI that the extent of the estate leased to AFBI on its formation are now excessive based on current and planned needs and this brings a significant cost burden on the Institute. Therefore, a considerable amount of work was carried out by AFBI and DAERA during the year on the planning for redevelopment of AFBI's estate. AFBI worked closely with the Department to develop outline business cases for replacement of the Veterinary Sciences Division (VSD) Main Building, development of new Headquarters/Grassland and Plant Science Centre facilities, and development of options for replacement of the Corystes research vessel.

The Department of Finance (DoF) approved the outline business case for the replacement of the VSD main building in April 2016, subject to the allocation of the necessary capital funding (estimated at £30m). The completion of the outline business case for development of new Headquarters/ Grassland and Plant Science Centre facilities is subject to final decisions on the future scientific work to be carried out at AFBI's Loughgall site. The outline business case for replacement of the Corystes research vessel is due for completion in mid-2016. Subject to approval of all necessary business cases and the availability of capital funding, this site redevelopment would represent the most ambitious programme of estate development undertaken by DAERA and would provide AFBI with state-of-the art facilities.

Considerable work also took place in preparing a plan for necessary development of the livestock research accommodation at AFBI Hillsborough. During the course of this work, discussions with DAERA's College of Agriculture Food and Rural Enterprise (CAFRE) have identified opportunities for an integrated approach to the utilisation of the farmed estate of both organisations, to facilitate increased collaboration on the delivery of research, education and technology transfer functions.

The upgrading of the livestock research facilities at Hillsborough will be enhanced by the award of approximately £3.6m capital funding to AFBI under the UK Agricultural Technologies Strategy for the development of a Centre of Innovation Excellence in Livestock (CIEL.) This initiative involves a partnership, in the form of a company limited by guarantee, with a number of other university, research and industry organisations throughout the UK. AFBI obtained DAERA and DoF approval for joining CIEL which is the first time the Institute has become a member of a limited company. In addition to the initial capital funding, CIEL provides an important platform for bidding for research contracts in the area of livestock science.

Due to the unprecedented pressures on Northern Ireland public sector finances that materialised during the year, the Institute's resource grant-in-aid from DAERA was reduced from £36.5m in 2014/15 to £32.9m in 2015/16. In order to address this major reduction, AFBI introduced a number of cost saving measures including a Voluntary Exit Scheme (VES) for staff, the suppression of a large number of posts, redeployment of a number of staff to priority work areas, and further reduced areas of discretionary spend.

A total of 148 staff left the Institute between 30 September 2015 and 30 April 2016. Four staff members have been approved for exit during 2016 as several existing work streams are reduced or concluded. In order to minimise the impact on scientific skills and capacity, business continuity requirements



considered, in addition to cost-benefit ratio, when selecting applicants for voluntary exit. Nevertheless, it was inevitable that the departure of such a large number of staff would impact on scientific capacity within the Institute. A detailed plan to minimise the impact on core scientific work was implemented. The Institute will now have a clear focus on the key areas of science that will best support the industry.

Despite this major reduction in staff numbers, loss of associated expertise, and a very competitive external funding environment during the year, commercial income showed only a modest reduction from the previous year (£16.9m in 2015/16 compared to £18.0m in 2014/15) and represented 34% of total revenue. In order to win funding for future years, AFBI scientists submitted 15 bids to the European Commission's Horizon 2020 research programme and 9 to the Interreg programme. This work was assisted by the DAERA-funded Horizon 2020 Northern Ireland Contact Person for agri-food who is based in AFBI.

AFBI worked closely with Genome Alberta in organising the fourth Annual Scientific Forum which was held in Alberta. The aim of the forum was to identify research collaboration opportunities and participants included organisations in Canada, USA, Republic of Ireland and Great Britain as well as AFBI. Several visits by members of staff to China and visits by Chinese delegations to AFBI took place. These links not only have the potential for building significant research collaboration but also help build relationships to assist the development of agri-food trade links between Northern Ireland and China.

AFBI submitted a response to the Nurse review of the UK Research Councils and set out the case for extending Research Council funding to public sector research establishments such as AFBI. The recommendation of the review team to introduce a pilot scheme open to Public Sector Research Establishments (PSREs), provides an important future research funding opportunity for AFBI.



Organisational change continued during the year with the merger of the renewable energy unit in Agriculture Branch at Hillsborough with the biomass unit in Crops Grassland and Ecology Branch at Loughgall to create a single management unit for research on biomass as well as the use of renewable energy crops for bioremediation purposes. The Chemical Surveillance and Immunodiagnosics Branches at AFBI Stormont were also amalgamated in response to a reduced volume of statutory brucellosis and veterinary drug residue testing. In addition, the pesticide residues testing function of the Food Science Branch at AFBI Newforge was transferred to the newly formed Chemical and Immunodiagnostic Sciences Branch, in order to take advantage of synergies between the chemical analytical function of the respective branches. Food pathogen work at Newforge was transferred

to the Bacteriology Branch at VSD in order to increase “critical mass” in this function. In her response to AFBI’s 2020 strategy proposals, the DAERA Minister agreed to the principle of co-locating the remainder of AFBI’s food science work to CAFRE’s Loughry campus to form a “one-stop-shop” for food science and technology transfer for the local industry.

During the year, AFBI continued to deliver a wide range of statutory, surveillance, analytical, emergency response and R&D work to DAERA, other government departments and agencies and a wide range of local, national and international organisations. This work is carried out to ISO17025 and ISO9001 standards. The high international standard of scientific work carried out in AFBI is also evidenced by frequent journal awards for “best papers” and appearances in lists of most highly cited papers, and invitations to staff members to speak at international conferences, join European R&D consortia and undertake contract work for organisations in a number of countries. However, it is important to have a formal assessment of the strengths and weaknesses of AFBI’s research. With this objective, the second year of AFBI’s three-year rolling programme of independent peer review of science quality was completed in March 2016. As in the previous year, the review focussed on elements of the research programme within AFBI’s Sustainable Agri-Food Sciences Division. I am grateful to Professor Peter Mills (Chair), Dr Mariecia Fraser and Professor Steven Walker, academic experts, and Mrs Ursula Lavery and Mr Sam Smyth, industry representatives, for their dedicated work in carrying out the review. Implementation of their recommendations will assist in further improving the quality of scientific research carried out by AFBI.



Professor Seamus Kennedy
Chief Executive Officer
Date: 31 May 2016







PERFORMANCE REPORT

3.1 Introduction

The Agri-Food & Biosciences Institute presents its annual report and accounts for the financial year ended 31 March 2016. The accounts have been prepared under the accounts direction given by DAERA, with the approval of the Department of Finance (DoF) and in accordance with the Agriculture (Northern Ireland) Order 2004.

3.2 Overview

The Agri-Food & Biosciences Institute (AFBI or the Institute) is a non-departmental public body (NDPB) that was established under the Agriculture (Northern Ireland) Order, 2004. The Institute undertakes an assigned work programme on behalf of the Department of Agriculture, Environment and Rural Affairs (DAERA or the Department) comprising statutory and analytical testing, diagnostic/surveillance and emergency response activity, together with research and development (R&D) and specialist advice in the areas of animal health and welfare, plant, food, environment and freshwater and marine science, and agricultural and rural economics.

AFBI contribute to the achievement of DAERA's strategic goals by successfully delivering this assigned work programme, providing an emergency response facility and supplying specialist advice as needed.

The commissioning of R&D, funded by DAERA, continues to be essential to the maintenance of the Institute's emergency response capability which is regularly tested through AFBI's responses to major threats to animal and plant health, the food chain and environment. AFBI uses this core R&D funding to leverage in additional resource from a range of funders in order to maximise the value of DAERA's R&D spend in the Institute and reduce the overall running costs to the Northern Ireland government.

The Institute also delivers a portfolio of external work for a wide range of local, national and international customers in these areas. A significant proportion of AFBI's income is derived from international customers representing the equivalent of foreign direct investment in the local economy. AFBI collaborates with CAFRE in transferring knowledge and technology to the local agri-food industry.

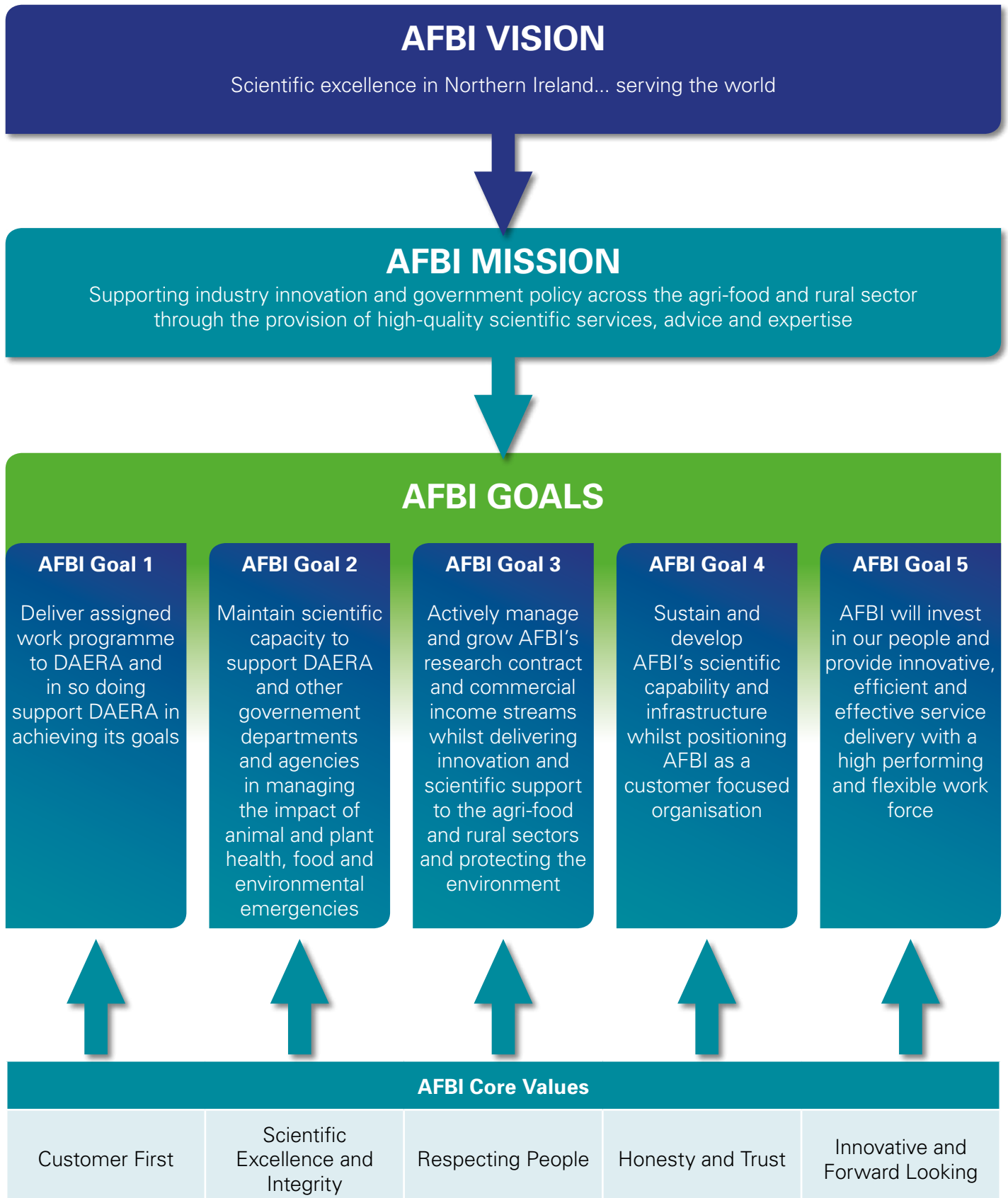
AFBI continued to diversify its customer base over the last corporate strategy period, which has allowed the Institute to progressively reduce its dependence on core government funding. A continuation of this strategy is even more critical in the coming years due to the continuing downward pressure on Northern Ireland public finances.

AFBI's strategic goals are aimed at ensuring the effective and efficient delivery of services to existing customers and continuing the implementation of the most effective organisational structures, systems and processes to ensure that AFBI is optimally positioned to address the anticipated challenges over coming years.

The provision of world class, locally relevant, science to all our customers will continue to depend on development of leading edge knowledge, expertise, skills and technologies and maintenance of AFBI's position as an influential, internationally relevant, centre for innovation in agri-food and biosciences.

Vision, Mission & Goals

AFBI's vision, mission and strategic goals are set out below and are underpinned by AFBI's values and associated behaviours:



AFBI has an important role in assisting DAERA to achieve its goals which are:



AFBI supports DAERA's objectives by delivering:

- statutory, analytical and diagnostic work;
- research and development;
- specialist scientific advice;
- an emergency response capability in the context of animal and plant disease outbreaks and other emergencies in the food and environment areas.

Collaboration & Partnerships

AFBI has continued to develop collaborative working arrangements with European and international universities, other research organisation and commercial partners. Simultaneously AFBI has also continued to collaborate with both local universities, CAFRE, AgriSearch, Invest Northern Ireland and industry, in the design and delivery of research projects of importance to the local agri-food sector. AFBI has focused considerable resources on submitting appropriate high quality applications to the European Union (EU) through the Horizon 2020 (H2020) programme and other EU sources such as INTERREG to grow its income and add value to DAERA's and local industry's R&D expenditure in AFBI.

AFBI continued to initiate and build collaborations across the USA and Canada, strengthening relationships with both government and private sector bodies. The AFBI-led Transatlantic Scientific Forum on Agri-food Research is now establishing itself as an annual event on both sides of the Atlantic and provides a cost effective platform for knowledge sharing, agreeing mutual regional priorities and, by means of a series of intensive thematic workshops over two days, agreeing specific topics for international collaborations which are both capable of attracting jurisdictional funding and capable of delivering measurable outputs of genuine benefit to each region.

AFBI also availed of other R&D funding opportunities as they have become available, such as the UK Agricultural Technologies Strategy. In 2015/16 AFBI became a member of CIELivestock Limited, a consortium of research institutes and industry organisations which formed a company limited by guarantee to deliver agri-food research and innovation to improve the profitability of the UK livestock sector. The Technology Strategy Board acting through InnovateUK has made substantial capital investment in CIELivestock Limited, and AFBI plans to use new funding from this source to enhance its precision agriculture research capability at its Hillsborough research facility. It is envisaged that this initiative will provide opportunities for AFBI to increase external income through competitive research grant funding during the period of the Institute's corporate plan for 2017-20 and beyond.

Funding

In line with other NDPBs, AFBI's funding allocations in respect of resource, capital and depreciation from DAERA are determined through the NI Executive's budget process and reviewed through the in-year monitoring process. AFBI supplements its departmental funding with receipts generated in the course of its operating activities and these receipts form part of the Institute's budget.

Relationship with DAERA

AFBI's main point of contact is the Sponsor Branch (ASB) in the Department. Regular meetings are held with the Sponsor Branch where matters relating to corporate governance, performance measurement, budgets, financing and accountability matters are discussed. A wider customer-contractor relationship underpinned by a memorandum of understanding also exists between AFBI's science delivery branches and the policy branches in DAERA who specify DAERA's required work programme.

AFBI's responses to the quarterly monitoring rounds and comprehensive spending reviews are all routed through ASB.

Relationships with other government departments and agencies

During 2015/16 AFBI had service level agreements (SLAs) to provide services to the Department of Culture, Arts and Leisure (DCAL), the Northern Ireland Environment Agency (NIEA) Water Management Unit, the Department of Environment (DOE) Marine Division and the Food Standards Agency (FSA NI). It also does a significant body of work for the Centre for Environment, Fisheries & Aquaculture Science (CEFAS), Department of Agriculture, Food and the Marine, Republic of Ireland (DAFM) and the Department for Environment, Food and Rural Affairs (DEFRA) and its agencies and NDPBs.

Following the restructuring of NICS departments the work previously carried out under SLA's with DCAL and NIEA will now be managed through the Department.

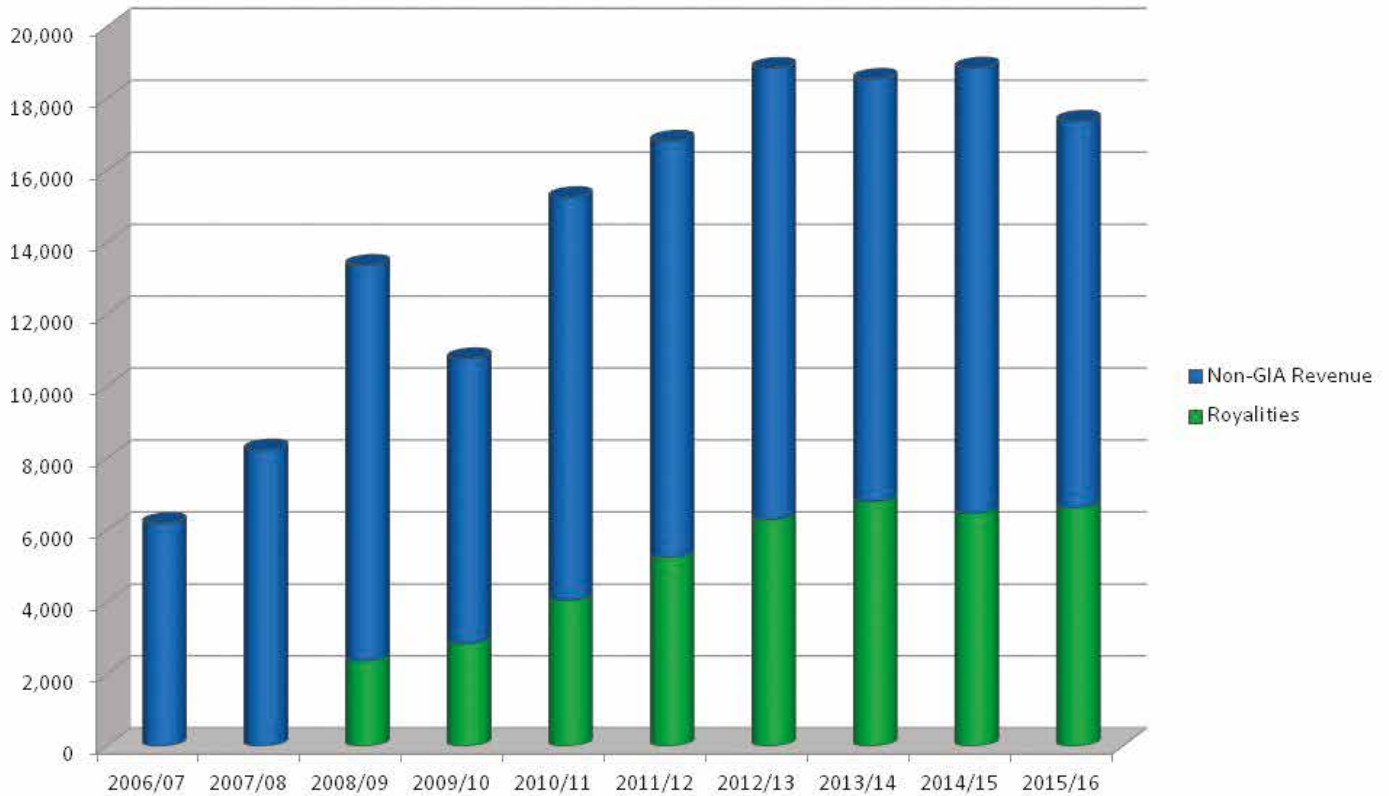
Relationships with educational establishments

AFBI continues to co-operate on projects with both local universities and has also developed close working relationships with universities and institutions in the United Kingdom, Ireland, Republic of India, The People's Republic of China, Canada and The United States of America.

Performance in 2015/16

As an NDPB, AFBI has the opportunity to compete for external income to supplement grant-in-aid (GIA). Since its establishment, AFBI has vigorously pursued all relevant opportunities to grow external income, to the extent that approximately one-third of income is now derived from outside GIA.

In terms of the trend illustrated, AFBI has grown external income from £6.2m in 2006/07 to £16.9m in 2015/16. The recent decline has been due to a combination of factors including reduced spending by Northern Ireland government departments, decreased animal vaccine royalty income, the global downturn in livestock and milk prices, and AFBI’s ineligibility for DAFM’s competitive research programmes in 2015/16. However, in view of the significant reductions in staff numbers in 2015/16 through the implementation of the Voluntary Exit Scheme, the high level of income achieved was testament to the sterling efforts of AFBI staff.



R&D funding from the European Union (EU) through the Horizon 2020 (H2020) programme and other EU sources such as INTERREG is very important to AFBI’s ongoing operations. In 2015/16 AFBI submitted 10 applications to EU’s INTERREG A (cross-border) and B (transitional) programmes and 7 of these projects, representing just over £8m of income and capital funding over 5 years, progressed to Stage 2 of the application process. A further 11 applications were submitted to the EU Horizon 2020 programme with the potential for £2.7m income to AFBI. The DAERA-funded Northern Ireland Contact Point for agri-food will continue to assist AFBI, and other local research providers and industry in developing Horizon 2020 applications. AFBI’s EU-funded R&D will also support DAERA’s commitments to the Northern Ireland Executive for drawdown of European funding.

During 2016/17 and beyond AFBI will again focus considerable resources on a number of high quality applications to these programmes to grow its income and increase its staff knowledge and experience of the application process, leading to future success.

During 2015/16 DAERA’s AFBI Sponsor Branch (ASB) in consultation with AFBI undertook an Arm’s Length Body risk assessment exercise. This was designed to promote a comprehensive approach to assessing risks and corporate governance between the Department and AFBI. While a number of improvement actions were identified for both AFBI and DAERA to take forward, the overall conclusion was that AFBI is performing well, with an average score significantly higher than the scores awarded during the last assessment exercise which was carried out in 2012. An action plan has been produced to capture and monitor progress in implementing the improvement actions identified.

Key risks to the achievement of AFBI's business objectives

AFBI has a well embedded and robust risk management and internal control framework in place with direct involvement of the Executive Management Team through the Risk Management and Business Planning Group. AFBI's Risk Management Strategy clearly sets out the roles, responsibilities, procedures and risk appetite for Risk Management within AFBI. During the year AFBI reviewed and updated its Risk Management Strategy and this was augmented with additional operational guidance and procedures for staff on the management of risks.

In 2015/16 AFBI's Risk Management process was also more closely integrated with AFBI's business planning process to ensure that these are appropriately linked. During the year AFBI's risk management arrangements were subject to review by Internal Audit during 2015/16 and a 'Satisfactory' assurance rating was provided.

Risk Management is a standing agenda item for Board and the Audit & Risk Assurance Committee meetings and AFBI's Risk Register is reviewed by both meetings on a quarterly basis. The Board also reviews one of the risks in detail on a cyclical basis. AFBI's internal and external auditors attend ARAC meetings and therefore provide a further layer of external scrutiny and challenge. There were no new risks added to AFBI's Corporate Risk Register during 2015/16.

In terms of the key risks to the achievement of AFBI's objectives, eight risks are currently identified on the Corporate Risk Register (CRR). These are summarised below:

Reference	Corporate Risk Description
CR1	If AFBI fails to deliver key priority areas of DAERA's Assigned Work Programme (AWP) it may negatively impact its reputational standing with DAERA.
CR2	If AFBI fails to provide agreed external emergency response capability (ERC) requirements and maintain internal business continuity this will negatively impact AFBI's service delivery and reputation.
CR3	If AFBI fails to deliver a balanced budget for 2015/16 this could lead to an inability to deliver on customer requirements and reputational damage.
CR4	If AFBI fails to identify and plan to mitigate future financial risks and pressures this will pose a risk to its medium to long term sustainability and impact negatively on its reputation.
CR5	If AFBI fails to maintain and grow its excellence in scientific capability in key areas this will adversely impact AFBI's ability to deliver to its customers and impact negatively on its reputation.
CR6	Failure to maintain resilient, secure and scalable hardware and software solutions, including systems to support management decision-making, will adversely impact the delivery and efficiency of AFBI.
CR7	If there is a failure to have a fit for purpose and efficient AFBI Estate this will adversely impact on the Institute's ability to deliver to its customers, sustain and increase external income, and negatively affect its reputation.
CR8	Failure to maintain the required staff complement with the right skills, experience and competencies following implementation of the AFBI Voluntary Exit Scheme and associated organisational change will adversely impact on AFBI's ability to fulfil its work requirements for customers.

In addition to the existing controls in place to manage these risks, a number of additional actions have been put in place by AFBI to manage the risks down to the specified target level and progress is subject to oversight by the ARAC and Board.

During 2015/16, following successful implementation of the NIAO/PAC recommendations the associated risk (CR9 above) was removed from the AFBI CRR. To ensure that this progress to be built upon and embedded, a number of additional ongoing arrangements to monitor and benchmark scientific testing and corporate costs have been established including membership of CIPFA's benchmarking groups and internal arrangements to benchmark costs longitudinally.

Future Funding

The outcome of each Comprehensive Spending Review determines the amount of funding available to AFBI in the future. In view of the continuing severe pressures on public finances, further cuts in funding are anticipated. AFBI continues to face price increases and is actively seeking to improve its overall procurement to mitigate against these cost pressures and reduce its cost base. The impact of these factors requires AFBI to realise increased income from other commercial sources and to increase the efficiency of its operations.

AFBI is committed to widening its funding base and increasing the level of non-Grant in Aid revenue generated year on year. Particular focus is being placed on increasing collaborations with the local agri-food sector and on winning funding through international collaborations, particularly in the EU, where the Horizon 2020 Programme will fund European research and innovation between 2014 and 2020.

However, the 'Brexit' decision, following the outcome of the UK referendum, to leave the European Union will have a direct impact on potential access to EU collaborations and funding going forward. This risk to sustainability is recognised within AFBI's Corporate Risk Register. The impact of this will only become clear when UK national government policy on potential continued access to the EU Science programmes becomes apparent.

AFBI continues to develop international business with the support of Invest NI, UK Trade and Investment and the Northern Ireland Bureau in Washington DC.

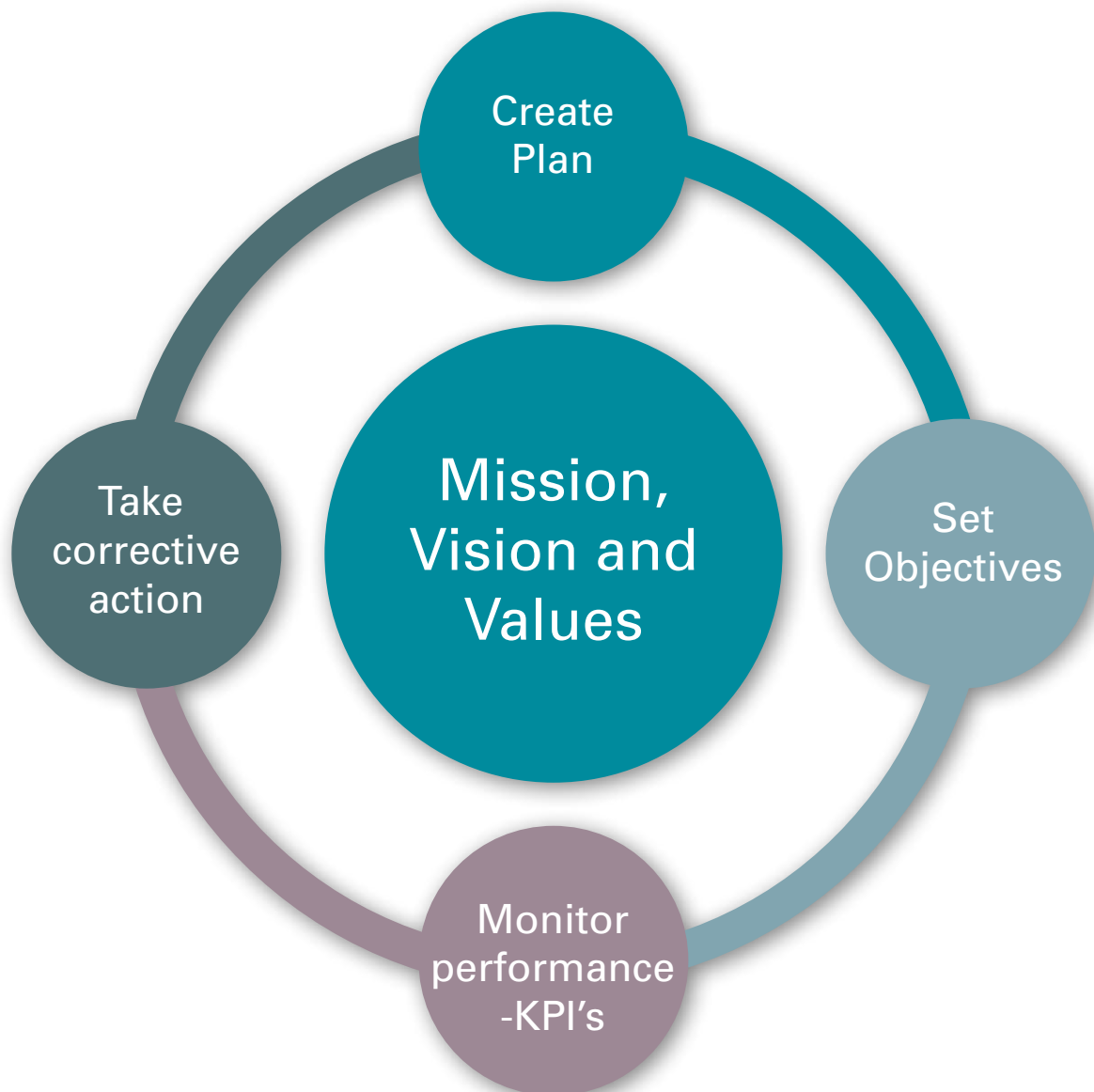
3.3 Performance Analysis

AFBI recognises that good business planning is at the heart of strong governance, effective management and financial viability and requires understanding and ownership of all staff across AFBI. In 2015/16 AFBI developed and issued guidance on business planning to ensure that the AFBI goals are effectively cascaded down through the organisation and are translated into objectives at a Divisional, Branch and Individual level.

This was also aimed at assisting in the development of a strong performance culture within AFBI, where everyone understands where they fit in helping to achieve AFBI's objectives to ensure that there are clearer links from the Corporate Plan and Objectives through the Divisional and Branch plans down to Individual performance plans.

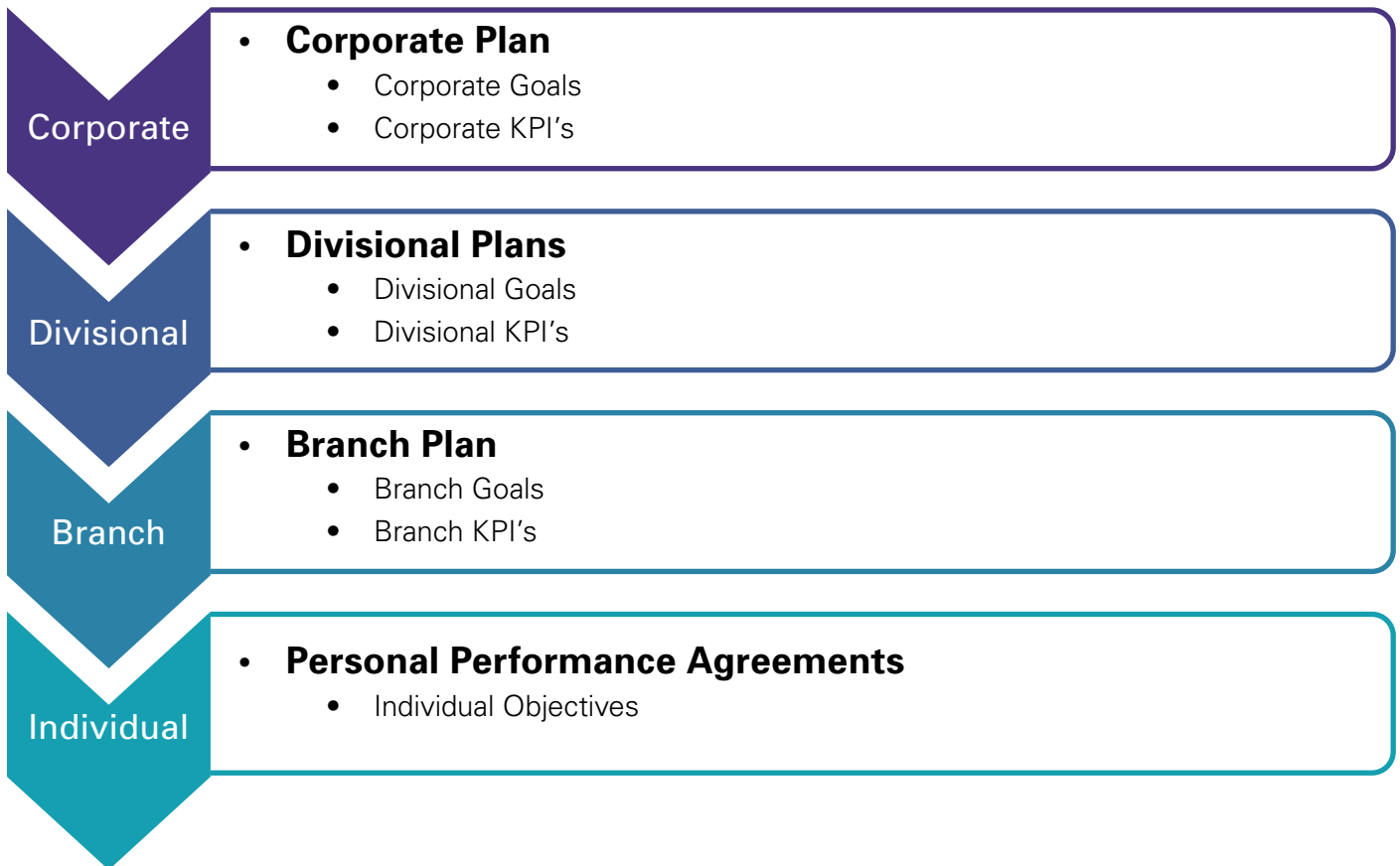
It is a structured and cyclical process and throughout takes cognisance of AFBI's Vision, Mission and Values as illustrated in Figure 1 below.

Fig 1 - AFBI Business Planning and Performance Management Process



AFBI recognises that good plans need to be supported by effective monitoring and reporting of performance at each level of the organisation and feed into the Personal Performance Agreements (PPA's) for all AFBI Staff.

To ensure that these objectives are achieved, it is important that these were cascaded effectively to Divisional and Branch Plans. Cascading represents translating and aligning AFBI's Goals and Key Performance Indicators (KPIs) from the Corporate level down to Divisional and Branch level and finally, to the individual level through the Performance Management Process.



To measure progress towards the achievement of the corporate objectives AFBI developed 24 KPIs for 2015/16. Outturn performance against these were monitored and reported to the Executive Management Team (EMT), the Board and DAERA on a quarterly basis. AFBI's performance management process was subject to review by Internal Audit who provided a 'Satisfactory' Assurance opinion.

The table below summarises AFBI's outturn performance against its 2015/2016 business plan KPIs. This outturn performance has been validated by AFBI's Internal Audit providers.

BUSINESS PLAN TARGET	OUTCOME & ANALYSIS 31 MARCH 2016
1: At least 95% of the DAERA diagnostic and analytical tests stipulated in the Assigned Work Programme delivered to agreed time and quality standards.	Achieved
2: At least 90% of DAERA Evidence & Innovation R&D projects due for completion in 2015/16 completed within the agreed time and budget.	Not Achieved Of the 28 final project reports submitted, 17 (61%) were completed within time and within budget, 9 (32%) were completed within time but over budget mainly due to staff changes resulting in increased staff costs and 2 (7%) were completed both over time and over budget. While the Key Performance Indicator (KPI) target was not achieved, a number of additional changes to the process should improve performance in relation to this KPI in 2016/17.
3: At least 85% of DAERA customers satisfied with delivery of the Assigned Work Programme and Evidence & Innovation R&D projects.	Achieved
4: Emergency response requirements reviewed and agreed with DAERA and other public sector customers in-year.	Achieved
5: All emergency response contingency plans reviewed and updated in-year.	Partially Achieved 17 of the 18 contingency plans were updated during the year. The remaining plan is a joint DAERA and AFBI contingency plan in relation to " <i>exotic pests and diseases on honey bees</i> ". While work was undertaken to identify updates required to the plan, the plan was not updated until after the year end.
6: Each contingency plan tested by a minimum of one desktop exercise per annum.	Achieved
7: At least two contingency plans tested by real or simulated events.	Achieved
8: At least 95% of DAERA's analytical results delivered to agreed time following trigger of an emergency outbreak incident. (Appropriate KPI to be agreed following trigger of each incident).	Achieved

BUSINESS PLAN TARGET	OUTCOME & ANALYSIS 31 MARCH 2016
9: Generate total non-Grant in Aid (GiA) revenue of £20.2m.	Not Achieved With the background of significant staff reductions due to the Voluntary Exit Scheme non GiA income of £16.9m was achieved.
10: Submit 9 EU Horizon 2020 bids.	Achieved
11: Overall commercial customer satisfaction maintained at satisfactory or higher for 95% of completed customer feedback questionnaires.	Achieved
12: Review and update AFBI's Science Strategy in light of budget and organisational changes.	Deferred The AFBI Board agreed to defer completion of the review until September 2016.
13: To complete year 2 of a 3-year rolling independent peer group assessment of the quality of AFBI's scientific work programme.	Achieved
14: Maintain AFBI's international standing by publishing a minimum of 60 peer-reviewed scientific papers.	Achieved
15: Publish 60 articles transferring knowledge, innovation and best practice to the agri-food sector.	Achieved
16: Participate in at least 100 events to transfer knowledge, innovation and best practice to the agri-food industry.	Achieved
17: Deliver the key 2015/16 actions from AFBI's Leadership Development Programme.	Achieved
18: Implement the accepted recommendations of the Northern Ireland Audit Office (NIAO) Value for Money Review of AFBI and the subsequent recommendations of the Public Accounts Committee (PAC) in line with agreed timescales.	Achieved¹

¹ NB- DAERA have commissioned their internal Audit Department to undertake a review of the implementation of all the NIAO/PAC recommendations by AFBI and DAERA and this is expected to report by the end of the 2016 Calendar year

BUSINESS PLAN TARGET	OUTCOME & ANALYSIS 31 MARCH 2016
19: Achieve combined industrial and non-industrial absenteeism of 7.5 working days or less per Whole Time Equivalent (WTE).	<p>Not Achieved</p> <p>While AFBI is robustly adhering to its absence management procedures and adopting as many proactive measures as possible this target was not met because of the impact of the Voluntary Exit Scheme, restructuring and the significant change and uncertainty which AFBI is currently facing.</p> <p>However, AFBI performed better in 2015/16 as compared to the NICS overall by achieving 10.1 working days lost per staff member in comparison to the NICS outturn of 11.6 working days lost per staff member.</p>
20: Work with DAERA to identify solutions to address AFBI's forecasted deficits to 2020 in the context of extensive budget reductions.	<p>Achieved</p>
21: In conjunction with DAERA establish a strategy and timetable for the development of full business cases for the replacement of the main building at VSD and the relocation of functions undertaken at Newforge and deliver the AFBI actions.	<p>Partially Achieved</p> <p>An updated OBC was signed off by the Department and resubmitted to DFP Supply Division 22 January 2016. Receipt of 'conditional approval' of the OBC by DFP was received by the Department on 4 April 2016. Development of the full business case will commence in 2016/17.</p> <p>The first iteration of the OBC for the relocation of functions undertaken at AFBI-Newforge was submitted by the Department to DFP Supply Division 29 July 2015. Following comment from DFP in October 2015, the OBC needed to be updated to reflect the Minister's decisions on AFBI's 2020 Strategy. As a result of the Minister's decisions AFBI- Crossnacreevy was brought into the scope of the OBC and a space utilisation exercise was undertaken in order to inform the space required for the Crossnacreevy functions to be relocated at another AFBI site. Update and resubmission of the OBC has been paused pending agreement with the Department on functions to be retained in relation to SAFSD. The revised completion date will be in the 2016/17 financial year. Development of the full business case will commence once the OBC has been approved by the Department.</p>
22: To design and administer a substantial voluntary exit scheme which targets delivery of £3.1m of in-year savings.	<p>Achieved</p>
23: Provisional resource outturn to be between 98.5% and 100% of the Final Budget allocation.	<p>Achieved</p>
24: Provisional capital outturn to be between 98.5% and 100% of Final Budget allocation.	<p>Not Achieved</p> <p>Actual capital outturn was fractionally outside of the target at 98.2%</p>

Financial Performance for the year

AFBI's Statement of Comprehensive Net Expenditure shows a net operating cost of £41,996k (2014/15: £41,893k). The final position of both years looks coincidentally similar but the impact on income and underlying costs are very different.

Income at £16,943k in 2015/16 is down 6% or £1,039k against 2014/15. Whilst royalty income increased in 2015/16 by 6%, core income from analytical, diagnostic work and research contracts decreased in 2015/16 to £9,291k.

Total costs are down overall by £936k or 1.5% in 2015/16. However, AFBI delivered significantly higher savings, as the total cost of £58,939k includes a one-off cost in relation to the voluntary exit scheme of £4,814k, resulting in the total cost saving of £5,747k or 9.6% year on year. Operating costs at £17,403k decreased by 10% in 2015/16 and the early staff exit, along with other efficiency savings, assisted in decreasing annual staff costs by 11% in 2015/16 compared with previous year. The overall cost reductions reflected the emphasis that the EMT placed on widespread cost reduction and value for money in 2015/16. AFBI is a leaner organisation as it meets the challenges of 2016/17 following the major VES restructuring in 2015/16.

Events since the end of the financial year

There have been no significant events since the end of the financial year which would affect the results for the year or the assets and liabilities at the year end.

Sustainability

Sustainability continued was a cross cutting theme of the Executive's Programme for Government 2011-15 stating that building a sustainable future was a key requirement of our economic, social and environmental policies and programmes. This is also reflected as one of the desired outcomes – 'We live and work sustainably – protecting the environment' in the new draft Programme for Government Outcomes Framework 2016-21 which is currently out for public consultation.

DAERA was the lead department within the NI Sustainable Development Implementation Plan for the strategic objective – Promote Sustainable

Land Management. AFBI assists DAERA in the achievement of this objective through the conduct of underpinning R&D on production of biomass and renewable energy, nutrient management bioremediation of farm and municipal effluents and greenhouse gas production by livestock and soils.

AFBI Estate

In all its land-based operations, AFBI ensures it maintains land in good agricultural and environmental condition. It is however recognised that a significant proportion of the buildings on the AFBI occupied estate are energy and carbon inefficient; prime examples being at the AFBI Newforge and Stormont sites constructed in the late 1960s/1970s. A carbon management energy efficiency survey of the Newforge site undertaken in 2009 by the Carbon Trust concluded the existing buildings at the site present challenges and barriers in terms of upgrading them to meet the inevitable drive to drastically reduce carbon emissions. The current construction of the buildings would make any refurbishment and enhancement costly with lengthy pay back periods. It is therefore recognised under the DAERA Estate Framework 2013 that modernisation and reorganisation of the AFBI estate is required to allow AFBI to make use of property assets more effectively and efficiently. Thereby an AFBI Estate Strategy is currently being developed and taken forward with a view to providing the Institute with an efficient fit-for-purpose and rationalised estate.

During 2015/16 Outline Business Cases (OBC) were completed and submitted by DAERA to DoF for replacement of the AFBI-Stormont Main Building and for relocation of AFBI-Headquarters from the Newforge Lane site, including the proposal to develop a Centre of Excellence for Plant Sciences. The OBC for the VSD Main Building Project received 'conditional approval' by DoF in early April 2016 whilst the Headquarters/Plant Sciences OBC needs to be reviewed, updated and resubmitted following comment from DoF particularly in relation to the outworkings of the AFBI 2020 Strategy. The development of an updated Master Plan for the AFBI-Hillsborough farm research accommodation is ongoing taking cognisance of agriculture related functions undertaken at the DAERA CAFRE farms.

Sustainable technologies will be considered as part of any new developments on the estate in order to achieve energy efficient facilities capable of delivering reduced whole life costs.

Energy Usage and Carbon Reduction

During 2015/16 AFBI has continued to ensure the Institute remains compliant with the Carbon Reduction Commitment Energy Efficiency Scheme (CRCEES). Energy usage across all six sites leased from DAERA is measured on an annual basis and reported as part of CRCEES. Efforts continue to be made to reduce energy consumption both from the viewpoint of efficiency savings and reducing the carbon footprint.

Environment and Renewable Energy Centre (EREC), AFBI Hillsborough

In the agriculture, agri-food and waste water treatment sectors, the need to reduce greenhouse gas emissions, reduce dependence on fossil fuels and improve environmental discharge compliance are of growing importance and relevance within our region and as such, activities at the AFBI Hillsborough Environment and Renewable Energy Centre (EREC), have been on-going with a strong focus on research, knowledge transfer, proof of concept and new research project bidding. The EREC delivers heat and electricity to the Hillsborough site from biomass and solar sources with the main sources of biomass being short rotation coppice willow, forest residues and a small amount of miscanthus grass. Heat, generated from a 320kW biomass boiler, a 120kW experimental biomass boiler, the anaerobic digestion combined heat and power (AD CHP) plant and a dedicated AD gas boiler, is delivered around the site through a heavily insulated 1.4km district heating system.

The majority of the biomass is derived from plantations of short rotation coppice (SRC) willow grown at AFBI's Hillsborough and other AFBI research sites. The SRC willow is fertilised by farmyard waste water. The irrigation protocol is environmentally controlled by a programmable logic controller taking account of ambient conditions (environmentally sound and sustainable solution for waste water recycling). This research has led to similar projects being instigated within the waste water treatment and agri-food sectors where drivers to invest in sustainable waste water management are derived from EU directives Waste Framework Directive (WFD) and customer pressure (low Carbon footprint for marketable food products). These include projects to investigate the use of SRC willow to manage diffuse agricultural run-off, manage landfill leachates and effect water quality within catchments as a result of point source irrigation.

An on-site anaerobic digester, supplied with animal manures and silage, produces biogas which generates about 70kW of electricity and 110kW of heat through a combined heat and power (chp) generator. About 12kW of electricity is also supplied by an array of photovoltaic cells.

Waste

Under current legislation AFBI must incinerate certain types of waste, i.e. transmissible spongiform encephalopathy (TSE) waste. This waste is transported to mainland GB by licensed contractors where incineration takes place. Other clinical waste which can be autoclaved is treated mainly on-site.


Where autoclave facilities are at full capacity, AFBI uses a licensed off-site heat treatment facility.

Recycling measures remain in place for paper, cardboard, plastics, glass, metal, wood, toner cartridges, batteries, waste engine oils and vehicles which are surplus to requirements.

Social

While AFBI does not have a dedicated policy, the principles of corporate and social responsibility are embedded within its key activities for example through sustainable development, environmental protection etc.

Signed:



Date: 23 January 2017

Dr CS Mayne, B.Agr, PhD, FRAgS
Chief Executive and Accounting Officer



ACCOUNTABILITY REPORT

4.1 Introduction

The Accountability Report is set out in 3 main sections:

the Corporate Governance report;
the Remuneration and Staff report; and
the Parliamentary accountability and audit report.

4.2 Corporate Governance Report

4.2.1 The Directors' Report

AFBI Board

AFBI is managed by a non-executive board which has responsibility for providing strategic leadership for the organisation. The main purpose of the Board is to ensure that AFBI is successful in delivering the policies and priorities of DAERA (and the Minister) by providing strategic leadership to AFBI and ensuring effective performance management of AFBI.

To this end and in pursuit of its wider corporate responsibilities, the responsibilities of the Board as set out in the AFBI Board Operating Framework are to:

- establish the overall strategic direction of AFBI within the policy and resources framework determined by the Minister and DAERA;
- constructively challenge AFBI's Executive Management Team in its planning, target setting and delivery of performance;
- ensure that the Board receives, reviews and acts upon regular financial information concerning the management of AFBI; is informed in a timely manner about any concerns relating to the activities of AFBI; and provides positive assurance to DAERA that appropriate action has been taken on such concerns;
- ensure that DAERA is kept informed of any changes which are likely to impact on the strategic direction of AFBI or on the attainability of its targets, and in conjunction with AFBI's Executive Management Team and DAERA, determine the steps needed to deal with such changes;
- ensure that all statutory or administrative requirements for the use of public funds are complied with; that the Board operates within the limits of its statutory authority and any delegated authority agreed with DAERA, and in accordance with all other conditions relating to the use of public funds; and that, in reaching decisions, the Board takes into account all relevant guidance issued by DFP and DAERA;
- ensure high standards of corporate governance at all times, and use the audit and risk committee to provide the Board with assurance in relation to the management of key financial and other risks facing the organisation; and
- appoint a Chief Executive to AFBI and, in consultation with DAERA, set performance objectives and remuneration terms linked to those objectives for the Chief Executive, which gives due weight to the proper management and use of public monies.

Role of the Chairperson of AFBI

The Chairperson is personally responsible and accountable to the Minister for the performance of AFBI and for the strategic leadership and control of the Board. He or she is responsible for ensuring that AFBI's policies and actions support the Minister's (and DAERA's) wider strategic policies and that its affairs are conducted with probity.

The Chairperson shares with other AFBI Board members the corporate responsibilities set out in the Management Statement and Financial Memorandum (MSFM), and in particular for ensuring that AFBI fulfils the aims and objectives set by DAERA and approved by the Minister. The Chairperson also sets performance measures for the board and individual board members.

Board Members

Members are appointed in accordance with the Office of the Commissioner for Public Appointments (OCPA) NI Code of Practice. The terms of appointment of members are for either three or four year periods, with the Chair appointed for three years. The Chair receives an annual remuneration of £25,730 and is expected to commit approximately 40 days per annum to the post. The Deputy Chair receives £10,725 and has a commitment in the region of 20 days per annum.

Members appointed prior to 1 April 2015 are expected to commit in the region of 15 days per year and receive £3,865. Further remuneration of £313 is received by these Board Members for attendance at each relevant committee meeting. Members appointed from 1 April 2015 are on a per diem rate of £377 which they receive for attendance at each Board and relevant Committee Meeting.

Chairperson Mr Colm McKenna enjoyed a long and successful career in Financial Services with Bank of Ireland Group, taking early retirement in October 2008. His final position was Head of Marketing Services, UK, but he previously held the positions of Head of Group Marketing, NI, and Head of Treasury and International Banking.

Mr. McKenna was previously Deputy Chair of Investment Belfast (Belfast City Council) and Chair of the NI Euro Preparations Forum (DETI). He is a Business Administration Graduate from Manchester Business School.



Mr McKenna is Chairman of the South Eastern Health and Social Care Trust, Chairman of Northern Ireland Confederation for Health and Social Care (NICON), Chairman of BBC NI Appeals Advisory Committee, Chairman of the NI Assembly Secretariat Audit and Risk Committee, a non-executive director and chair of the Audit Committee at ILEX Urban Regeneration, a non-executive director of the Northern Ireland Courts and Tribunals Service, Chairman of Club Aontroma, a registered charity responsible for fundraising to assist Antrim GAA.

Deputy Chairperson Professor Bill McKelvey is an Ulsterman, born and raised on a dairy farm in County Down, who has spent most of his professional career working in Scotland. He currently lives near Peebles in the Scottish Borders. He was Chief Executive and Principal of the Scottish Agricultural College for ten years until early 2012. He is a Non-Executive Director of Scotland's largest farming business, Glenrath Farms. He holds one other Ministerial appointment: he is a member of the Board of the Scottish Environmental Protection Agency.



He holds a First Class Honours degree in veterinary science from the University of Glasgow, a postgraduate diploma from the University of Guelph, Canada, and a PhD from the University of Aberdeen. He was recently awarded an Honorary Doctor of Science Degree from the University of Edinburgh.

He is a Fellow of the Royal Society of Edinburgh, and was awarded an OBE in 2011 for services to Agriculture. He is a Fellow of the Royal Agricultural Societies, and was recently elected as the Moderator of the Scottish Panel of the Council for the Awards for the Royal Agricultural Societies. He is also Chair of the Veterinary Policy Group of the British Veterinary Association, and is Chair of the Farmers' Club selection panel for the annual Pinnacle Awards made to Agriculture students from across the UK.



Mrs Hilary McCartan



Mr Bob McCann



Professor Patrick Murphy



Dr Cecil McMurray



Mrs Sarah Havlin

Mrs Hilary McCartan is a Chartered Accountant by profession and lives in Belfast. Mrs McCartan has held a number of senior management posts in the private sector including the role of Finance Director, and a number of non-executive roles in the public sector.

Mrs McCartan has two other public appointments. She is a Commissioner on the Londonderry Port and Harbour Commissioners (DRD) and a Non-Executive Director of the Business Services Organisation (DHSSPS).

Mr Bob McCann lives in Newtownabbey. He is a Chartered Certified Accountant and has a broad management background having held a number of senior management posts in both the private and public sectors, including Group Financial Controller and General Manager (Finance) in NIE, and Director of Finance in the IT company Sx3. He is currently the Chairman in the Northern Health and Social Care Trust and a Non-Executive Director in Warrenpoint Harbour Authority, a member of the Solicitors Disciplinary Tribunal, and a member of the NI Valuation Tribunal.

Professor Patrick Murphy is a native of Rostrevor, Co Down, where he still lives. In a career spanning more than 40 years in education, he has worked at every level of learning from nursery to university, in teaching, management or governance. He was Director and Chief Executive of Belfast Institute of Further and Higher Education for seven years, during which time he helped to transform the profile, content and quality of further and higher education. A specialist in public policy-making, he has served in recent years on a number of public bodies in a wide variety of areas including education, health, heritage, agri-food and local government. He is currently Chair of the Northern Ireland Medical Research Ethics Committee (REC B) in the Department of Health, Social Services and Public Safety and he continues to work as a consultant in social and economic policy.

Dr Cecil McMurray lives in Helens Bay, Co. Down. Dr McMurray has held a number of senior positions with Department of Agriculture NI (DANI) and DAERA and QUB. He is an independent consultant, operating through Sci-Tec Consultancy, who has recently worked internationally for the World Bank, the European Commission and Ministries of Agriculture in several countries world-wide. He was named by the UK Science Council as one of the UK's top 100 scientists in 2014. He has first class honours degrees in both Chemistry and Agriculture and a PhD in Biochemistry from the University of Bristol.

He returned to Northern Ireland following a Research Fellowship in the Chemistry Department of Harvard University USA to a post as head of department at the DANI Veterinary Research Department. During his career he held senior appointments in both QUB (Professor of Agricultural Chemistry as Head of Department in the Faculty of Agriculture) and later as an honorary Professor in the University, and in DAERA as Chief Scientific Officer. Following retirement he chaired an advisory group on TB diagnostics for the DEFRA. In 2014 he was appointed by the Minister of Agriculture and Rural Development to the TB Strategic Programme Review Group (TBSPG). He was awarded a CBE for Public Service in 2002.



Mr David Lindsay



Mr Ken Millar



Mrs Maureen McKeague



Mr Colin Coffey



Mr Ian Buchanan

Mrs Sarah Havlin is the Certification Officer of Northern Ireland; a quasi-judicial and regulatory public office in the field of Trade Union Law. A solicitor by profession, she has a background in agricultural law, including the Chairmanship of the Independent Agricultural Appeals Panel for Farming Grants and Subsidies and Animal Valuation, and she is a former Chair of the Agricultural Wages Board.

She is a visiting tutor at the Institute of Professional Legal Studies at Queen's University and an Associate Lecturer in Law with the Open University. Mrs Havlin also holds a Ministerial public appointment in the Exceptional Circumstances Tribunal and the Regulation and Quality Improvement Authority.

Mr David Lindsay lives in Killinchy, Co Down. Mr Lindsay has a First Class Honours degree in Food Technology. He is a fully chartered member of the Chartered Quality Institute and is certified construction project sponsor and Prince 2 Practitioner. Mr Lindsay is the Project Sponsor for the Northern Ireland Fishery Harbour Authority (NIFHA), and also holds a Ministerial public appointment with The Northern Ireland Food Advisory Committee.

Mr Ken Millar lives in Comber, Co Down. Mr Millar was CEO and Accounting Officer of a DFP Agency between 1996 and 2002. He was a Director in his own consultancy company, and later served as CEO and interim Accounting Officer of the Northern Ireland Law Commission until March 2015. Mr. Millar was involved in preparatory work in relation to the formation of AFBI and in its organisational development between 2006 and 2010.

Mr Millar also holds Ministerial public appointments as Chairman of the Police Rehabilitation and Retraining Trust and also as a Non-Executive Member of the Board of the Northern Ireland Housing Executive.

Ms Maureen McKeague enjoyed a successful career with Ulster Bank Group before establishing her own business, Lynx Business Services in 1995. During her career with Ulster Bank, Maureen completed her Banking Certificate and Trustee Diploma with the Institute of Bankers in Ireland before achieving first place in the coveted Financial Studies Diploma with Chartered Institute of Bankers at a ceremony in London. Maureen previously worked as the International Fund for Ireland's only female development consultant, developing a successful track record in project development in partnership with DAERA and the Department for Communities.

Maureen is currently Chief Executive Officer with Derg Valley Care (DVC), a local charity which provides health and social care. Maureen has worked tirelessly to develop DVC as a high-quality social care provider, winning the prestigious National Training Award – individual category in 2010.

Maureen has spent much of her spare time researching the benefits of complementary therapy and coaching as a supportive intervention for long term conditions, graduating in the first cohort as a Mental Health and Wellbeing Life Coach in 2015 through Kingstown College.

Mr Colin Coffey lives in Bangor. He is a Chartered Director and Fellow of the Institute of Directors with extensive experience in Corporate Governance. Mr Coffey has held a number of senior management posts within the Northern Ireland Food Industry including Chief Executive of United Feeds and Manufacturing Director at Pritchitt Foods. He is currently non Executive Chairman of Flint Studios a software development company, 4 Beauty Group a specialist skincare company, Newton & Bell a pension and wealth investment company and is Chief Executive of the RDA Group a specialist Property Development company. In addition, he is also a Board member of the Northern Ireland Science Park and sits on their Audit committee

Mr Ian Buchanan lives in the North West outside Dungiven on the family farm. The hill farm is all in pasture which is utilised by sheep and a dairy herd. A past President of the Young Farmers' Clubs of Ulster, he has had a long term involvement in Rural Development, being a past member of the Rural Development Council and a past Chairman of the North West Local Action Group in the 2007 – 2013 Rural Development Programme. Ian was a founder member and inaugural Secretary/Treasurer for the first 25 years of Sperrin Producers Co-op.

He is a member of the Ulster Farmers' Union having served as the Rural Development Chair and currently Hill Farming Committee Chair. He is the elected Northern Ireland Regional member for the British Wool Marketing Board and is currently the Chairman.

AFBI maintains a register of interest for Board Members on its website and this can be accessed via www.afbini.gov.uk/content/membership-afbi-board#toc-0

Board Sub- Committees

There are four sub-committees of the Board.

Organisational Development and Human Resources Committee

The primary role of this Committee is the overview of Organisational Development and Human Resources within AFBI and to support the Board's programme of Change Management.

Organisational Development and Human Resources Committee (OD&HR)	
Non-Executive Chair	Professor Bill McKelvey
Non-Executive Director	Professor Patrick Murphy
Non-Executive Director	Mr Ken Millar (member of OD&HR until 1 July 2015)
Non-Executive Director	Ms Maureen McKeague (member of OD&HR from 1 July 2015)

Audit and Risk Assurance Committee

The Audit and Risk Assurance Committee advises the Board and Accounting Officer on issues of risk, internal control, governance and any material items affecting the accounts.

Audit and Risk Assurance Committee (ARAC)	
Non-Executive Chair	Mr Bob McCann
Non-Executive Director	Professor Patrick Murphy (member of ARAC until 30 June 2015)
Non-Executive Director	Mrs Sarah Havlin
Non-Executive Director	Mr Ken Millar (member of ARAC from 1 July 2015)

Other Attendees include:

Head of Internal Audit
 DAERA Internal Audit
 NIAO
 AFBI Sponsor Branch
 Chief Executive Officer, AFBI
 Director of Finance and Corporate Affairs, AFBI
 Head of Finance Branch, AFBI
 Head of Governance & Performance, AFBI

Science Strategy Committee

The role of the Science Strategy Committee is to assist the Executive in developing a Science Strategy for AFBI. In particular, to:

- Identify and prioritise areas of existing scientific work which are of strategic importance to AFBI; and
- Identify and prioritise areas of existing scientific work which are of lower strategic importance to AFBI and which could therefore be reduced or ceased in order to transfer resources to work of higher priority.

Science Strategy Committee	
Non-Executive Chair	Mr David Lindsay
Non-Executive Director	Dr Cecil McMurray

Finance and Business Strategy Committee

The role of the AFBI Board Finance and Business Strategy Committee is to support the Board in its responsibilities for the oversight of financial management including, in particular, the review of financial plans and budgets as well as financial monitoring.

Finance and Business Strategy Committee (FBSC)	
Non-Executive Chair	Mrs Hilary McCartan
Non-Executive Director	Mr Ken Millar (member of FBSC until 30 June 2015)
Non-Executive Director	Mr Colin Coffey (member of FBSC from 1 July 2015)
Non-Executive Director	Mr Ian Buchanan (member of FBSC from 1 July 2015)

Executive Management Team

During the year under review, the Executive Management Team (EMT) of the Institute was made up as follows:

Chief Executive Officer - Professor Seamus Kennedy
 Director of Sustainable Agri-Food Science Division- Dr Sinclair Mayne
 Director of Veterinary Science Division- Dr Stanley McDowell
 Director of Finance and Corporate Affairs Division- Mrs Lesley Hogg

EMT generally meets twice monthly for EMT Finance and EMT General meetings. These have standing agenda covering finance, resources, operational management, health and safety and business development. The minutes of these monthly meetings are available on AFBI's intranet.

Details of significant interests held by EMT members

EMT Members do not hold any other directorships or any other significant interests which may conflict with their management responsibilities.

Role of the Accounting Officer

AFBI's Chief Executive is designated Accounting Officer for the NDPB by the Departmental Accounting Officer and as such is accountable to the Northern Ireland Assembly for AFBI's use of resources as set out in the Management Statement/ Financial Memorandum (MSFM).

In particular, the Accounting Officer shall ensure that:

- AFBI's strategic aims and objectives support DAERA's wider strategic aims and current Public Service Agreement (PSA) objectives and targets;
- the financial and other management controls applied by DAERA to AFBI are appropriate and sufficient to safeguard public funds and for ensuring that AFBI's compliance with those controls is effectively monitored ('public funds' include not only any funds granted to AFBI by the Assembly but also any other funds falling within the stewardship of AFBI);
- the internal controls applied by AFBI conform to the requirements of regularity, propriety and good financial management; and
- any grant-in-aid to AFBI is within the ambit and the amount of the Request for Resources and that NI Assembly authority has been sought and given.

Personal Data Incidents

There have been no reported significant data losses in the course of the year. While there was one incident of potential loss of personal data during the year 2015/16 this was handled under the AFBI Data Breach Incident Plan and was assessed as a low risk incident. This was dealt with promptly with steps taken to prevent recurrence.

Internal Audit

An independent firm of auditors continue to provide Internal Audit services to the AFBI Accounting Officer and provides senior management and the AFBI Audit Committee with assurances of the adequacy of AFBI's systems of internal control and risk management.

Compliance with DFP's Code of Good Practice on Corporate Governance

AFBI complies with all relevant requirements of the "Corporate Governance in Central Government Departments: Code of Good Practice NI" published by DFP in 2013. All members of the AFBI Board and its sub-committees are non-executives.

Supplier Payment Policy

AFBI is committed to the Better Payments Practice Code as set out in Annex 4.6 of Managing Public Money NI and is subject to the Late Payment of Commercial Debt Regulations 2002. AFBI comply with the British Standard for Achieving Good Payment Performance in Commercial Transactions (BS 7890).

Payment is regarded as late if it is made outside the agreed terms, or 30 days after the receipt of a valid invoice where no terms are agreed. In response to the current economic position, the Department for Business Enterprise and Regulatory Reform (BERR) announced in October 2008 that the Central Government was committed to paying businesses in 10 days.

AFBI managed to pay 95% (2014/2015 94%) of the invoices on AFBI's behalf in accordance with the agreed terms or within 30 days. The Business Plan target for 2015/16 was for 94% to be paid within 30 days.

AFBI had a target in the 2015/16 Business Plan progress the 10-day prompt payment target to 70% monthly performance by the year end. At average performance outturn for the 10 day prompt payment was 86%. The performance for the 2014/15 year on this 10 day target was 82%.

Corporate Complaints

AFBI can confirm that it received no complaints during 2015/16. AFBI has a corporate complaints policy in place and this is available via the AFBI website. In addition guidance has been provided to ensure staff are aware of the process to follow to ensure that complaints are managed and responded to. Monitoring and reporting arrangements are also in place to ensure that any issues or trends are identified and where appropriate lessons learned are disseminated through the organisation.

Health and Safety

AFBI complies with all relevant Health and Safety legislation and where practicable with all Health and Safety best practice. AFBI has dedicated Health and Safety advisers and a system of health and safety committees within the Institute with relevant policies and guidance in place.

Quality Assurance

AFBI is committed to delivering a consistently high quality service capable of meeting our customer's specific requirements and expectations. The organisation holds two internationally recognised quality assurance standards providing customers with a formal recognition of the technical competence, impartiality, and performance capability of the laboratory.

ISO 9001:2008 certification covers research and development, the provision of scientific and diagnostic services and statistical analysis.

ISO 17025:2005 accreditation is maintained for statutory testing and in accordance with regulatory and customer requirements in areas such as food safety, disease surveillance and diagnosis, and feed analysis.

Compliance is monitored annually by independent assessment bodies. The ISO 9001 audit was carried out Dec 2015 by SGS and certification was maintained. The ISO 17025 laboratory areas were audited during 2015 by the United Kingdom Accreditation Service (UKAS) and our accreditation status was confirmed.

Northern Ireland Audit Office

The financial statements are audited by the Comptroller and Auditor General (C&AG), in accordance with the Government Resources and Accounts Act (Northern Ireland) 2001. He is head of the Northern Ireland Audit Office (NIAO). He and his staff are wholly independent of Government, and he reports his findings to the Northern Ireland Assembly.

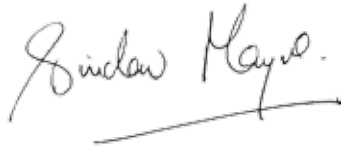
The annual fee for the audit of financial statements for 2015/16 was £35,000 (2014/15: £35,000).

The external auditors have not been requested to undertake any non-audit work.

Following the 2013 NIAO Value for Money Review of AFBI and the subsequent PAC hearing, the Institute devoted considerable effort during the year to implementing the NIAO and PAC recommendations. I am pleased to report that AFBI has completed the commitments outlined in the Memorandum of Reply to the PAC report which was laid in the Assembly by the DFP Minister in May 2014. AFBI has also established ongoing arrangements to benchmark corporate and unit costs to help ensure that further efficiencies are achieved.

Disclosure to Auditor

So far as I am aware, as Accounting Officer, there is no relevant information of which the Institute's auditors are unaware: and, as Accounting Officer, I have taken all steps that I ought to have taken to make myself aware of any relevant audit information and establish that the AFBI's auditors are aware of that information.

A handwritten signature in black ink, reading "Dr CS Mayne", with a horizontal line underneath it.

Dr CS Mayne, B.Agr, PhD, FRAgS
Chief Executive and Accounting Officer

Date: 23 January 2017

4.2.2 Statement of Accounting Officer's Responsibilities

Under the Agriculture (Northern Ireland) Order 2004, AFBI is required to prepare for each financial year, a statement of accounts in the form and on the basis set out in the Accounts Direction.

The accounts are prepared on an accruals basis and must give a true and fair view of the state of affairs of AFBI, its income and expenditure, changes in taxpayers' equity and cash flows for the financial year.

DAERA has appointed the Chief Executive Officer of AFBI as Accounting Officer of AFBI, with responsibility for preparing AFBI's accounts and for transmitting them to the Comptroller and Auditor General.

In preparing the accounts, the Accounting Officer is required to comply with the Government Financial Reporting Manual and in particular to:

- a. observe the Accounts Direction issued by DARD with the approval of DFP (now DoF), including the relevant accounting and disclosure requirements, and apply suitable accounting policies on a consistent basis;
- b. make judgments and estimates on a suitable basis;
- c. state whether applicable accounting standards, as set out in the Government Financial Reporting Manual have been followed, and disclose and explain any material departures in the accounts; and
- d. prepare the accounts on a going concern basis.

The responsibilities of an Accounting Officer, including responsibility for the propriety and regularity of the public finances for which the Accounting Officer is answerable, for keeping proper records and for guarding AFBI's assets, are set out in the Accounting Officer's memorandum issued by DoF and published in Managing Public Money Northern Ireland.

The Accounting Officer is required to confirm that the annual report and accounts as a whole is fair, balanced and understandable and that the Accounting Officer takes personal responsibility for the annual report and accounts and the judgements required for determining that it is fair, balanced and understandable.

So far as the Accounting Officer of AFBI is aware, there is no relevant information of which AFBI's auditors are unaware. The Accounting Officer has taken all the steps that ought to have been taken to be aware of any relevant audit information and to establish that the auditors are aware of that information.

4.2.3 Governance Statement

Introduction

I am pleased to introduce the Governance Statement for the year ended 31 March 2016. This has been produced in line with guidance issued by the Department of Finance (DoF) in Dear Accounting Officer letter DAO 10/12 and Annex A.3.1 of Managing Public Money Northern Ireland (MPMNI).

Scope and Responsibility

As Accounting Officer I am responsible for managing and controlling the resources used in AFBI, in accordance with the responsibilities assigned to me in Managing Public Money Northern Ireland. The Governance Statement sets out the governance, risk management and internal control arrangements that operated in AFBI during the financial year to assist me in discharging this stewardship role.

The governance structures and processes, risk management and internal controls during the year were effective. During the year there was a continued focus on strengthening governance arrangements and internal controls through the implementation of recommendations resulting from internal and external audit recommendations and updating key governance policies in line with established best practice guidance. These improvements are evidenced by the Substantial Assurance rating received in AFBI's Internal Audit review of Corporate Governance which was completed this year.

The NIAO published a report into AFBI in September 2013 and the PAC published a report into AFBI in March 2014. These included recommendations in the areas of efficiency, unit costs, benchmarking, costing and charging and Research & Development project management. Implementation of the recommendations continued to be an area of focus for 2015/16. As part of this work AFBI has established ongoing arrangements to benchmark corporate and unit costs to help ensure that further efficiencies are achieved.

DAERA, with input from AFBI, provided a comprehensive update on the status of implementation of the recommendations to NIAO in April 2015, to the PAC in June 2015 and again to the NIAO in February 2016.

Governance Arrangements

Governance Framework

AFBI's governance framework sets out the roles, responsibilities and procedures for the effective and efficient conduct of the organisation's business. AFBI is committed to ensuring governance arrangements are in line with established best practice and that AFBI is accountable and transparent for its decisions and activities. Appendix A to the Governance Statement illustrates AFBI's Governance and Risk Assurance Framework.

Governance Structure

The DAERA Minister is responsible and answerable to the Northern Ireland Assembly (the Assembly) for the exercise of the powers on which the administration of the Department depends. The DAERA Minister has a duty to the Assembly to account, and be held to account, for the policies, decisions and actions of the Department including AFBI as one of its NDPBs.

While in practice NDPBs operate with some independence and are not under day-to-day ministerial control, ministers are nevertheless ultimately accountable to the Assembly for NDPBs' activities and performance. This is because they are responsible for the founding legislation of NDPBs; have influence over the strategic direction of NDPBs; appoint the boards of NDPBs; and have the ultimate sanction of abolition or reform subject to the Executive's approval where this requires a change in statute.

DAERA's Permanent Secretary is appointed as DAERA's Departmental Accounting Officer by the DoF. AFBI Sponsor Branch is a part of the DAERA's Food and Farming Group and is responsible for managing the overall relationship between DAERA and AFBI. DAERA's AFBI Sponsor Branch holds monthly Finance and Governance meetings with AFBI and facilitates quarterly Accountability Meetings between the Senior Sponsor and me as part of its governance oversight. DAERA's Departmental Accounting Officer has designated me as the Accounting Officer for AFBI.

As Accounting Officer I am personally responsible for safeguarding the public funds for which I have charge; for ensuring propriety and regularity in the handling of those public funds; and for the day-to-day operations and management of AFBI.

In fulfilling my duties as AFBI's Accounting Officer I was supported by my Executive Management Team and a Board. The Executive Management Team consists of the Directors of the Sustainable Agri-Food Sciences Division, the Veterinary Sciences Division and the Finance and Corporate Affairs Division.

The Board

AFBI's Board consists of 12¹ non-executive members appointed by the DAERA Minister. Appointments are made in line with the Code of Practice issued by the Commissioner for Public Appointments Northern Ireland. The main responsibilities of the Board are to ensure that AFBI fulfils the aims and objectives set by DAERA and approved by the DAERA Minister; monitoring AFBI's compliance with applicable law and policy; and for promoting the efficient, economic and effective use of staff and other resources by AFBI. The Board fulfils its responsibilities by establishing the overall strategic direction of AFBI and by challenging the Executive Management Team in business planning, target setting and delivery of performance against agreed targets.

The Board operates within AFBI's Board Operating Framework which sets out the broad governance structures for the Board. It also defines the key roles and responsibilities which underpin the relationship between AFBI and DAERA. The Board governance arrangements were also augmented this year through the adoption of a revised Code of Conduct, Standing Orders, Schedule of Matters Reserved to the Board and Scheme of Delegation.

Board Sub-Committees

While all decision-making powers are reserved to the Board, four sub-committees operated in an advisory capacity in line with their Terms of Reference. Details of these are set out below.

- I. The Audit and Risk Assurance Committee (ARAC) advises the Board on issues of governance risk and control. ARAC reviews the draft and final accounts to provide the Board with the assurance that it can authorise me to sign the accounts on its behalf;
- II. The Finance and Business Strategy Committee supports the Board in discharging its responsibilities for oversight of financial management including the review of financial plans and budget monitoring. The Finance and Business Strategy Committee also assists management in developing strategies to maximise income generation opportunities, including commercial exploitation of intellectual property and technology disclosures;
- III. The Organisational Development & Human Resources Committee (OD&HR) advises the Board on organisational development and human resources matters within AFBI, and supports the Board's programme of Change Management; and
- IV. The Science Strategy Committee assists the Executive Management Team in developing and overseeing the implementation of AFBI's Science Strategy. This includes the identification of a range of key scientific skills and technologies which AFBI should maintain and develop.

¹This was increased to 17 members from April 2016 following the appointment of seven new members and the completion of the terms of office of 2 members.

Board/Sub Committee Attendance

The attendance of members at Board and Sub-Committee meetings during the year is summarised as follows:

AFBI Board	Board Attendance	ARAC Attendance	Finance & Business Strategy Committee Attendance	ODHR Committee Attendance	Science Strategy Committee Attendance
Mr Colm McKenna (Chair)	12/12	-	-	-	-
Prof Bill McKelvey (Deputy Chair)	8/12	-	-	3/3	-
Mrs Sarah Havlin	10/12	4/5	-	-	-
Mr David Lindsay	9/12	-	-	-	4/4
Mr Bob McCann	10/12	5/5			
Mrs Hilary McCartan	11/12	-	5/5	-	-
Dr Cecil McMurray	10/12	-	-	-	4/4
Mr Ken Millar ¹	10/12	3/3	2/2	1/1	
Prof Patrick Murphy ²	12/12	2/2	-	3/3	-
Mrs Maureen McKeague ³	12/12	-	-	3/3	-
Mr Ian Buchanan ⁴	10/12	-	3/3	-	-
Mr Colin Coffey ⁵	12/12	-	3/3	-	-

¹Mr Ken Millar was a member of the Finance & Business Strategy Committee until 30 June 2015 and a member of the OD&HR Committee until 1 July 2015. He was then appointed to the ARAC from 1 July 2015.

²Prof Patrick Murphy was a member of the ARAC until 30 June 2015.

³Mrs Maureen McKeague was appointed to the Finance & Business Strategy Committee on 1 July 2015.

⁴Mr Ian Buchanan was appointed to the Finance & Business Strategy Committee on 1 July 2015.

⁵Mr Colin Coffey was appointed to the Finance & Business Strategy Committee on 1 July 2015.

Board Performance

AFBI's Board reviewed its performance and undertook a self assessment effectiveness review for 2015/16. The review focused on a number of key governance principles:

- purpose and outcomes;
- roles and responsibilities;
- values and governance;
- decision making and risk management;
- Board capacity and structure; and
- stakeholder accountability and communication.

The Board reaffirmed that its role was to set the strategic direction of the organisation, provide constructive challenge, ensure robust governance, hold the Executive Management Team to account, set the tone of the

organisation, ensure that relations with stakeholders are managed effectively and that it is answerable to the DAERA Minister. The review indicated that the Board considered that it was operating effectively.

The review demonstrated that the Board has a clear understanding of its role and strategic priorities and that it promoted high standards of governance, risk and financial management and a culture of performance and delivery. It did however highlight the need to further develop and improve relationships with the Sponsor Department DAERA and to continue to strengthen relationships with stakeholders.

Quality of Information used by the Board

The quality of information provided to the Board and Executive Management Team is of a high standard and financial, whistleblowing and risk register reports are provided on a regular basis. The Board is satisfied with the format, content and quality of the information it has received and this was confirmed in the Board Self Assessment exercise completed for 2015/16.

Compliance with 'Corporate Governance Code'

As the Accounting Officer of a Non-Departmental Public Body of a Northern Ireland department, in line with DAO (DFP) 06/13, I can confirm that AFBI, as an arm's length body of DAERA, complies with all relevant aspects of the "Corporate governance in central government departments: Code of good practice NI" published by DFP (now DOF) in 2013.

Conflicts of Interest

On appointment, board members are required to provide a list of all interests which might give rise to a conflict of interest. At every board and sub-committee meeting a standing agenda item on declarations of interest is included and brought to the attention of the members by the Chair. Board papers are not circulated to members who have declared or are deemed to have a specific conflict of interest. Where a conflict of interest is declared, it is recorded and the relevant member(s) leave the Board meetings for the specific agenda item.

Risk Management Framework & Structure

AFBI has a well embedded and robust risk management and internal control framework in place with direct involvement of the Executive Management Team through the Risk Management and Business Planning Group. AFBI's Risk Management Strategy clearly sets out the roles, responsibilities, procedures and risk appetite for Risk Management within AFBI. During the year AFBI reviewed and updated its Risk Management Strategy and this was augmented with additional operational guidance and procedures for staff on the management of risks.

AFBI's Risk Management process has also been more closely integrated with AFBI's business planning process to ensure that these are appropriately linked. AFBI's risk management arrangements were subject to review by Internal Audit during 2015/16 and a Satisfactory Assurance rating was provided.

Risk Management is a standing agenda item for Board and ARAC meetings and AFBI's Risk Register is reviewed by both meetings on a quarterly basis. The Board also reviews one of the risks in detail on a cyclical basis. AFBI's internal and external auditors attend ARAC meetings and therefore provide a further layer of external scrutiny and challenge. There were no new risks added to AFBI's Corporate Risk Register during 2015/16.

Information Risk

AFBI's approach to the management of information security risks is proportionate to the nature of the risks and the comparatively limited amount of personal or sensitive information handled by AFBI and its delivery network.

As AFBI's Senior Information Risk Owner I have received assurances from the Senior Responsible Owner (SRO) (AFBI Head of IT) that the information governance policy framework is effective and that adequate controls and measures are in place to enable AFBI's information systems to withstand threats to their confidentiality, integrity and availability, as evidenced by compliance with the NICS Code of Conduct which is externally audited.

There have been no reported significant data losses in the course of the year. While there was one incident of potential loss of personal data during the year 2015/16 this was handled under the AFBI Data Breach Incident Plan and was assessed as a low risk incident. This was dealt with promptly with steps taken to prevent recurrence.

The SRO has in turn based his statement on the assurances received by him from AFBI's IT Security Officer (Head of IT Infrastructure and Support) in relation to IT security accreditation and where IT legislative compliance is concerned, he has relied on AFBI's Data Protection Officer & Freedom of Information Co-ordinator.

Sponsor Branch Risk Assessment

In line with DAERA's Arms Length Body Sponsorship Manual, AFBI Sponsor Branch completed a risk assessment of AFBI's activities in 2015/16. This is designed to inform the Department's oversight of the Institute and to strengthen these arrangements if necessary and promote a comprehensive approach to assessing risks and corporate governance between the Department and AFBI.

Overall this showed significant progress by the Institute since the previous exercise was completed in 2014. The Assessment Team considered AFBI's performance across a range of corporate governance areas based on available evidence and awarded scores against a series of questions within each area, ranging from 1 (not at all) to 7 (very effectively). The results from this exercise indicate that overall, AFBI is performing well, with an average score of 5.98. This has increased significantly from the average score of 4.46 awarded during the last assessment exercise.

In terms of the overall risk rating for AFBI, the range available was High, Medium/High, Medium, Medium/Low or Low. The Assessment Team awarded an overall risk assessment of 'Medium'. This again represents an improvement from the Medium/High rating awarded previously.

A total of 15 improvement actions were received in December 2015. 12 of these have already been completed and 3 are in progress.

Internal Controls

An important element of AFBI's risk management framework is the system of internal control. This is designed to manage AFBI's risks to a reasonable level, rather than to eliminate all risk of failure to achieve aims and objectives. It can therefore only provide reasonable and not absolute assurance of effectiveness. A system of internal control was in place throughout the year and is in accordance with guidance defined in Managing Public Money Northern Ireland.

Assurance Statements

I obtained additional assurance through quarterly Assurance Statements provided to me by AFBI's three Heads of Division. I in turn provide a quarterly Assurance Statement to AFBI Sponsor Branch in DAERA. My Assurance Statements confirmed that the necessary internal controls were in place to provide reasonable assurance in the areas of:

- Accountability & Governance;
- Performance against Key Objectives & Targets;
- Risk Management;
- Business Planning;
- Financial Planning & Monitoring;
- Fraud;
- Economic Appraisal, Post Project Evaluation & Consultancy;
- Procurement;
- Policy implementation;
- Human Resources;
- Internal & External Audit Reports; and
- Data Management.

This assurance is subject to outstanding information governance gaps which are currently being addressed. AFBI does not have a corporate records management system however it has continued to explore options for the implementation of a records management system both with Enterprise Shared Services and alternative providers. A series of actions is planned for 2016/17 to strengthen the existing arrangements including completion of an information audit and the development of a fileplan which will underpin the successful implementation of a records management solution.

AFBI's participation in CIELivestock Limited

The Agriculture (Northern Ireland) Order 2004 does not permit the Institute to form or participate in the formation of companies except with the approval of The Department of Finance. However, having sought and obtained the necessary consent from the DAERA and the Department of Finance, the Institute became one of 12 research institutes/ universities to become original founding members of CIELivestock Limited, a company limited by guarantee (the Company) in February, 2016. The Institute's participation as a member of the Company enables it to receive up to £3.6m from the Company to invest in capital equipment on its research farm at Hillsborough. It is anticipated that the Company will have the ability to influence the strategic direction of UK Livestock research and will allow the Institute to leverage other research funding and enable its participation in large scale and high profile scientific research and development opportunities commissioned by industry through the Company."

Financial Management

AFBI's system of internal financial control is based on a framework of financial information, financial procedures, segregation of duties and a system of delegation and accountability. These include annual budgeting, in year forecasting, corporate budget monitor reports and divisional and branch reports.

Fraud & Whistleblowing

All cases of factual or suspected fraud that came to my attention during the year were reported to DAERA's Principal Accounting Officer, the Comptroller and Auditor General of the NIAO, AFBI's Chair and the Chair of AFBI's ARAC. I can also confirm that there were no whistleblowing cases raised in 2015/16.

Key Assurance Providers

AFBI's Internal Audit

AFBI's Internal Audit function is carried out by a professional accounting firm which was appointed in accordance with the Public Sector Internal Audit Standards (PSIAS). Under the terms of the appointment, a Director in the firm acts as AFBI's Head of Internal Audit, who provides me with an independent opinion on AFBI's systems of risk management, control and governance and AFBI received an overall satisfactory level of assurance in respect of 2015/16.

PSIAS requires AFBI's internal auditors to bring to my attention those significant control issues which may be relevant to the preparation of my Governance Statement. I am pleased to report that there were no significant issues which needed to be brought to my attention (i.e. Priority 1 recommendations).

During the year DAERA's Internal Audit carried out an External Quality Assessment (EQA) of AFBI's Internal Audit provider in line with the requirements of the PSIAS. The EQA review concluded that DAERA's Internal Audit was satisfied that AFBI's Internal Audit providers were operating in line with the standards.

Internal Audit conducted 6 audits during the year, 2 of which were provided with a substantial assurance rating with the remaining 4 achieving satisfactory assurance ratings. These are summarised in the following table.

Audit	Assurance Rating	No of Recommendations by Priority Rating		
		1	2	3
Review of External and Internal Communications	Satisfactory	-	1	4
Review of Efficiency Measurement	Satisfactory	-	3	-
Review of Asset Management	Substantial	-	-	3
Review of Corporate Governance	Substantial	-	-	3
Review of Risk Management	Satisfactory	-	1	3
Review of Performance Management Processes across AFBI	Satisfactory	-	3	-
Review of the Implementation of AFBI's Financial Improvement Plan	n/a	n/a	n/a	n/a

In addition, Internal Audit undertook a follow up review of all recommendations made during the 2014/15 year in relation to a number of reviews. This showed good progress in the implementation of recommendations with all either fully or partially implemented with the exception of 1 which could not be tested as the DAERA commissioning process for research and development projects had not commenced.

Enterprise Shared Services audited by DFP Internal Audit

To enable me to complete this Governance Statement, I have also drawn on assurances received from the Head of Internal Audit in the DoF in respect of the Enterprise Shared Services that AFBI avails of. During 2015/16 the DoF conducted a number of audits which are summarised in the table below along with the assurance rating received. The Head of Internal Audit in the DoF has provided an overall Satisfactory opinion on ESS overall.

Shared Service Utilised	No of Audits Completed	Assurance Rating
HR Connect (Human Resource management)	6	2 x Substantial 4 x Satisfactory
IT Assist (centralised IT services)	1	Satisfactory
Central Procurement Directorate	2	2 x Satisfactory

External Assurance - NIAO

AFBI's annual accounts are audited by the NIAO. In its 'Report to Those Charged with Governance', the NIAO issued an unqualified audit opinion and no priority 1 recommendations were received for the 2014/15 accounts.

As disclosed in AFBI's previous Governance Statements, NIAO published a Value for Money review of the period since AFBI's establishment on 1 April 2006 until 31 March 2011. The report was published on 12 September 2013 and contained 11 recommendations relating to financial management, performance reporting, the management of research and development activities and governance and oversight arrangements within AFBI.

The report was examined by the PAC in November 2013 which in turn published a report on 19 March 2014 containing 6 recommendations. A Memorandum of Reply to the PAC report was laid in the Assembly in May 2014.

Implementation of the NIAO and PAC recommendations continued to be a key area of focus throughout 2015/16. Progress is monitored through quarterly returns to DAERA, the Board and ARAC. Progress is also discussed as a standing agenda item on the Accountability meetings between me as AFBI's Accounting Officer and the DAERA Senior Sponsor which forms part of the overall governance framework.

I am pleased to report that AFBI has implemented all of the recommendations. This progress included the 'satisfactory' assurance opinion provided by AFBI's Internal Auditors in their review of efficiency measurement which was completed in 2015/16. This review was carried out in line with one of the recommendations made by the PAC which required that DAERA undertake an annual assurance review of key measures including costing and charging, efficiency measurement and research and development project management in AFBI.

AFBI has also established ongoing arrangements to benchmark corporate and unit costs to help ensure that further improvements and efficiencies are achieved.

Monitoring the Implementation of Recommendations

The status of all internal and external audit recommendations along with the PAC and NIAO value for money review recommendations are reported to the Audit & Risk Assurance Committee on a quarterly basis to ensure that these are effectively implemented in line with the agreed implementation date.

Significant Issues

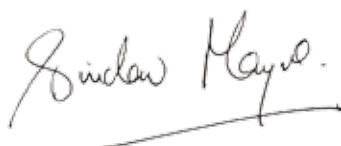
2015/16 was an extremely challenging year for AFBI due to a significant reduction in AFBI's cash budget and the requirement to absorb other financial pressures. In response, AFBI introduced a series of cost reduction measures including the suppression of posts, redeployment of staff to priority work areas, and cuts in overtime, travel and subsistence and the use of agency staff. AFBI also implemented a substantial staff Voluntary Exit Scheme with 135 leaving during the year and a further 17 scheduled to leave in 2016/17. This inevitably has implications for the scientific capacity of AFBI and AFBI has produced a 2020 Strategy and action plan to consolidate the work of the Institute around key scientific pillars.

As identified in previous years' governance statements, a large component of AFBI's royalty income stream is due to end in the next few years. However, AFBI continues to work with the Queen's University of Belfast to clarify and maximise the duration and quantum of this important income stream.

Given the significant level of EU funding accessed by AFBI, the 'Brexit' decision to leave the European Union following the outcome of the UK referendum could potentially have direct impact. However the impact of this is unclear and will only be ultimately determined by future government policy on whether the UK continues to 'buy into' the EU research funding programmes. In the interim there could be a reluctance by European partners to enter into collaborations with AFBI and in turn reduce funding available to AFBI.

Conclusion

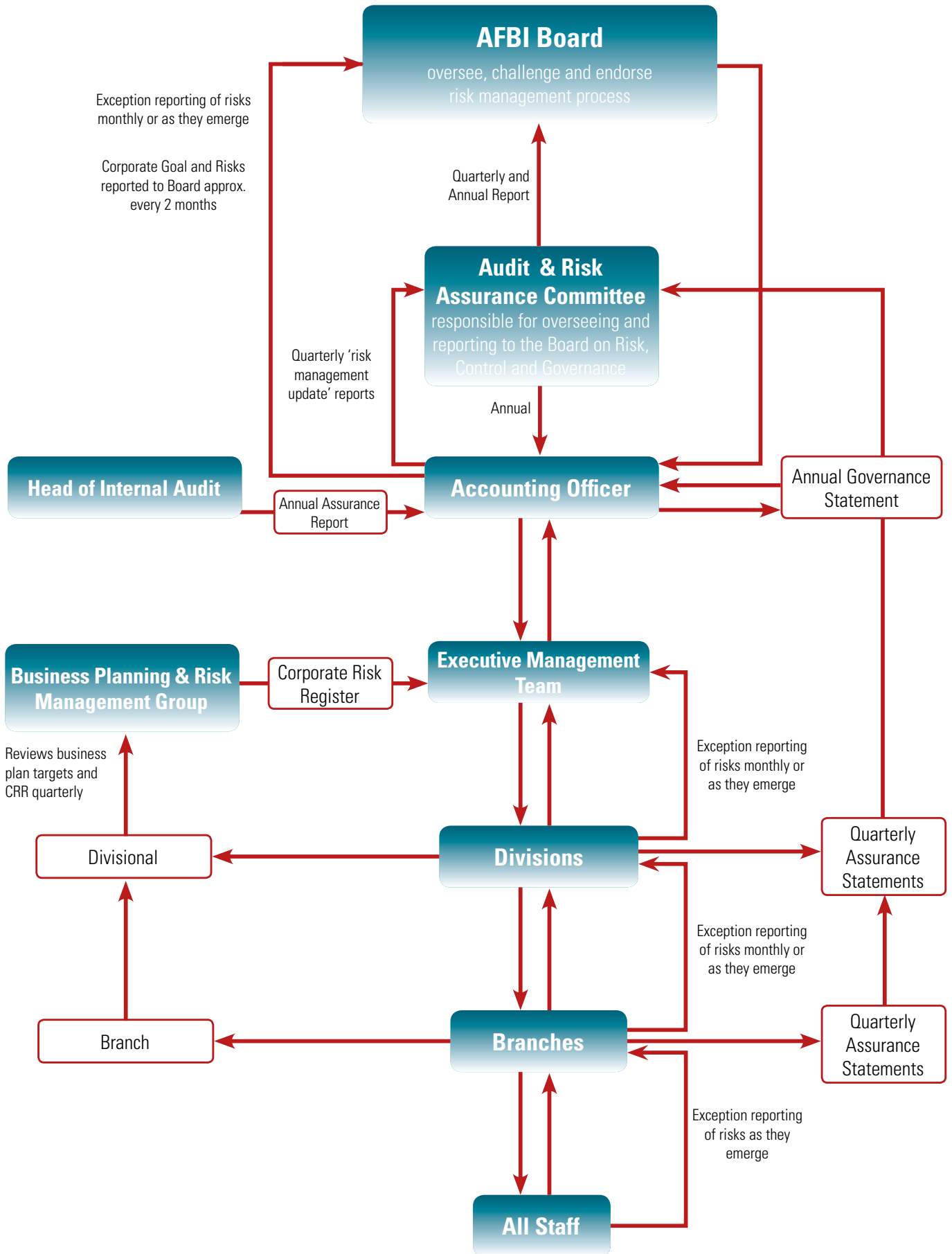
As Accounting Officer, based on assurances provided to me by the AFBI's assurance providers and other than the specific control issues referred to above, I consider that the overall systems of governance, risk management and internal control provide satisfactory assurance to me in relation to the ability of AFBI to effectively discharge its governance responsibilities.



Dr CS Mayne, B.Agr, PhD, FRAgS
Chief Executive and Accounting Officer

Date: 23 January 2017

Appendix A: AFBI's Governance and Risk Assurance Framework



4.3 Remuneration & Staff Report

Remuneration Report

Chairman and Board Members

The Chairman and Deputy Chairman are appointed for a fixed period of three years, and the Board members are appointed for a fixed period of three or four years, all with possible extensions. Thereafter they are re-appointed in accordance with the Code of Practice.

The remuneration of the Board is set by DAERA. Increases are calculated in line with the recommendations of the Senior Salaries Review Body. There are no arrangements in place for the payment of a bonus. Neither the Chairman nor any Board Member receives pension contribution from AFBI or DAERA.

AFBI reimburses the Chairman and Board members for any incidental expenses incurred for carrying out their duties relevant to the organisation.

Details of remuneration of the Chairman and Board Members (Audited)

In 2015/16, the remuneration for members of the Board was –

Board Member	2015/16				2014/15			
	Salary (to nearest £'000)	Benefits in kind (to nearest £100)	Pension Benefits (to nearest £1,000)	Total (to nearest £1,000)	Salary (to nearest £'000)	Benefits in kind (to the nearest £100)	Pension Benefits (to nearest £1,000)	Total (to nearest £1,000)
	£'000	£'000	£'000	£'000	£'000	£'000	£'000	£'000
Mr Colm McKenna, Chairman	25 - 30	-	-	25 - 30	20-25	-	-	20-25
Prof William McKelvey	10-15	-	-	10-15	10-15	-	-	10-15
Mr Bob McCann	5-10	-	-	5-10	5-10	-	-	5-10
Mrs Hilary McCartan	5-10	-	-	5-10	5-10	-	-	5-10
Prof Patrick Murphy	5-10	-	-	5-10	5-10	-	-	5-10
Dr Cecil McMurray	5-10	-	-	5-10	0-5	-	-	0-5
Mrs Sarah Havlin	5-10	-	-	5-10	5-10	-	-	5-10
Mr David Lindsay	5-10	-	-	5-10	0-5	-	-	0-5
Mr Ken Millar	5-10	-	-	5-10	5-10	-	-	5-10

Board Member	2015/16				2014/15			
	Salary (to nearest £'000)	Benefits in kind (to nearest £100)	Pension Benefits (to nearest £1,000)	Total (to nearest £1,000)	Salary (to nearest £'000)	Benefits in kind (to the nearest £100)	Pension Benefits (to nearest £1,000)	Total (to nearest £1,000)
	£'000	£'000	£'000	£'000	£'000	£'000	£'000	£'000
Mr Colin Coffey	5-10	-	-	5-10	-	-	-	-
Mr Ian Buchanan	5-10	-	-	5-10	-	-	-	-
Mrs Maureen McKeague	5-10	-	-	5-10	-	-	-	-
Mr Sean Hogan*	-	-	-	-	0-5	-	-	0-5
Mr Trevor Hinds*	-	-	-	-	0-5	-	-	0-5
Mr Seamus McCaffrey*	-	-	-	-	0-5	-	-	0-5
Mr Alan McKeown*	-	-	-	-	0-5	-	-	0-5
Mrs Hilda Stewart**	-	-	-	-	5-10	-	-	5-10

The figures quoted above relate to payments made in 2014/15 & 2015/16. A business case was submitted to DAERA in relation to additional payments of £14,868 (2012/13) and £939 (2013/14). The business case was approved on 17 May 2014 and the payments made during 2014/15. These payments are included in the 2014/15 figures above.

*Although not Board members in 2014/15 these ex-members' salary arrears were paid in 2014/15.

**Mrs Hilda Stewart completed her term of office on 31 March 2015.

Sub-committees of the Board

The following sub-committees continued to operate during the year and members received the noted remuneration for sitting on these committees (included within total remuneration disclosed in the table above):

Audit & Risk Assurance Committee

Mr Bob McCann, Chair	£1,377
Prof Patrick Murphy	£ 626
Mrs Sarah Havlin	£1,252
Mr Ken Millar	£ 751

The Audit & Risk Assurance Committee advises the Board on the issues of risk, control and governance. The Accounting Officer, Director of Finance & Corporate Affairs, Head of Finance, representatives from internal and external audit and DAERA's AFBI Sponsor Branch were generally in attendance at Audit Committee meetings.

Organisational Development & Human Resources Committee

Prof. William McKelvey, Chair ²	-
Prof. Patrick Murphy	£626
Mr Ken Millar	-
Mrs Maureen McKeague	£754

The Organisational Development & Human Resources Committee (ODHRC) advises the Board on the remuneration of Executive Management Team (EMT). The members of EMT are equivalent senior civil servants for the purposes of remuneration which is set by the Minister for Finance. No bonus scheme was available in 2015/16. Whilst the terms and conditions of employment and remuneration of all AFBI employees are in accordance with the overall terms and conditions of the NICS, any proposed changes to the overall framework are also subject to review and scrutiny by this Committee. The Accounting Officer and the Director of Finance & Corporate Affairs generally attended the ODHRC meetings.

Science Strategy Committee

Mr David Lindsay, Chair	£1,252
Dr Cecil McMurray	£1,252

The Science Strategy Committee guides the Executive in developing a Science Strategy for AFBI. This includes assisting EMT to prioritise existing areas of scientific work and identify strategic scientific areas or technologies in which AFBI should potentially become engaged.

Finance & Business Strategy Committee

Mrs Hilary McCartan, Chair	£1,565
Mr Ken Millar	£626
Mr Colin Coffey	£1,131
Mr Ian Buchanan	£1,131

The Finance & Business Strategy Committee supports the Board in discharging its responsibilities for the oversight of financial management including, in particular, the review of financial plans and budget monitoring. It assists management in developing a strategy which identifies and maximises income generation opportunities and which is consistent with AFBI's Corporate Plan, annual Business Plans and Science Strategy. The Committee also assists management in developing a strategic approach that maximises and identifies opportunities for the commercial exploitation of intellectual property and technology disclosures and to discharge any other functions of a business strategy nature or other matters as may be referred to it from time to time by the Board.

The Accounting Officer, Director of Finance & Corporate Affairs and Head of Finance were generally in attendance.

² Prof William McKelvey, Deputy Chair of AFBI Board does not receive any remuneration for chairing the meetings of the Organisational Development & HR Committee.

Chief Executive and Executive Management Team

Remuneration Policy

The Minister of Finance approves the pay remit for Senior Civil Service (SCS) staff. The SCS remuneration arrangements are based on a system of pay scales for each SCS grade containing a number of pay points from minima to maxima, allowing progression towards the maxima based on performance. In 2012, upon creation, there were 11 points on each scale. This was subsequently reduced to 10 points in 2014 and 9 points in 2015 to allow progression through the pay scales within a reasonable period of time.

Service contracts

Appointments in AFBI are made in accordance with the Civil Service Commissioners' Recruitment Code, which requires appointment to be on merit on the basis of fair and open competition but also includes the circumstances when appointments may otherwise be made.

Unless otherwise stated below, the officials covered by this report hold appointments which are open-ended. Early termination, other than for misconduct, would result in the individual receiving compensation as set out in the Civil Service Compensation Scheme.

Further information about the work of the Civil Service Commissioners can be found at www.nicscommissioners.org

Salary and Pension Entitlements

The following sections provide details of the remuneration and pension interests of the Executive Management Team of AFBI.

Remuneration (including salary) and pension entitlements

Name	2015/16				2014/15			
	Salary £'000	Benefits in kind (to nearest £100)	Pension Benefits **(to nearest £1,000)	Total (£1,000)	Salary	Benefits in kind (to the nearest £100)	Pension Benefits** (to nearest £1,000)	Total (£1,000)
Prof S Kennedy, CEO	85 - 90	-	25	110 – 115	85 - 90	-	29	115 - 120
Dr S Mayne DCEO	70 - 75	-	23	95 - 100	70 - 75	-	35	105 - 110
Dr S McDowell DCEO	65 - 70	-	22	85 - 90	65 - 70	-	19	80 - 85
Mrs L Hogg DCEO	65 - 70	-	26	90 - 95	65 - 70	-	25	90 - 95
Band of Highest Paid Director's Total Remuneration	85 - 90				85 - 90			
Median Total Remuneration	26,991				26,711			
Ratio***	3.24				3.28			

**The value of pension benefits accrued during the year is calculated as (the real increase in pension multiplied by 20) plus (the real increase in any lump sum) less (the contributions made by the individual). The real increases exclude increases due to inflation and any increase or decrease due to a transfer of pension rights.

***The banded remuneration of the highest paid director in AFBI in the financial year 2015/16 was £85-90k (2014/15, £85-90k). This was 3.24 times (2014/15, 3.28) the median remuneration of the workforce, which was £26,991 (2014/15, £26,711). In 2015/16, no employees (2014/15, 0), received remuneration in excess of the highest-paid director. Remuneration ranged from £4k to £88k (2014/15, £0.3k to £88k).

Total remuneration includes salary, non-consolidated performance-related pay and benefits-in-kind. It does not include severance payments, employer pension contributions and the cash equivalent transfer value of pensions.

Off-Payroll Payments:

Details of off-payroll payments at a cost of over £58,200 per annum	
Opening number of off-payroll engagements at 1 April 2015	2
Number of new engagements during 2015/16	1
Number of engagements coming onto AFBI payroll during 2015/16	0
Number of engagements that have come to an end during 2015/16	2
Closing number of engagements at 31 March 2016	1

Details of off-payroll engagements as of 31 March 2016, for more than £220 per day and that last longer than six months	
Number of existing engagements as of 31 March 2016	2
Of which...	
Number that have existed for less than one year at time of reporting	1
Number that have existed for between one and two years at time of reporting	1

The off-payroll engagement outlined above has been subject to a risk based assessment as to whether assurance is required that the individual is paying the right amount of tax. It was not deemed necessary that assurance was sought.

Details of new off-payroll engagements between 1 April 2015 and 31 March 2016, for more than £220 per day and that last longer than six months	
Number of new engagements between 1 April 2015 and 31 March 2016	1
Number of the above which include contractual clauses giving AFBI the right to request assurance in relation to income tax and National Insurance obligations	0
Number for whom assurance has been requested	N/A

Salary:

Salary includes gross salary, overtime and any other allowance to the extent that it is subject to UK taxation and any gratia payments.

Benefits in kind:

The monetary value of benefits in kind covers any benefits provided by the employer and treated by HM Revenue and Customs as a taxable emolument.

Pension Entitlements (Audited):

Name	Accrued pension at pension age as at 31/3/16 and related lump sum	Real increase in pension and related lump sum at pension age	CETV at 31/3/16	CETV at 31/3/15	Real increase in CETV	Employer contribution to partnership pension account
	£'000	£'000	£'000	£'000	£'000	Nearest £100
Prof S Kennedy	35-40 plus lump sum 115-120	0-2.5 plus lump sum 2.5-5	887	851	24	-
Dr S Mayne	30-35 plus lump sum 100-105	0-2.5 plus lump sum 2.5-5	782	714	23	-
Dr S McDowell	25-30 plus lump sum 30-35	0-2.5 plus lump sum 0-2.5	465	417	17	-
Mrs L Hogg	0-5	0-2.5	53	34	11	-

Northern Ireland Civil Service (NICS) Pension arrangements

Pension benefits are provided through the Northern Ireland Civil Service pension arrangements which are administered by Civil Service Pensions (CSP). Staff in post prior to 30 July 2007 may be in one of three statutory based 'final salary' defined benefit arrangements (classic, premium, and classic plus). These arrangements are unfunded with the cost of benefits met by monies voted by the Assembly each year. From April 2011 pensions payable under classic, premium, and classic plus are increased annually in line with changes in the Consumer Prices Index (CPI). Prior to 2011, pensions were increased in line with changes in the Retail Prices Index (RPI). New entrants joining on or after 1 October 2002 and before 30 July 2007 could choose between membership of premium or joining a good quality 'money purchase' stakeholder arrangement with a significant employer contribution (partnership pension account).

New entrants joining on or after 30 July 2007 were eligible for membership of the Nuvos arrangement or they could have opted for a partnership pension account. Nuvos is a 'Career Average Revalued Earnings' (CARE) arrangement in which members accrue pension benefits at a percentage rate of annual pensionable earnings throughout the period of scheme membership. The current rate is 2.3%. CARE pension benefits are increased annually in line with increases in the CPI.

A new pension scheme, Alpha, was introduced for new entrants from 1 April 2015. The majority of existing members of the NICS pension arrangements have also moved to alpha from that date. Members who on 1 April 2012 were within 10 years of their normal pension age will not move to alpha and those who were within 13.5 years and 10 years of their normal pension age were given a choice between moving to alpha on 1 April 2015 or at a later date determined by their age. Alpha is also a CARE arrangement in which members accrue pension benefits at a percentage rate of annual pensionable earnings throughout the period of scheme membership. The rate will be 2.32%. CARE pension benefits are increased annually in line with increases in the CPI.

Increases to public service pensions are the responsibility of HM Treasury. Pensions are reviewed each year in line with the cost of living. Increases are applied from April and are determined by the CPI figure for the preceding September. The CPI in September 2015 was negative (-0.1%) and HM Treasury has announced that there will be no increase to public service pensions from April 2016. Therefore public service pensions will remain at their current level.

Employee contribution rates for all members for the period covering 1 April 2016 – 31 March 2017 are as follows:

Scheme Year 1 April 2016 to 31 March 2017

Annualised Rate of Pensionable Earnings (Salary Bands)		Contribution rates – Classic members or classic members who have moved to alpha	Contribution rates – all other members
From	To	From 01 April 2016 to 31 March 2017	From 01 April 2016 to 31 March 2017
£0	£15,000.99	3.8%	4.6%
£15,001.00	£21,000.99	4.6%	4.6%
£21,001.00	£47,000.99	5.45%	5.45%
£47,001.00	£150,000.99	7.35%	7.35%
£150,001.00 and above	8.05%	8.05%	-

Benefits in classic accrue at the rate of 1/80th of pensionable salary for each year of service. In addition, a lump sum equivalent to three years’ pension is payable on retirement. For premium, benefits accrue at the rate of 1/60th of final pensionable earnings for each year of service. Unlike classic, there is no automatic lump sum (but members may give up (commute) some of their pension to provide a lump sum). Classic plus is essentially a variation of premium, but with benefits in respect of service before 1 October 2002 calculated broadly as per classic.

The partnership pension account is a stakeholder pension arrangement. The employer makes a basic contribution of between 3% and 14.7% (depending on the age of the member) into a stakeholder pension product chosen by the employee. The employee does not have to contribute but where they do make contributions, the employer will match these up to a limit of 3% of pensionable salary (in addition to the employer’s basic contribution). Employers also contribute a further 0.5% of pensionable salary to cover the cost of centrally-provided risk benefit cover (death in service and ill health retirement).

The accrued pension quoted is the pension the member is entitled to receive when they reach pension age, or immediately on ceasing to be an active member of the scheme if they are at or over pension age. Pension age is 60 for members of classic, premium, and classic plus and 65 for members of nuvos. The normal pension age in alpha is linked to the member’s State Pension Age but cannot be before age 65. Further details about the NICS pension arrangements can be found at the website:

www.finance-ni.gov.uk/topics/working-northern-ireland-civil-service/civil-service-pensions-ni.

Cash Equivalent Transfer Values

A Cash Equivalent Transfer Value (CETV) is the actuarially assessed capitalised value of the pension scheme benefits accrued by a member at a particular point in time. The benefits valued are the member's accrued benefits and any contingent spouse's pension payable from the scheme. A CETV is a payment made by a pension scheme or arrangement to secure pension benefits in another pension scheme or arrangement when the member leaves a scheme and chooses to transfer the benefits accrued in their former scheme. The pension figures shown relate to the benefits that the individual has accrued as a consequence of their total membership of the pension scheme, not just their service in a senior capacity to which disclosure applies. The CETV figures, and from 2003/04 the other pension details, include the value of any pension benefit in another scheme or arrangement which the individual has transferred to the NICS pension arrangements. They also include any additional pension benefit accrued to the member as a result of their purchasing additional years of pension service in the scheme at their own cost. CETVs are calculated in accordance with The Occupational Pension Schemes (Transfer Values) (Amendment) Regulations 2008 and do not take account of any actual or potential benefits resulting from Lifetime Allowance Tax which may be due when pension benefits are taken.

Real increase in CETV

This reflects the increase in CETV effectively funded by the employer. It does not include the increase in accrued pension due to inflation, contributions paid by the employee (including the value of any benefits transferred from another pension scheme or arrangement) and uses common market valuation factors for the start and end of the period. The actuarial factors used to calculate CETVs changed during the 2015/16 year and, consequently, CETV figures increased even without any further pension accrual. However, the real increase calculation uses common actuarial factors at the start and the end of the period so that it disregards the effect of any changes in factors and focuses only on the increase that is funded by the employer.

Compensation for loss of office

No compensation has been paid to senior officers by AFBI during the year for loss of office.

Staff Report:

Staff costs:

	Permanently employed staff	Others	2015/16 £000 Total	2014/15 £000 Total
Wages and salaries	19,639	530	20,169	23,111
Social security costs	1,421	-	1,421	1,618
Other pension costs	4,244	-	4,244	4,203
Sub Total	25,304	530	25,834	28,932
Less recoveries in respect of outward secondments	(61)	-	(61)	(58)
Total net costs	25,243	530	25,773	28,874

Pension scheme details

The Northern Ireland Civil Service pension arrangements are unfunded multi-employer defined benefit schemes but the Agri-Food and Biosciences Institute is unable to identify its share of the underlying assets and liabilities. The most up to date actuarial valuation was carried out as at 31 March 2012. This valuation is then reviewed by the Scheme Actuary and updated to reflect current conditions and rolled forward to the reporting date of the DFP Superannuation and Other Allowances Resource Accounts as at 31 March 2016.

For 2015/16, employers' contributions of £4,219,074 were payable to the NICS pension arrangements (2014/15 £4,177,676) at one of three rates in the range 20.8% to 26.3% of pensionable pay, based on salary bands. The scheme's Actuary reviews employer contributions every four years following a full scheme valuation. A new scheme funding valuation based on data as at 31 March 2012 was completed by the Actuary during 2014/15. This valuation was used to determine employer contribution rates for the introduction of alpha from April 2015. For 2016-17, the rates will range from 20.8% to 26.3%. The contribution rates are set to meet the cost of the benefits accruing during 2015/16 to be paid when the member retires, and not the benefits paid during this period to existing pensioners.

Employees can opt to open a partnership pension account, a stakeholder pension with an employer contribution. Employers' contributions of £24,806 (2014/15: £24,041) were paid to one or more of the panel of three appointed stakeholder pension providers. Employer contributions are age-related and range from 3% to 14.7% (2014/15 3% to 12.5%) of pensionable pay. Employers also match employee contributions up to 3% of pensionable pay. In addition, employer contributions of £118, 0.5% (2014/15: £1,535, 0.8%) of pensionable pay, were payable to the NICS Pension Arrangements to cover the cost of the future provision of lump sum benefits on death in service and ill health retirement of these employees.

Contributions due to the partnership pension providers at the reporting period date were £0 (2014/15: £0). Contributions prepaid at that date were £0 (2014/15: £0).

1 individual (2014/15: 1) retired early on ill-health grounds; the total additional accrued pension liabilities in the year amounted to £1,757 (2014/15: £0).

Average number of persons employed

The average number of whole-time equivalent persons employed during the year was as follows.

	Permanent staff	Others	2015/16 Total	2014/15 Total
Directly Employed	632	61	693	780
Other	0	14	14	37
Total	632	75	707	817

Other staff are defined as agency staff employed on a temporary contract.

Reporting of Civil Service and other compensation schemes – exit packages

Exit package cost band	Number of Compulsory Redundancies	Number of Other Departures Agreed	Total Number of Exit Packages by cost band
<£10,000	-	5 (2014/15, 4)	5 (2014/15, 4)
£10,000 - £25,000	-	61 (2014/15, 0)	61 (2014/15, 0)
£25,000 - £50,000	-	65 (2014/15, 0)	65 (2014/15, 0)
£50,000 - £100,000	-	21 (2014/15, 0)	21 (2014/15, 0)
£100,000 - £150,000	-	-	-
£150,000 - £200,000	-	-	-
Total number of exit packages	-	152 (2014/15, 4)	152 (2014/15, 4)
Total resource cost/£	-	4,813,829 (2014/15, 26,345)	4,813,829 (2014/15, 26,345)

Redundancy and other departure costs have been paid in accordance with the provisions of the Civil Service Compensation Scheme, a statutory scheme made under the Superannuation Act 1972. Exit costs are accounted for in full in the year of departure. Where the Institute has agreed early retirements, the additional costs are met by the Institute and not by the Civil Service pension scheme. Ill-health retirement costs are met by the pension scheme and are not included in the table.

AFBI's accounting policy in respect of pensions is at Note 1 to the accounts.

Staff Report

Provision of information to and consultation with employees

AFB ensures that all staff are kept informed of plans and developments through meetings, monthly team briefs, staff newsletters and the publication of business and training plans. Staff have access to welfare services and trade union membership. AFBI use the established Whitley process of staff consultation. The Whitley Council and Committees provide an agreed forum for discussion and they are attended by employer and employee (trade union) representatives.

Career Development

AFBI continues to promote opportunities for career development internally and during the course of this year a total of 26 staff have achieved promotion in a wide range of disciplines and grades.

One of AFBI's strategic goals is to sustain and develop our knowledge base through attracting and investing in talented people.

In support of this objective, AFBI's Learning and Development Unit provide expert advice on learning and development opportunities covering the diverse range of skills required across the organisation.

This Unit also administers AFBI's Assistance to Study programme which has provided support for 23 staff this year in their pursuit of professional qualifications specific to AFBI's business.

Recruitment

AFBI continues to develop its workforce in line with its business aims and has made a total of 8 new appointments this year, covering grades across the scientific, administrative and industrial disciplines.

This number reflects both permanent and temporary appointments.

As at 31 March 2016 the number of the staff employed by AFBI was as follows:

	Males	Females	Total
Board	9	3	12
Executive Management Team	3	1	4
Other staff	381	252	633
Total	393	256	649

Work Experience

AFBI is committed to providing work experience opportunities for students at all levels to assist them in developing the key skills required to be successful in today's working environment.

Thirty eight students in higher education were given the opportunity to develop key work-related skills through a relevant, supervised work placement programme. Work experience was also given to 75 students covering a range of areas within AFBI.

Sickness absence

AFBI had an operational objective of an average of 7.5 working days lost per staff member. Northern Ireland Statistics Research Agency (NISRA) has provided an outturn figure of 10.1 days for 2015/16 (8.5 days in 2014/15).

Voluntary Exit Scheme

AFBI launched a Voluntary Exit Scheme on Monday 13 April 2015 for all AFBI staff. The VE Scheme was necessary to help address the considerable budgetary pressures facing AFBI. The organisational requirement was for approximately 200 staff to exit through the Scheme in two tranches, leaving on 30 September and 30 November 2015. However, the number of staff actually leaving the organisation would depend on the number of applications received, approval of a business case by DAERA, the funding available and business continuity requirements.

AFBI received 142 applications from staff to leave under Tranche 1 of the scheme with a total of 78 staff leaving on 30 September 2015. For Tranche 2 of the scheme AFBI received 104 applications with 57 staff leaving on 30 November 2015. A further 17 staff left post year end.

Equal Opportunities

AFBI's commitment to equality of opportunity and to creating and sustaining a working environment where everyone is treated with respect and dignity, free from any form of inappropriate behaviour, and one in which all employees can give of their best, is embodied in the AFBI Value 'Respecting People' and its Associated Behaviours, and in the Dignity at Work policy to which AFBI adheres. This policy is available to all staff through the Human Resources Connect (HR Connect) portal and the AFBI intranet. AFBI's commitment to equality of opportunity is embedded in the equality awareness training for all staff.

Information and guidance to staff on a wide range of equal opportunity issues is available on the AFBI Intranet.

AFBI has a network of trained Harassment Contact Officers who are available to assist staff to address issues informally.

Employment of People with Disabilities

As part of its overall Equal Opportunities policy, AFBI is fully committed to ensuring that all of its policies and working practices meet or exceed the requirements of the Disability Discrimination Act 1995.

AFBI provides disabled staff with an opportunity to discuss disability issues, ensures that reasonable adjustments are made and Personal Emergency Evacuation Plans are in place where necessary.

AFBI engages with Ulster Supported Employment Limited (USEL) and Disability Action in the employment of disabled persons.

Disability awareness is embedded in equality training for all staff and information on disability issues, including articles from Disability Action are made available through the AFBI intranet.

Security of Personal Data

AFBI is committed to the safeguarding of personal data and has set in place appropriate measures to ensure its security. Detailed information has been made available to staff on the intranet site on the type of information which is considered to be private data and how it should be handled.

All members of staff have been advised that it is their personal responsibility to ensure that any document with sensitive information, including personal data, is appropriately secured and to ensure that, in the case of data held electronically, appropriate access controls are put in place to prevent unauthorised access, whether accidental or deliberate, by others. There was one incident of potential loss of personal data during the year 2015/16 which was handled under the AFBI Data Breach Incident Plan and was assessed as a low risk incident. This was dealt with promptly with steps taken to prevent recurrence.

4.4 Assembly Accountability and Audit Report

The following sections are subject to audit.

Losses and special payments

AFBI had eleven instances of losses which amounted to £20k. There was one loss in 2014/15 which amounted to £4k.

	2015/16 £000	2014/15 £000
Total		
11 cases amounting to £20k in 2015/16	20	
1 case amounting to £4k in 2014/15		4
Details of cases over £250k		-
Cash Loss		-

Losses

AFBI does not have any losses to report which exceeds £250,000.

Special Payments

AFBI does not have any payments to report which exceeds £250,000.

Remote Contingent Liabilities

AFBI does not have any remote contingent liabilities to report.

Disclosure to Auditor

So far as I am aware, as Accounting Officer, there is no relevant audit information of which the Institute's auditors are unaware; and, as Accounting Officer, I have taken all steps that I ought to have taken to make myself aware of any relevant audit information and establish that the AFBI's auditors are aware of that information.

A handwritten signature in black ink, reading "Dr CS Mayne", with a horizontal line underneath it.

Dr CS Mayne, B.Agr, PhD, FRAgS
Chief Executive and Accounting Officer

The Certificate and Report of the Comptroller and Auditor General to the Northern Ireland Assembly

I certify that I have audited the financial statements of the Agri-Food and Biosciences Institute for the year ended 31 March 2016 under the Agriculture (Northern Ireland) Order 2004. The financial statements comprise the Statements of Comprehensive Net Expenditure, Financial Position, Cash Flows, Changes in Taxpayers' Equity and related notes. These financial statements have been prepared under the accounting policies set out within them. I have also audited the information in the Remuneration and Staff Report and the Assembly Accountability and Audit Report that is described in that report as having been audited.

Respective responsibilities of Accounting Officer and auditor

As explained more fully in the Statement of Accounting Officer's Responsibilities, the Accounting Officer is responsible for the preparation of the financial statements and for being satisfied that they give a true and fair view. My responsibility is to examine, certify and report on the financial statements in accordance with the Agriculture (Northern Ireland) Order 2004. I conducted my audit in accordance with International Standards on Auditing (UK and Ireland). Those standards require me and my staff to comply with the Auditing Practices Board's Ethical Standards for Auditors.

Scope of the audit of the financial statements

An audit involves obtaining evidence about the amounts and disclosures in the financial statements sufficient to give reasonable assurance that the financial statements are free from material misstatement, whether caused by fraud or error. This includes an assessment of: whether the accounting policies are appropriate to the Agri-Food and Biosciences Institute's circumstances and have been consistently applied and adequately disclosed; the reasonableness of significant accounting estimates made by the Agri-Food and Biosciences Institute; and the overall presentation of the financial statements. In addition I read all the financial and non-financial information in the Annual Report to identify material inconsistencies with the audited financial statements and to identify any information that is apparently materially incorrect based on, or materially inconsistent with, the knowledge acquired by me in the course of performing the audit. If I become aware of any apparent material misstatements or inconsistencies I consider the implications for my certificate.

I am required to obtain evidence sufficient to give reasonable assurance that the expenditure and income recorded in the financial statements have been applied to the purposes intended by the Assembly and the financial transactions recorded in the financial statements conform to the authorities which govern them.

Opinion on regularity

In my opinion, in all material respects the expenditure and income recorded in the financial statements have been applied to the purposes intended by the Assembly and the financial transactions recorded in the financial statements conform to the authorities which govern them.

Opinion on financial statements

In my opinion:

- the financial statements give a true and fair view of the state of Agri-Food and Biosciences Institute's affairs as at 31 March 2016 and of the net expenditure, cash flows and changes in taxpayers' equity for the year then ended; and
- the financial statements have been properly prepared in accordance with the Agriculture (Northern Ireland) Order 2004 and the Department of Agriculture, Environment and Rural Affairs (formerly the Department of Agriculture and Rural Development) directions issued thereunder.

Opinion on other matters

In my opinion:

- the parts of the Remuneration and Staff Report to be audited has been properly prepared in accordance with the Department of Agriculture, Environment and Rural Affairs (formerly the Department of Agriculture and Rural Development) directions made under the Agriculture (Northern Ireland) Order 2004; and
- the information given in the Performance Report and Accountability Report and the Directors Divisional Report for the financial year for which the financial statements are prepared is consistent with the financial statements.

Matters on which I report by exception

I have nothing to report in respect of the following matters which I report to you if, in my opinion:

- adequate accounting records have not been kept; or
- the financial statements and the part of the Remuneration and Staff Report to be audited are not in agreement with the accounting records; or
- I have not received all of the information and explanations I require for my audit; or
- the Governance Statement does not reflect compliance with Department of Finance (formerly Department of Finance and Personnel) guidance.

Report

I have no observations to make on these financial statements.



KJ Donnelly
Comptroller and Auditor General
Northern Ireland Audit Office
106 University Street
Belfast
BT7 1EU
24 January 2017



DIRECTORS' DIVISIONAL REPORT

SUSTAINABLE AGRI-FOOD SCIENCES DIVISION



The Sustainable Agri-Food Sciences Division operates across seven Branches: Agri- Environment; Crops, Grassland and Ecology; Plant Health and Environmental Protection; Agriculture; Fisheries and Aquatic Ecosystems; Food Science; and Agricultural and Food Economics. These Branches together provide a continuum of scientific expertise across the agri-food chain, from the growing environment, through to plant and animal production systems, aquatic ecosystems, food safety and quality and finally profitability of the agri-food sector.

This integrated approach across Branches ensures that the Division is well placed to address the important challenges of sustainable intensification of food production both locally and globally.

The work of SAFSD is driven by the ongoing needs of our wide range of customers. Whilst DAERA (now incorporating DCAL and NIEA) is the major customer, the Division also carries out work for other government departments and agencies such as the Food Standards Agency (FSA), DAFM in Ireland, DEFRA in England and Wales, as well as for bodies such as AgriSearch, the European Union, and a wide range of private customers from the agri-food industry. In 2015/16 the Division generated external income from these sources of £8.05m. This funding, along with Grant-in-Aid from DAERA, supported a broad programme of research and development work and statutory testing in addition to the provision of specialist advice and technical services to government and industry.

The key functions of SAFSD are to:

- Undertake basic, strategic and applied multi-disciplinary research to drive improved industry competitiveness and encourage innovation for DAERA and other government departments and agencies, industry and commercial organisations, and bodies representing the agri-food industry.
- Provide evidence-based scientific advice to government policy makers, regulators and industry, on agriculture, food, fishing and environmental issues.
- Provide a wide range of statutory, regulatory and commercial analytical services such as chemical and microbiological analyses of food and animal feed and certification and monitoring of pasture, horticultural and agricultural crops and the wider environment. This also includes maintaining specific scientific preparedness for emergency responses in these areas.

In 2014, EMT agreed to commission a series of Peer Reviews across all of the main areas of research within AFBI over a three year period. The second review was carried out in 2015/16 and focused on research undertaken within SAFSD's Plant Science and Food Science programmes and was completed at the end of March 2016. Five independent experts were appointed to the Peer Review Panel which was chaired by Professor Peter Mills, Deputy Vice-Chancellor, Harper Adams University. In its review, the Panel acknowledged that AFBI had undergone a reduction in Grant-in-Aid from DAERA in recent years, with a significant reduction in staff in 2015/16. Overall, the Panel reported that AFBI is a capable organisation with a good track record of delivering the statutory requirements of DAERA,



the UK Government and the EU, with a valuable research programme underpinning these statutory requirements. The Panel was, however, critical of the relatively modest output of peer-reviewed scientific publications and the Division has agreed increased Branch targets for 2016/17.

Peer recognition is essential for AFBI's scientific reputation. Staff published 77 scientific publications in refereed scientific journals during this year, an increase of 9 from the previous year.

One paper, published in the American Journal of Dairy Science, by Dr Tianhai Yan, Agriculture Branch, was recognised as being in the 100 most highly cited papers published in the journal since the beginning of 2012. This study was part of a previous DAFM Stimulus funded project and is the second paper of Dr Yan's to achieve this accolade.

Dr Trevor Gilliland, Agriculture Branch and his PhD student Daniel Enriquez-Hidalgo also had a paper ranked number 1 in the Journal of Dairy Science, since 2014. In addition, Dr Andrew Dale and Dr Conrad Ferris, both also from Agriculture Branch, had a paper ranked as number 2 in the same journal.

Dr Dario Fornara, Agri-Environment Branch, was presented with a British Ecological Society award for being the corresponding author of the most highly cited paper in its journals over the last 5 years. His paper was entitled "Plant functional composition influences rates of soil carbon and nitrogen accumulation".

In the last year, Agriculture Branch, has become a founder member of the newly created UK wide Centre of Innovation and Excellence in Livestock (CIEL). This is an industry lead initiative with the key function of the Centre being to conduct research which advances UK livestock across production, genetics, feed and technology. CIEL was created with funding from the Department of Business, Innovate and Skills through their Agri Catalyst, Innovate UK funding scheme. Agriculture Branch's unique skills, existing livestock research facilities along with its international reputation plus the support given by the local agri-food industry, has made AFBI one of CIEL's key providers of livestock research. As such, CIEL will invest at AFBI Hillsborough to provide new state of the art research equipment across the dairy, beef, sheep and pig research facilities. AFBI Hillsborough will use this investment to enhance its research facilities and its capability to deliver practical solutions for farmers and commercial industry alike, based on cutting edge livestock science.

The Division has established a reputation for the high quality of the work it delivers locally, nationally and internationally and examples are given below of key Branch achievements and highlights in the past year.

Agri-Environment Branch

Agri-Environment Branch (AEB) operates at the 'interface' between intensive agricultural production and environmental management and regulation. Research is on-going to: (1) facilitate the development of sustainable land use management practices within a competitive agricultural industry and underpin the 'Going-for-Growth' Strategic Plan; (2) provide the scientific basis for government policy in relation to soil, air and water quality management; and (3) enhance environmental quality by developing strategies to help the farming industry meet specific environmental targets.



Agri-Environment Branch provides scientific evidence underpinning government policy in relation to soil, air and water quality within the context of primary production

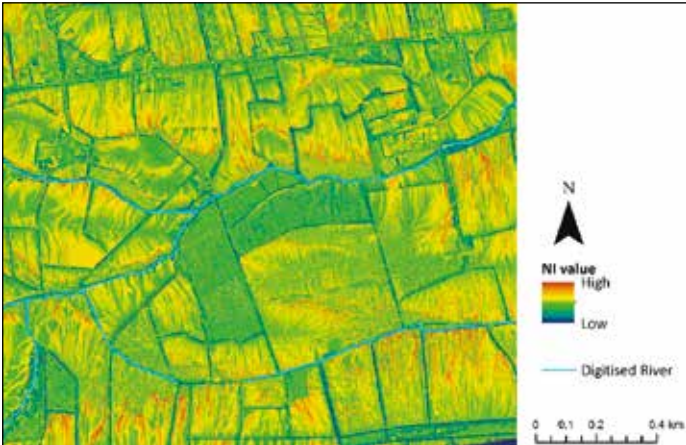
The Branch has three key research programmes: Nutrient Management Research, Water Quality Research and Biogeochemistry Research. Scientists within these programmes are influential in a range of national and international expert groups and platforms, including the North Western European Science-Policy working group on mitigating nutrient emissions from agriculture and the US-based Phosphorus Research Coordination Network. The Branch remains active in seeking external funding and has just secured funding for an INTERREG Northern Periphery Programme Project, whilst awaiting evaluation outcomes for a further 4

INTERREG VA applications, one Horizon 2020 application and 4 DAFM applications. Outputs have included 20 papers (published or in-press) in high-impact refereed scientific journals and a further 11 submitted, plus 31 conference proceedings or presentations and more than 15 items of technology transfer.



Dr Donnacha Doody (6th from left) attending the Phosphorus Research Co-ordination Network meeting in Tempe, Arizona in January 2016.

During 2015, scientists within Agri-Environment Branch alerted DAERA (including DOE) of the risk of more stringent regulations being imposed on the NI farming industry by the European Commission as a result of recent increases in the usage of feed and fertiliser-P and an apparent accompanying reversal of the downward trend in river P concentrations. Because of the gravity of the situation, an industry-wide stakeholder workshop was convened with AFBI scientists providing the key strategic messages. The Branch also alerted DAERA (including DOE) of the need for a major soil and water quality monitoring programme to prevent NI from defaulting on its 2015 Nitrates Directive Derogation commitments. As a result, a large sub-catchment scale Evidence & Innovation study has been approved by DAERA, which will address the requirements of the derogation as well as identifying and validating strategies for minimising N and P runoff losses to water and improving farm productivity.



Critical source area mapping of high risk areas for surface runoff (represented by the network index, NI) generated from a high resolution LiDAR elevation data set

The Branch continues to make a significant contribution to the scientific evidence base necessary to balance the water quality objectives of the EU Nitrates Directive, Phosphorus Regulations and Water Framework Directive against targets established for NI agriculture in the 'Going for Growth' Strategic Plan. In the past year, research has been completed on (1) the risks posed to water quality from legacy soil P; (2) the utility of wastewater tracers for assessing the contribution of septic tanks to degraded water quality in Northern Ireland; and (3) improvement in water quality at catchment scale as a result of past agricultural mitigation strategies. In addition, a review was completed on the impact of agriculture on aquatic ecosystems in Ireland and on the additional research and knowledge exchange needed to support the sustainable intensification of agriculture.

The Branch continues to provide input to the UK and Irish Greenhouse Gas (GHG) Inventory Programmes, and experimental data are currently being used by modelers to refine the national UK and Irish GHG inventories. Currently, AFBI is collaborating with Teagasc and University College Dublin on a DAFM funded project to measure NH₃ emissions associated with dairy and beef production and to quantify the abatement potential of several mitigation strategies. A new E&I project has been addressing how frequency of grassland reseeding and sward age affect the soils' ability to store carbon and abate GHG emissions from livestock systems. Long-term monitoring of soil quality is also providing the basis for sustainable soil management and supporting NI's continued derogation under the EU Nitrates Directive, and the Long-Term Slurry Experiment at Hillsborough continues to provide invaluable data on the effects of intensive management on soil quality.



The 43-year old Long-Term Slurry Experiment is a unique resource for investigating long-term effects of inorganic and organic nutrient fertilization on soil biogeochemistry.

Crops, Grassland and Ecology Branch

Crops, Grassland and Ecology (CGE) Branch investigates the diversity and range of forage, grain, energy and horticultural crop plants which can be successfully grown in Northern Ireland and which could have a potential role in future systems designed to provide solutions to current problems and predicted climate change.

The Branch aims to provide plant-based solutions to pressing environmental problems. For example, the legacy of closed, unlined, abandoned and unlicensed landfills and illegal waste disposal results in significant leaching of polluting substances (e.g.



AFBI Landfill leachate research site

ammonium, heavy metals, salts) seeping into groundwater and rivers and this became an issue of concern during 2015/16. CGE Branch research on the use of Short Rotation Coppice willow to manage waste waters from commercial, agricultural and municipal sources, has provided a plant-based solution and bioremediation of these sites. In the Branch, two students are undertaking PhD research

programmes on the interactions of willow biomass intercrop in Alley Coppice Systems and on effects of land use practices on carbon sequestration respectively. Experimental trials from these programmes, established at AFBI sites which are supervised by AFBI/QUB scientists were visited in December 2015 by Teagasc (Forestry Department) to share experiences and explore scientific collaboration with AFBI in the areas of biomass, agroforestry and carbon sequestration.

Breeding of improved varieties of forage grass is an important aspect of improving productivity on farms. Attention has been given to developing varieties with improved nutritional status and the variety Dunluce, which has enhanced digestibility and palatability is being widely used throughout the UK, Ireland and Denmark. The recent acquisition of a plot harvester with an on-board NIRS scanner will allow continued progress on this aspect of the work. New AFBI bred varieties added to Recommended Lists in 2015/16 include Glasker and Gosford.

A new record yield of over 14 t/ha for a winter wheat variety in Northern Ireland trials was set in 2015. Two winter wheat varieties, KWS Barrel and Avatar, achieved 14.1 - 14.2 t/ha in a variety trial at Limavady funded by the Agriculture and Horticulture Development Board. Information on the strengths and weaknesses of the 49 varieties in trial was derived from data collected on yield, disease, straw strength and various quality characters throughout the growing season.



Dr Lisa Black, Crossnacreevy, talking with growers about winter wheat varieties at the AHDB-funded Limavady trial in July 2015.'

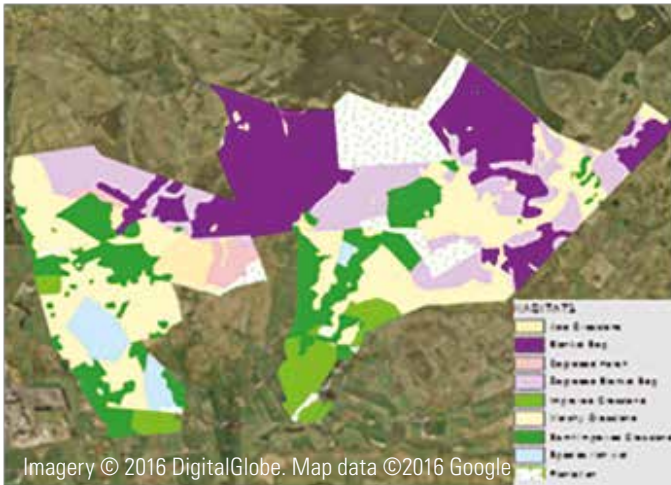
Average yield of all varieties without any fungicides was 8 t/ha, 40% lower than where the varieties were treated with fungicides, with four varieties giving yields of over 10 t/ha. Yields of 10 t/ha in trials with fungicide were first achieved in 1991, 25 years ago, i.e. yields achieved in 1991 with fungicide are now achieved in 2016 without fungicide.

Variety testing has played an important role in tailoring the success of varieties to local conditions, markets and end users. These performance data in the 2015 trials were used along with results from the previous four years to select the best suited varieties for recommendation in the 2016 AFBI/DAERA Winter Wheat Recommended List, the last to be funded by DAERA.



New grass plot harvester with on-board NIRS scanner for herbage quality

The CGE Biodiversity Unit based at Newforge Lane specialises in the delivery of field-based environmental, ecological and wildlife research and monitoring for a wide range of clients including government, commercial and Non Government Organisations. The Glenwherry Upland Regeneration Project has proven to be an exemplar in the successful interweaving of multiple objectives from an upland area, with CGE underpinning ecological science and habitat monitoring recognised as the foundation for this successful approach.



Habitat monitoring at Glenwherry Hill Farm

Plant Health and Environmental Protection Branch

Plant Health & Environmental Protection Branch (PHEP), has an important role in identifying and monitoring plant disease and provides information and advice on disease management and control to DAERA and commercial customers. During 2015/16, the Branch's Plant Health team provided diagnostic and advisory support to both DAERA and DAFM.

Ash dieback, caused by the fungus *Hymenoscyphus fraxineus*, was first recorded in Northern Ireland in November 2012. Since then the pathogen has been detected in over 100 ash plantings, primarily at recently planted sites. During the year, PHEP staff have undertaken air monitoring to detect any evidence of movement of spores from the infected



Burkard spore sampler: sampling for aerial spread of fungal spores

sites into the wider environment. At three sites there has been movement of ascospores in the air, both within the plantations and to neighbouring hedgerows. This aerial movement was evidenced by the appearance of fresh infections and by detection of spores in Burkard spore samplers. The results of the 2015 spore sampling programme and intensive studies at a site near Randalstown have greatly increased understanding of the epidemiology of the pathogen associated with infections of planting material in Northern Ireland and guided future management of this pathogen.

In 2015, PHEP were commissioned by DAERA to examine the implications to NI agriculture of EU changes in pesticide regulation and develop appropriate management strategies. The most challenging withdrawal is that of the organophosphate insecticide chlorpyrifos. This is the only approved pesticide for leatherjacket control on grass or cereals and over 14,000 ha were treated in 2014. Re-seeded leys and cereals following grass are most vulnerable but leatherjackets will also reduce yield in established pasture. PHEP are currently liaising with DAERA and the Ulster Farmers Union, to develop an alternative strategy to deal with this pest.



Leatherjacket damage - Results of severe leatherjacket feeding in grass. Holes in the soil are probing marks left by foraging birds.

Leatherjackets collected under shelter traps are shown bottom right

Leatherjackets in grassland swards

The Entomology Group continued studies on the phenology of aphid virus vectors in Northern Ireland and implications for virus transmission in seed potato crops. Potato Virus Y (PVY) is a non-persistent virus principally transmitted within crops by migrating winged aphids. It is an economically important pathogen of seed potato crops and may cause significant economic losses. PHEP staff have recognised *Brachycaudus helichrysi* as an important vector of non-persistent potato viruses in Northern Ireland. Whilst individually it is a considerably less effective PVY vector, its local occurrence in large numbers, at a time when the potato crop is more susceptible to virus transmission, suggest that it may be a significant vector of PVY in Northern Ireland seed potato crops. The use of data from suction traps and within crop water-traps in potato crops to monitor aphid activity within Northern Ireland is a valuable tool for integrated pest management.

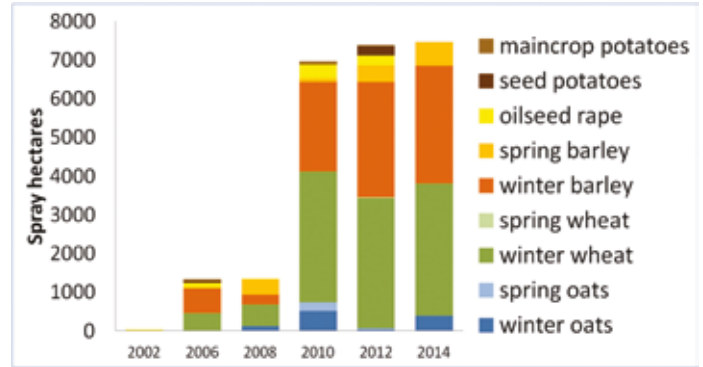


Figure 1 Neonicotinoid usage in arable crops in Northern Ireland (ha of crop area treated)

PHEP is responsible for the provision of an annual programme to monitor pesticide usage in Northern Ireland agriculture. The data provided assists the development of government policy on pesticide regulation and control. For example, neonicotinoid insecticides have been implicated in pollinator decline. Independent data on pesticide usage is therefore essential to evaluate the potential effects of pesticides on non-target organisms and the scale of such effects. Neonicotinoid usage, although relatively minor, increased substantially since 2002 (Fig. 1). The majority of this is seed treatment of winter-sown cereal crops. In December 2013, EU Regulation 485/2013 restricted the use of three neonicotinoid active substances commonly used in seed treatments.

There is much debate on the effects of neonicotinoids on the environment, and this should be put in context of the available alternatives. Nevertheless, integrated pest management promotes judicious use of insecticides and application against economically-significant populations of target pests. Routine prophylactic use of any insecticide is not environmentally-sound or sustainable pest management.

Current research emphases are on the sustainable use of fungicides, integrated pest and disease management, and use of biostimulants to alleviate biotic and abiotic stresses of crop plants. PHEP is also responsible for providing advice and the provision of statutory plant and public health functions.



Belfast suction trap: aerial sampling for insects

Agriculture Branch

Agriculture Branch is primarily situated at Hillsborough and has the overarching research and development objective of 'Advancing Animal Science and Improving Livestock Farming'. This work is conducted to underpin the ability of the agricultural and food industries to maximise their contribution to the Northern Ireland economy, account for the needs of the wider community for high quality food, preserve the environment and protect the welfare of animals. The research team leaders are internationally recognised scientists in their livestock discipline utilizing an instrumented research farm facility for beef, dairy, pig, poultry and sheep production and heifer rearing. The studies utilise specialist research facilities for studying animal nutrition, bioinformatics, feed and forage composition, management of animal waste nutrients and farm precision techniques.

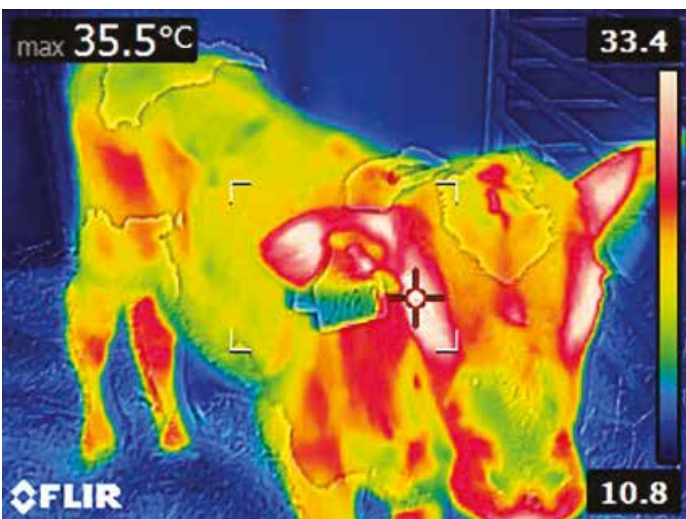
During 2015/16 a major infrastructure rebuilding plan was developed to renew the livestock facilities at Hillsborough. An outline five-year plan for new buildings for beef, dairy, heifer, pig and sheep, the demolition of old buildings, development of new roadways and site entrance plus the replacement of much of the services network, will require an overall investment of upwards of £30m. As part of this work DAERA initiated a review of its farmed estate across AFBI and CAFRE (College of Agriculture, Food and Rural Enterprise). The objective was to identify the appropriate farm estate required to meet the needs of each organisation. The first building project has been awarded by DAERA and the construction of a Nutrient Management Centre will begin early in 2016/17. This will be used to remove nutrients from the animal slurries on the farm as well as providing a platform for new research.



Research into zero grazing systems to improve milk production efficiency at AFBI Hillsborough



In-house feed boxes for study of individual cow intakes and feed efficiency



Thermal imagery for pre-symptomatic diagnosis of health and welfare issues

The Branch is involved in the procurement of both public and private funding to facilitate its research and development activities. While the larger portion of funding comes from DAERA, a major development this year was the Branch's success in becoming a member of the newly formed CIEL (Centre for Innovation Excellence in Livestock) and its management company CIELivestock. This is a 'one-stop shop' for livestock research and development in the UK, intended to drive the UK agri-food industry forward. It has the support of over 60 organisations across the UK, with initial start-up funding from the Department of Business Innovation and Skills (BIS). Future funding of the Centre will be through industry commissions and the IPR they generate, from which AFBI will also benefit. Over 50 key industry partners across the UK have either become members of CIEL or confirmed their intention to channel research through CIEL. Agriculture Branch has been strongly supported by a wide range of Northern Ireland based organisations such as ABP Group Ltd, AgriSearch, Devenish Nutrition, Dunbia, Foyle, Linden, Livestock Meat Commission, Moy Park, NIFSB, Northern Ireland Grain Trade Association, Northern Ireland Meat Exporters Association, Pig Regen, and John Thompson and Sons.



Feed efficiency and group behaviour studies

Agriculture Branch has also been seeking to strengthen its links with the local universities and has drafted an MOU with the Institute of Global Food Security in QUB. Furthermore Agriculture Branch, along with other scientists in AFBI, is one of the three preferred research partners (also QUB and UU) within a new consortium, the Agri-Food Quest Competence Centre. This is another industry lead venture, with an increasing number of agri-

food companies within Northern Ireland becoming members. Funding of £6m over 5 years will be provided by Invest NI with Industry providing in-kind contributions of 25% of the overall cost. The Centre will also seek to support the three research partners in bidding for research funding from other local (Invest NI, DAERA, Intertrade Ireland), national (TSB, RCUK) and international (EU) sources.

While these headline activities are vitally important to the future growth of Agriculture Branch, the daily business of a livestock research provider continued during the year. The Branch undertook a total of 17 E&I research commissions from DAERA and also led on three DAERA Research Challenge Fund studies with industry match funding. Three large EU Framework 7 projects continued through the year (ECO-FCE, GPlusE, SOLID), as did a wide range of commercially funded studies and testing services.

Despite a substantial number of staff leaving through the Voluntary Exit Scheme, several key scientists resigning or retiring and managing the implementation of a staff restructuring, the Branch still achieved all its key performance indicators for its research and technical outputs. A total of 52 peer reviewed publications, were submitted or



Research into efficient beef finishing at grass

published during the year, along with 20 conference presentations. James Browne, Steven Gilkinson and Peter Frost won the Douglas Bomford Trust Paper Award for 2015 for their paper published in Biosystems Engineering.

30 releases and 58 stakeholder events were also achieved during the year along with over 30 GrassCheck bulletins which were released weekly

throughout the growing season. These were published by the three main farming papers (Farming Life, Irish Farmers Journal and Farmweek), and also hosted on a dedicated web page within the AFBI and DAERA websites.

Postgraduate teaching involved 18 PhD students plus newly funded studentships through AHDB and DAERA. One student, Mark Little was awarded first prize by the keynote speaker, Professor David Kerr (University of Vermont), for his presentation at the 49th Annual Scientific meeting of Association for Veterinary Teaching and Research Work (AVTRW). David Johnston, another of the PhD students won a similar award from the British Society of Animal Science to reflect the quality of his research and presentation, and its applicability to the needs of the dairy and feed industries in the UK.

Fisheries & Aquatics Ecosystems Branch (FAEB)

AFBI scientists continued to play a key role on international working groups in support of marine environmental management and assessing status of fish stocks of interest to Northern Ireland. In 2015/16 the fisheries area expanded further with new work on sea trout biological reference points to international assessment levels and an initiative towards integrated ecosystem advice for the Irish Sea. These work areas will develop further over the coming years in line with policy objectives and the requirement for regional management plan for the surrounding sea areas.

Marine fish stock assessment work in 2015/16 provided scientific support to policy customers during a challenging year towards delivering a reformed Common Fisheries Policy and preparing for the landings obligation in 2016. AFBI science was used by the DAERA Minister in 2015 to successfully challenge a 17% cut proposed by the European Commission in the total allowable catches (TAC) of the Nephrops (prawn) fishery in the Irish Sea, with the outcome being a much smaller reduction of 2%, in line with the scientific advice. Catch opportunities for haddock in the Irish Sea were significantly increased by 40% despite the Commission's proposal for a 59% reduction. Further gear trials to improve fisheries selectivity were also conducted to ensure future profitability of the sector under changing legislation.

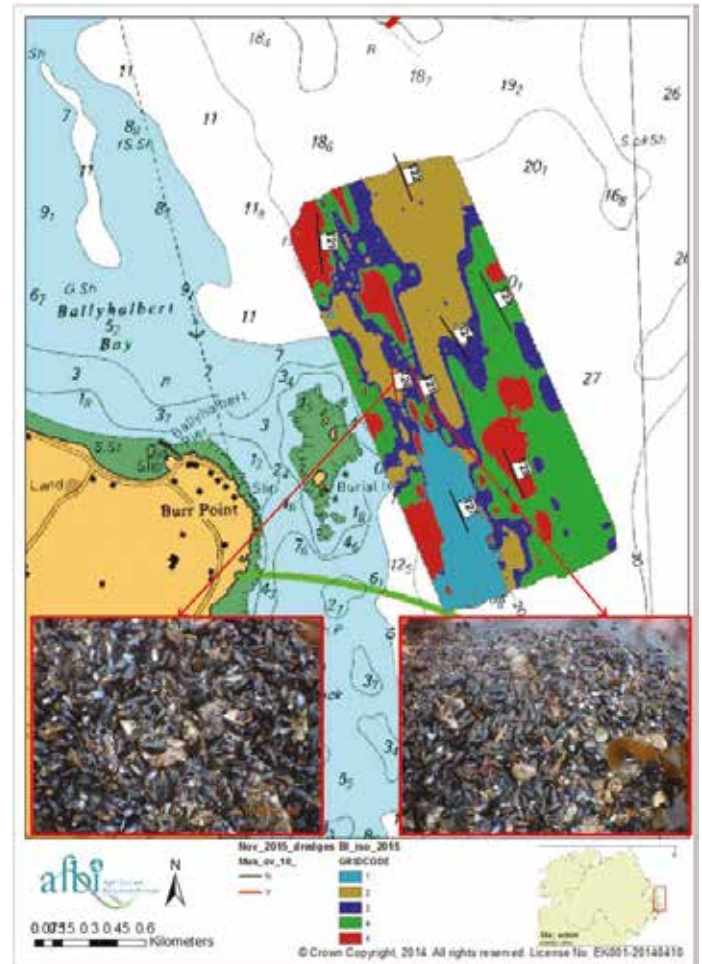


Figure 2. Habitat classification map with the location of dredge tows undertaken within the area of Skullmartin Rock, during the November 2015 seed mussel survey.

The Coastal Observatory consisting of the inshore moorings network continued to provide core observations essential for the management of coastal waters. Successful projects were completed on behalf of Newry and Mourne Council, Warrenpoint and Belfast Harbours with moored instrumentation providing monitoring data for major dredging operations.

Seabed mapping activity was concentrated on developing the evidence base to support the development of alternative marine conservation zones (MCZs) in the offshore zone. In the coastal area survey work was completed mapping the spatial extent of horse mussel beds off the Ards Peninsula. This continued collaboration between the aquaculture and seabed mapping work areas enabled the seed mussel fishery at Burial Island to proceed despite the proximity of this species to an area of high conservation value.



Figure 3. Mixed fish sample Lough Neagh.

The HORIZON 2020 project Aquaspace commenced during the year with FAEB's approach to the Spatial Management of trans-boundary Mariculture in Carlingford Lough featuring heavily. In the past year the development of the SMILE ecosystem models continued with the completion of new enhanced models for the Lough Foyle system. Existing hydrodynamic models in Carlingford Lough also underwent significant development. New collaborations with Northern Ireland Water studying the sources of water contamination in Dundrum Bay have developed during the year.

Freshwater fisheries section continued in its core role of advising DCAL on freshwater fish resources. The past year saw continuing development of science based integrated lake fishery management plans for Loughs Neagh and Erne, with AFBI staff active in support of DCAL through multiple consultation exercises, presenting science to public meetings with fishermen and anglers.

Annual stock monitoring of salmon continued at the River Bush salmon station, an international index site for the species based on survival in marine and freshwater phases backed by a network of additional primary salmon rivers with data derived being used to establish individual harvest quotas. A unique experiment is underway at the River Bush, following survival of genetically typed individual families of salmon through a full life cycle, just one example of AFBI's policy of using the facilities needed for routine fish stock assessment to generate added high value science. Incorporating new technology into fisheries science is continuing, for example, the use of acoustic tracking to follow movements of migrating salmon, trout, pike and coarse fish.

Following on from a successful grant of Protected Geographical Indicator (PGI) status for Lough Neagh eels, AFBI scientists guided the development of bids to the EU for similar status for pollan and thereby further improving the sustainability of commercial fisheries in the lough.

Food Science Branch

Food Science Branch (FSB) provides innovative research and development, analytical and diagnostic services and specialist advice on the chemistry and microbiology of food and related areas. The scientific expertise within FSB encompasses the disciplines of chemistry, biochemistry, microbiology, molecular techniques and sensory science. These are applied in particular to meat and dairy products, but also to fish, beverages, fruit and vegetables. With substantial links to other branches within AFBI, a strong "supply chain approach" is provided with expertise from the production of livestock or horticultural products through to the quality, safety and consumer perception of the final commodity. Food Science Branch offers a full range of objective and subjective sensory evaluation methodologies, conducted according to ISO and BSI standards, for research and commercial testing. The branch conducts chemical and instrumental analyses for organic contaminants, heavy metals, pesticide residues and radionuclides in food and the environment for DAERA (including DOE (NI)) and the FSA and provides an emergency response capability to DAERA and other government departments. Research topics include optimising eating and nutritional quality of food, evaluating novel processes, minimising food-borne pathogens and spoilage organisms and determining the impact of contaminants from agri-chemicals and other sources.



FSB research with the NI industry has led to new business, new products, revised processing parameters and more efficient production in a number of companies. For reasons of confidentiality, the following examples are taken from the public-funded research.

Food Science Branch is conducting research on the fatty acid composition of animal and human diets identifying and quantifying specific fatty acids with an impact on health and nutrition.

A project on enriching the omega 3 content of dairy produce has demonstrated that there is potential to increase the concentrations of long chain omega 3 fatty acids through inclusion of supplements in

the diet of dairy cows and this could enhance the nutritional value of milk, yoghurt and other dairy products. The analysis of the fatty acid composition of forages, concentrates, oils and meat and dairy products is conducted for cross branch research within AFBI and for commercial customers, identifying and quantifying nutritionally beneficial fatty acids.

Research in conjunction with AFBI-Hillsborough is investigating the links between animal husbandry methods and the micronutrient content of vitamins and minerals in meat and dairy products. As recent findings suggest that many people are "insufficient" in some of these micronutrients, this work has the potential to have a positive outcome on consumer health as well as profitability of the industry.

Beef industry representatives and scientists from across Europe met in October for a workshop in Milan entitled "Sustainable beef quality for Europe – a Workshop for Industry and Scientists". This meeting was co-organised by FSB together with the UK Foreign and Commonwealth Office, University of Milan and the Centro Ricerche Produzioni Animali, Reggio Emilia. The goal of the meeting was to examine the latest European research on beef eating quality, with the overall objective of reviewing the potential for measuring and managing eating quality of beef in Europe.



A Food Science Branch organised workshop for industry and scientists in Milan, October 2015

The Food Hygiene Unit's high throughput molecular diagnostic testing service for Clostridia and Campylobacter for the UK/ROI red meat and broiler industries continues to provide one of the largest commercial diagnostic services in the UK generating an income of over £500,000 this year. The Clostridia testing contributed to the establishment of an effective clostridia control program for several of its customers across Northern Ireland, the rest of the UK and Ireland. Such control programs provide industry with both recommended sampling regimes as well as advice on best practice to minimize spoilage through contamination of beef and lamb products by non-pathogenic clostridia.

Recently commissioned research on the Identification of Sources of Fecal Contamination in environmental waters associated with EU designated shellfish areas utilising the methodologies of Microbial Source Tracking (MST) have been validated this past year. These MST studies utilise quantitative qPCR technologies which quantify species specific Bacteroidales (Human vs Ruminant) helping to identify the sources of faecal contamination of those waters. This work has enabled AFBI to participate in the submission of a number of Interreg V projects on both NI Bathing waters (SWIM) and a number of shellfish associated NI transitional water sea loughs (SWELL).

The High Pressure Processing (HPP) pilot facility continues to be in demand. It has enabled both large and small businesses to investigate the potential of this new technology for a wide range of foodstuffs. A DAERA E&I project began in 2015/16 investigating the use of antioxidants in conjunction with HPP in juices and in cooked meats to improve shelf life. The facility is also used to demonstrate this innovative technology to students and other visitors.

Research funded by the FSA on the impact of consumer preparation and processing on the quantity of pesticide residues and their degradation products in fruit and vegetables has just been completed. This work area has led to the FSA making recommendations to consumers.

Food Science Branch was restructured in January 2016 and the sections responsible for food pathogen testing and research, and for statutory analysis of chemical residues are now delivered by branches within VSD. The remainder of Food Science Branch has been renamed "Food Research Branch" with a focus on food quality research and aims to build a centre of excellence for specialist expertise in meat and dairy research, food processing and preservation.

Agricultural and Food Economics Branch

Agricultural and Food Economics Branch (AFEB) is a leading UK centre for research in agri-food economics and rural development. AFEB's main role is to undertake economic modelling to evaluate the impacts of policy and market changes on the agri-food and rural sectors and results are disseminated to stakeholders via a range of accessible formats to inform decision making.

The work programme encompasses four main areas:

- The economics of farm businesses and households, including the estimation of optimal livestock feeding systems and barriers to entry of young farmers;
- The FAPRI-UK policy analysis programme analyses impacts of agri-food policy and market developments on livestock and crop production and prices for the four UK administrations
- The economic impacts of agri-environment actions and land-use activities in general, including afforestation, using a range of techniques that capture the wider public good values;
- Systems-modelling is quantifying the economic linkages both within the agri-food and rural sectors and their interactions with the wider regional and global economy.

Demand for rigorous socio-economic evidence to support policy and industry decision making has grown very significantly in recent years. In 2015/16 AFEB's main customers were: DAERA, DEFRA, Scottish Government and Welsh Government. The Agri-Food Strategy Board was also a significant user of the results of our economic analysis of the performance of the food processing sector in Northern Ireland.

A highlight during the year was the work of the FAPRI-UK policy analysis programme, the leading programme of its type in the UK, heavily used by the four UK administrations in the design and evaluation of policy programmes. Baseline projections of production and producer prices for each of the main UK sectors were presented by the team as a keynote conference contribution in London in December 2015, hosted by DEFRA and the British Agricultural Economics Society; participants included George Eustice, Minister of State, DEFRA. Commodity price volatility is now an area of growing concern within the agri-food sector and the team has initiated work on managing price volatility; Dr Myles Patton presented a paper on this topic at an Agenda NI conference in December 2015.



Participants in the bio-security workshop at AFBI-Hillsborough

The team also initiated work on the economic impacts of different vaccination strategies for Foot and Mouth Disease control, in collaboration with animal health economists in the United States Department of Agriculture, Animal Health Division, Colorado.

In December 2015, Dr Claire Jack (AFEB) along with Dr Angela Lahuerta-Marin (Bacteriology Branch) and Mr Graham Finney (Agriculture Branch) organised and led a one day workshop on sheep and cattle farmers' understanding of bio-security and their attitudes towards applying bio-security measures on farm. The workshop included presentation of results from an AFBI survey on farm-level bio-security to a wide range of stakeholders from the industry. A report by Dr Jack and colleagues examining barriers to new entrants to farming in Northern Ireland, contributed to a submission on farm succession by DAERA's Policy Development Branch to the AgriLand Use group. Dr Jack has also been leading work on the contribution of key basic services to the quality of life of rural dwellers in Northern Ireland and provided evidence to underpin DAERA's recently published Tackling Rural Poverty and Social Isolation (TRPSI) Framework; www.DAERA-ni.gov.uk/publications/tackling-rural-poverty-social-isolation-new-framework.

In recent years AFEB has amassed a considerable body of research evidence on various aspects of rural development in Northern Ireland, and their implications for policy development. Dr Erin Sherry co-ordinated and authored a summary paper on the evidence generated to date on rural economic and social development in Northern Ireland, A Summary of Research Evidence to Support Rural Development Priorities and Policies in Northern Ireland. The evidence was intended for use in rural policy development in the next programming period towards 2021.

Dr Ziping Wu was an invited keynote speaker at an EU experts' workshop in Brussels entitled 'Food safety of agri-food products in the context of research and innovation co-operation between the EU and China'. The workshop aimed to define the theme of a proposed major EU-China agricultural research project. Dr Wu also visited Beijing and Shanghai to promote and deepen AFBI links with the Chinese Academy of Agricultural Sciences (CAAS) and the Shanghai Academy of Agricultural Sciences (SAAS). He gave a presentation entitled AFBI Interests in Collaboration with China in a UK-China Agri-Tech Workshop attended by around 150 experts and industry representatives from both the UK and China.

Professor Davis continued in his role as Chief Editor of EuroChoices, the leading European outreach journal in agri-food economics, heavily used by policy makers across Europe. He was invited by the European Commission to participate in an international conference in Milan, 'Towards a

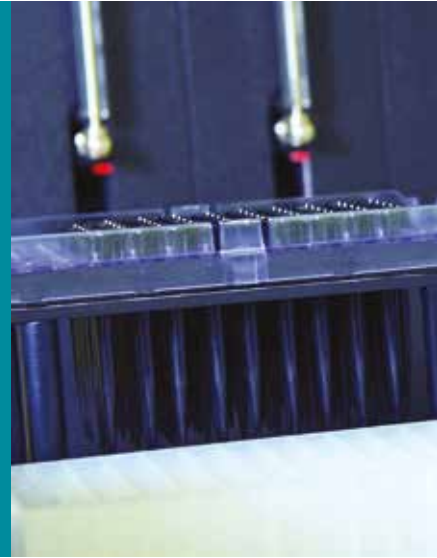


Professor John Davis discusses outreach activities with Dr Franz Fischler at the Milan Expo Inaugural Scientific Conference

Research Agenda for Global Food and Nutrition Security', chaired by Dr Franz Fischler, former EU Commissioner for Agriculture, Rural Development and Fisheries. This meeting initiated the scientific programme 'Feeding the Planet, Energy for Life', a core strand of the Milan Expo.

Branch staff continued to represent AFBI on the scientific committees of the British Agricultural Economics Society; the European Association of Agricultural Economists; and the UK Network of Environmental Economists.

VETERINARY SCIENCE DIVISION



During the year, AFBI's Veterinary Sciences Division (VSD) continued to undertake integrated programmes of work in relation to animal health and welfare, and the protection of public health by ensuring the safety of food of animal origin. The division currently employs approximately 240 veterinary, scientific, technical and support staff across its four scientific branches i.e. Bacteriology, Chemical and Immunodiagnostic Sciences, Disease Surveillance and Investigation, and Virology branches. DAERA remains our primary customer with the work of the division assisting the department in achieving its strategic goals, particularly those of enhancing animal, fish and plant health and animal welfare, and helping the agri-food industry prepare for future market opportunities and economic challenges.

The major work themes of the division are statutory testing, emergency response and contingency planning, animal disease surveillance, research and development, and commercial services and industry support. An important feature of the work of the division is the interdependency and linkage between these work themes. For example, VSD's emergency response capability is dependent on the scientific capacity that resides within the statutory and animal disease surveillance work areas and that is developed as a result of participation in DAERA-funded R&D programmes and a range of internationally competitive research and development projects.

The division has multidisciplinary scientific capability in the areas of:

- Microbiology
- Molecular biology
- Genetics
- Immunology
- Serology
- Parasitology
- Pathology and histopathology
- Chemical surveillance
- Epidemiology
- Ecology
- Veterinary investigation and advice

During the year the division underwent substantial restructuring associated with the AFBI 2020 strategy and with the loss of posts under the Voluntary Exit Scheme. These changes included the merger of the former Chemical Surveillance and Immunodiagnostic branches into a combined Chemical and Immunodiagnostic Sciences Branch (CISB) on 01 April 2015. In December, the food microbiology and statutory chemical testing functions of Food Sciences Branch were merged with the Bacteriology and CISB branches respectively, with the physical relocation of staff in these two areas expected to occur later in 2016.

A significant milestone in disease eradication was achieved this year when in October 2015 the EU granted Northern Ireland Official Brucellosis Freedom (OBF) status, allowing DAERA to progressively reduce the level of surveillance carried out including the removal of pre-movement testing.



The achievement of OBF status has followed the required three-year period since the last culture confirmed case of *Brucella abortus* infection, and work to control and eradicate this costly and zoonotic disease stretching back over a number of decades. The serology testing, culture of reactors and supporting molecular work at VSD has been a significant underpinning factor in NI achieving the current disease status.

The quality of scientific testing provided to DAERA and other customers is an essential part of the work of the division and is overseen by a dedicated quality assurance unit. AFBI holds two internationally recognised quality assurance standards providing customers with a formal recognition of the technical competence, impartiality, performance and capability of a laboratory with ISO17025:2005 accreditation maintained for statutory testing in accordance with regulatory and customer requirements. Both ISO9001 and ISO17025 procedures and work were independently audited during the year with satisfactory outcomes.

The range of ISO17025 Flexible Scopes has been extended and the Division is now able to self-accredit tests at VSD using PCR, ELISA and LC-MS/MS. The rollout of a new electronic management system, which has been introduced to harmonise oversight, reduce the administrative burden and increase effectiveness of compliance monitoring has been on-going over the year.

Bacteriology Branch

The Bacteriology Branch undertakes an integrated programme of statutory, diagnostic and R&D work on the major bacterial pathogens of animal and public health significance. The work includes laboratory testing and confirmation of bovine TB, *Brucella* and *Salmonella* species under the DAERA Assigned Work Programme and encompasses Antimicrobial Resistance (AMR) analysis.

During the year the Food Microbiology Unit merged with Bacteriology Branch, thus increasing the remit of the branch to cover the whole food supply chain. The skill base within the enlarged Branch comprises traditional and specialist bacteriology methods, molecular diagnostics, test development, immunology, genetics, experimental design, wildlife ecology and veterinary epidemiology. The Branch has an international standing in TB and *Campylobacter* research and extensive collaborations and linkages exist with other research organisations and centres of excellence in Europe, North America and globally.

The work utilises a range of specialised bacterial culture and molecular approaches to detect, characterise and control pathogens. For statutory work these are UKAS accredited to international standards under ISO17025. Furthermore, the Branch performs ISO17025-accredited DNA identity and parentage testing to support DAERA's initiatives to detect and deter animal identity fraud. All laboratory services tests were delivered to the Department to the agreed time and quality standards.



Bacteriological culture

During the year, Bacteriology Branch continued to provide support and advice to DAERA's Test-Vaccinate-Remove (TVR) project through the provision of analytical services, mapping and field support. The Branch also provided inputs to the independent NI TB Strategic Partnership Group in relation to the role of wildlife in the epidemiology of bovine TB in cattle herds. The Branch made presentations at the EU Food and Veterinary Office audit of the TB Eradication Scheme in June 2015.

A further output from the collaboration with Prof Rowland Kao and colleagues at Glasgow, QUB and AFBI, funded by the Wellcome Trust, was published in Scientific Reports (Nature Publishing Group) in August 2015. This bovine TB risk-factor study assessed the cattle-based, and for the first time in NI, the badger-based risk factors for new TB breakdowns.

A paper from the DAERA-funded E&I Gamma Interferon project was published in Veterinary Research in September 2015 that showed that cattle that are skin test negative, but Gamma Interferon positive are at an increased risk of reacting to the TB skin test in the future. Furthermore, a paper from the BBSRC-funded Glasgow-AFBI collaboration in the area of TB phylodynamics was published in October 2015 in the journal 'Epidemics'. This publication presents the capability and limitations of using molecular typing data, bacterial whole-genome sequencing and mathematical models in understanding local persistence and spread of bovine TB.

The AFBI Bio-security project, funded under the DAERA E&I programme was completed during the year. As a final output from the project, a stakeholder workshop was held to consider sheep and cattle farmers' understanding of bio-security and their attitudes towards applying bio-security measures when dealing with disease. Thirty participants from a wide range of representative organisations participated in the event. The outcomes of the discussions have been reported to help to inform DAERA policy on bio-security in NI.

Funding has been awarded, through DAERA, for a PhD studentship to research the

"Development of a dynamic mathematical model to assess spread and control of bovine tuberculosis integrating both domestic and wild host dynamics", in collaboration with the statistics department in QUB. Significant industry funding has also been awarded to investigate the pathogenicity and methods of control for *Campylobacter* in poultry.

Dr Adrian Allen, a Bacteriology Branch Principal Investigator spent a three month sabbatical working at the University of New Hampshire, USA under the highly prestigious Fulbright Scholarship. During this time, Dr Allen conducted research to investigate the genome epidemiology of *Brucella abortus* in Northern Ireland and further developed collaborative linkages with this research group in University of New Hampshire.

Bacteriology Branch continues to participate in the BBSRC Animal Health Research Club (ARC). Through this initiative, AFBI is working with University of Edinburgh (Roslin Institute) and Scottish Rural Colleges (SRUC) collaborators to fine map genetic variants associated with TB resistance in dairy cows and to investigate the feasibility of genomic prediction for TB resistance. This collaboration builds upon the international linkages and collaborations that already exist between AFBI and other centres of excellence.

Chemical and Immunodiagnostic Science Branch

This is the first full year of operation for the newly formed Chemical and Immunodiagnostic Sciences Branch (CISB), formed from the merger of the Chemical Surveillance and Immunodiagnostic Branches in April 2015. The branch undertakes a diverse range of activities, the majority of which are for statutory purposes. During the year, statutory functions previously carried out by the Food Science Branch Newforge were transferred to CISB. This was part of the AFBI Strategy 2020 and brings together analytical chemistry programmes involved with detecting contaminants in food and feedstuffs. Line management and budgetary management of the staff transferred to CISB at the end of December 2015. The physical move of staff and equipment will occur in 2016/17 once infrastructure modifications to the laboratories at VSD are completed. One of the biggest challenges for the branch in 2015/16 has been the impact of the Voluntary Exit Scheme which resulted in a number of senior staff leaving the branch. These departures have been well managed with regard to succession planning and the reorganisation of the branch senior team is progressing well during 2015/16 and into 2016/17.

The work of the Branch encompasses both statutory animal disease testing and analytical chemistry testing programmes. This work is undertaken on behalf of DAERA, the Food Standards Agency Northern Ireland (FSANI), the Chemical Regulations Directorate (CRD) and commercial customers. In addition, the branch is responsible for co-ordinating emergency responses and responding to suspect epizootic diseases, veterinary drug misuse, pesticide incidents, contamination by heavy metals and marine biotoxin incidents.

The major achievement in the animal disease programmes was the decision by the EU to grant Official Brucellosis Freedom (OBF) for Northern Ireland in October 2015. This decision is the culmination of many years of high throughput testing of cattle blood and milk samples by staff in the Branch. At peak levels, the brucella eradication unit, which is a National Reference Laboratory, were testing over 1.4 million samples per annum. Since OBF, sample numbers have dropped to around 400,000 per annum and pre-movement testing of cattle has ceased. This has necessitated a significant reduction in staff numbers and a corresponding contraction in laboratory space. The reduction

in testing has also provided an opportunity for restructuring within the unit to ensure we are best placed to take forward the surveillance monitoring phase of the programme.

Bovine Spongiform Encephalopathy (BSE) surveillance is still ongoing and there have been no new cases of disease in Northern Ireland since 2012. Test data from the laboratory is being used by DAERA as part of an application seeking regional negligible risk status for Northern Ireland. An application is hopefully anticipated in 2016/17. During the year CISB validated commercial ELISAs for porcine epidemic diarrhoea virus (PEDV) and



Sample preparation in Chemical and Immunodiagnostic Sciences branch at AFBI Stormont

African Swine Fever Virus (ASFV). This was in response to horizon scanning of potential risks to Northern Ireland from disease incursions in other parts of the world, namely America and Eastern Europe respectively. The assays remain available for use either for commercial testing or requests from DAERA and demonstrate a commitment by the Branch to ensure the appropriate serology tests are available to respond at short notice to disease risk issues.

During 2015/16, the work of the serology unit of CISB was examined by auditors from the World



Organisation for Animal Health (OIE). The audit was principally focussed on DAERA compliance with animal disease controls and the audit team spent some time visiting CISB to see the delivery of the associated testing programmes.

Bespoke commercial serology testing has remained relatively steady during the year. The ongoing outbreak of bluetongue virus in France has resulted in some additional serology testing of imported animals, particularly those which may have passed through France during transit.

In terms of analytical chemistry, the Branch undertakes testing for both statutory and commercial reasons. The Branch is the National Reference Laboratory (NRL) for most of the banned veterinary drugs and also for marine biotoxins. During the year the laboratory introduced a new risk-based veterinary drug residue testing scheme for cattle, sheep, pigs, poultry, eggs and milk. This scheme has replaced the existing pig health and residues in cattle and sheep schemes, and is a flexible framework of sampling and testing, dictated by knowledge, evidence and risk of veterinary medicines being used.

During 2015/16, the Branch has continued to

detect non-compliance problems with flukocides, particularly closantel. Fast track testing systems, initiated at the request of DAERA and industry, for closantel and also the non-steroidal anti-inflammatory drug phenylbutazone are already in place and working well. These allow the sampled carcasses to be detained at the abattoir pending receipt of test results. A study was undertaken by the Branch looking at pour on flukocide use in cattle identified that grooming behaviours of the animals could result in additional dosing and thereby non-compliant test results even when withdrawal periods were correctly applied. The results of the study were submitted to the Veterinary Medicines Directorate (VMD) for consideration and the laboratory are now discussing collaborative work with a commercial company involved with production of pour on flukocides.



Non-compliant results for phenylbutazone have been detected during 2015/16 in two cattle from the same farm. This drug is not licensed for use in food producing animals but is allowed for the treatment of horses. The non-compliant results appear to have arisen due to cross-contamination following treatment of a horse on the farm. A new mass spectrometer has been commissioned at the

start of 2015/16 which has enabled the chemical confirmatory testing unit to continue delivering multi-analyte test methods for a wide range of veterinary drugs.

During 2015/16, the veterinary drug residues section of the branch was audited by a group from Brazil. This was a UK wide audit involving testing of milk. The report from the visit was highly complimentary of the laboratory.

Marine biotoxin testing for Northern Ireland is delivered by the branch through a UK-wide contract from the FSA. KPIs for this contract were fully met during the year. Low level lipophilic toxins (responsible for diarrhetic shellfish poisoning) were detected below regulatory levels in June 2015 which did not result in any shellfish bed closures. However, the laboratory detected domoic acid (causing amnesic shellfish poisoning) above the regulatory level of 20mg/kg in shellfish from Belfast Lough sites at the beginning of July 2015, which resulted in the closure of mussel production for a period of two weeks.



Preparing mussel samples at AFBI Stormont

Commercial feedstuff testing has continued to expand within the branch and this is mainly due to the high sensitivity multi-analyte LC-MS/MS method developed by CISB. Commercial customers value the expertise of the unit and their willingness to assist in solving industry problems. In terms of commercial testing for veterinary drug residues, CISB was successful during the year in securing testing from a competitive tendering exercise for the Irish National Surveillance Plan. Of 8 lots applied for on the tender, the Branch successfully won 5 of these. The contract start date is 1st April 2016.

During the year, staff from the branch attended and presented data at the AOAC Biotoxin Taskforce meeting, Baiona, Spain (June 2015) and 7th International Symposium on Recent Advances in Food Analysis, Prague (November 2015). Notable scientific publications during the year included a joint paper with several international laboratories on the evaluation of competitive ELISAs and Fluorescence Polarisation Assay for the diagnosis of bovine brucellosis, and production of antisera to phenylbutazone and oxyphenylbutazone for use in immunochemical detection assays. CISB staff participated in National Reference Laboratory meetings in Aberdeen, London, York and Maisons-Alfort, France. Dr Armstrong Hewitt participated as a National Expert in the EFTA Surveillance Authority's Mission to Iceland from 8 to 12 February 2016 regarding the application of EEA legislation related to control of residues and contaminants in live animals and animal products, including controls on veterinary medicinal products.

Disease Surveillance and Investigation Branch

The animal disease diagnostic service, operated by AFBI's Stormont and Omagh laboratories, helps to safeguard animal and public health and promote the competitiveness of the agri-food industry by identifying the causes of disease in submitted material. Surveillance for notifiable, zoonotic (transmissible to humans) and emerging diseases forms an important part of this work. The work undertaken includes post-mortem examinations of food producing species and an extensive range of clinical pathology tests. Statutory work undertaken by the branch includes histological confirmation of bovine tuberculosis and transmissible spongiform encephalopathies and a surveillance scheme for *Echinococcus multilocularis* in foxes.



Influenza (H1N1) and LA-MRSA has continued to be detected in pig submissions during the year. Antimicrobial susceptibility testing is routinely carried out on clinical samples and those collected from animals submitted for post-mortem examination to the Disease Surveillance and Investigation Branch. *Salmonella Choleraesuis* was isolated from two 8 weeks-old pigs submitted for a post-mortem examination. Initial tests were done at VSD and Public Health England carried out whole genome sequencing which confirmed the identification of the isolate. PRRS was also detected on one of the pigs. Other surveillance highlights include the detection of Duck viral hepatitis in wild ducks submitted for Avian Influenza surveillance. It was diagnosed based on pathology and histopathology findings.

The fifth All-Island Animal Disease Surveillance Report (for the year 2014), prepared by DSIB and the veterinary diagnostic laboratories operated by the Department of Agriculture Food and the Marine (DAFM) in Ireland, was published in 2015. This is one of the actions agreed by DAERA and DAFM under the All-island Animal Health and Welfare Strategy. Quarterly animal disease surveillance reports were also compiled and published in the Veterinary Record journal during the year.

AFBI continues to offer a range of tests on a commercial basis to support industry animal disease control initiatives. These services include AFBI's Cattle Health Scheme, which is a voluntary scheme for the control of five of the most economically important endemic diseases of cattle i.e. bovine viral diarrhoea (BVD), infectious bovine rhinotracheitis (IBR), Johne's disease, leptospirosis and neosporosis. The scheme is conducted according to the UK-wide Cattle Health Certification Standards (CHCS) rules and the testing is accredited to ISO 17025:2005 standard.

AFBI is also a designated laboratory for the testing of samples under the industry-led BVD eradication programme operated by Animal Health and Welfare Northern Ireland (AHWNI). The programme is based on testing ear punch samples from calves collected using tissue sample-enabled official identity tags for BVD virus. It progressed from voluntary to a compulsory phase on the 1st March 2016. AFBI supports the programme by being the only designated laboratory based in Northern Ireland and it is currently testing a considerable proportion of the samples. In addition, scientific support is provided through membership of the BVD implementation group (IG) for NI and Animal Health Ireland's (AHI)



BVD technical working group (TWG). The BVD TWG comprises experts and experienced practitioners and is tasked with developing the control programme and providing scientific advice to the BVD IG in the Republic of Ireland as well as the BVD IG in Northern Ireland. The BVD IGs are cross-industry bodies convened by AHI and AHWNI to take forward planning, implementation and monitoring of the BVD eradication programmes.

During 2015/16 DSIB has been awarded flexible scope by United Kingdom Accreditation Service (UKAS) for the ISO17025 accreditation of molecular tests and commercial ELISAs. This is recognition of the local expertise and is a sign of trust on the quality systems in place in Veterinary Sciences Division. It provides a welcome flexibility to the schedule of accredited tests.

DSIB hosted the 8th meeting of the European Veterinary Surveillance Network (EVSN) in Belfast on the 8th and 9th October 2015. Close to 40 veterinary scientists (pathologists, virologists, epidemiologists etc.) involved in animal disease surveillance in Belgium, the Netherlands, Switzerland, England & Wales, Scotland, the Republic of Ireland and Northern Ireland were in attendance. The annual

EVSN meeting provides a forum for European disease surveillance laboratories to share experiences, build relationships and update their knowledge on common themes. The 2015 meeting included presentations on a number of key issues including emerging trends in animal disease, horizon scanning, harmonisation of surveillance networks, future challenges for disease surveillance and case reports.

The Association of Veterinary Surgeons Practicing in Northern Ireland (AVSPNI) Open day was held in AFBI Omagh on Wednesday 6 January. During this event, posters with pictures of previous Open days in the Omagh laboratory from 1975 until 2010 were presented. The day was a success, with a large number of vets in attendance. It was also attended by Dr Bradley Viner, President of the Royal College of Veterinary Surgeons. DSIB in conjunction with the Young Vet Network organised a new CPD event: 'An introduction to AFBI's Veterinary Sciences Division' in the library of AFBI Stormont on Wednesday 25 November 2015. The aim was to introduce the laboratory, the services offered and the vets working in DSIB to local vets, especially to those recently qualified. Five short talks on practical themes were followed by a post-mortem demonstration.

DSIB's Veterinary Research Officers have been interacting with colleagues in GB through membership of APHA discussion group on Small Ruminants, Poultry and Pigs. Membership of these groups includes disease experts from both the industry and the government. As a way to improve communication with the industry to ensure AFBI provides a world class service a new discussion group, focused on poultry conditions, met for the first time in February 2016. Members of the Northern Ireland Poultry Discussion group include practicing vets specialized in poultry, a group of Veterinary Research Officers working with poultry and other AFBI scientists involved in this work.

Presentations were made by DSIB staff at various conferences including at the Irish Society for Parasitology annual meeting, the 10th International Congress of Veterinary Virology, the European Veterinary Surveillance Network meeting, Association of Veterinary Surgeons Practicing in Northern Ireland (AVSPNI) annual conference as well as at several local farmer and veterinary meetings. In addition, DSIB staff were authors/co-authors in seven peer-reviewed publications covering areas such as leptospirosis serology and epidemiology and fasciolosis. These include an article in PLoS Pathogens on 'Fasciola hepatica: histology of the reproductive organs and differential effects of triclabendazole on drug-sensitive and drug-resistant fluke isolates and on flukes from selected field cases'.

DSIB represents AFBI in the Partnership for Action against Wildlife Crime in Northern Ireland (PAW-NI). PAW-NI is a multi agency body comprising representatives of organisations involved in protecting against wildlife crime. It provides opportunities for statutory and Non-Government Organisations to work together to combat wildlife crime. In October, the initial phase of the PAW NI 'Watch Out for Wildlife Crime' campaign was launched. A website (www.wildlifecrimeni.org), leaflets and a social media campaign have been initiated.

Two recently qualified veterinary surgeons from Spain chose AFBI to obtain practical experience in the AFBI Cattle Health Scheme and disease surveillance with Erasmus + grants. Erasmus+ is an EU-funded programme supporting higher education students to study abroad for up to one year in another European university or to gain valuable international work experience in a European organisation.

Virology Branch

The Virology Branch's remit is to improve and develop new approaches to the diagnosis and control of viral diseases in farm animals and fish, in support of DAERA's policy objectives aimed at improving the health and welfare of Northern Ireland livestock. The Branch undertakes a range of statutory and analytical work to support Northern Ireland animal and fish disease control programmes as required by European legislation. The statutory work includes emergency response molecular diagnostic testing for major epizootic disease threats and post-import testing in support of DAERA and the Northern Ireland agri-food sector. The Branch's research includes programmes to develop new diagnostic tests for viral infections, new approaches for development of vaccines for viral disease control and identification of novel viruses associated with existing or new disease syndromes.

In 2015/16 the Virology Branch tested a large number of submissions for epizootic and emerging viruses including avian influenza and Newcastle Disease virus for which the Branch received renewed 17025 accreditation (from the EU AI/ND PCR Proficiency Panel). Tests for other pathogens, Bluetongue virus, swine influenza virus, maedi-visna virus, porcine epidemic diarrhoea virus, transmissible gastroenteritis virus and porcine delta coronavirus have been conducted on behalf of DAERA as part of disease freedom, trade guarantees and scanning disease surveillance. The Branch also conducted testing on a large volume of samples for pathogens as part of DAERA's programme for statutory testing of fish and shellfish.

Research grant funding was obtained from the United States Department of Agriculture to examine viruses in the enteric tract of poultry in best and worst performing flocks. Funding is also in place from an EU Marie Skłodowska Curie fellowship programme and InvestNI/Enterprise Ireland for investigations into emerging, evolving or novel viruses of swine in respiratory, reproductive and enteric pathologies also with relationship to nutrition. The diversity of methodologies used in the Branch is a major factor in attracting EU funding and particularly for virus discovery where conventional techniques such as tissue culture and electron microscopy are combined with state-of-the-art technologies such as next generation sequencing.

The Biotechnology and Biological Research Council (BBSRC) (in collaboration with Queen's University Belfast) funded a study to develop novel oral vaccination strategies for Atlantic salmon and Invest NI funded an innovation voucher, with the Lough Neagh Fisherman's Co-operative Society, for a project which examined the presence and prevalence of European eel viruses in the Lough Neagh. Two first stage research grant applications were submitted to the EU Horizon 2020 programme, on understanding bovine respiratory disease complex: environmental, infectious and genetic interactions (lead VSD) and one on the role of early virus infections of the gastrointestinal tract in predisposing broiler chickens to later campylobacter infections (lead University of Swansea). Applications were also made to the BBSRC, DAFM and Invest NI.



Virology Branch staff currently supervise 4 Ph.D. students. Presentations were made to the 13th Digestive Physiology of Pigs Conference, Poland, the Negative Strand Virus Conference, Sienna, Italy, the Microbiology Society, Birmingham, AFBI Research to Drive Sustainable Production Conference Hillsborough, DAERA and QUB student symposia, Association of Veterinary Teaching & Research Workers, the Infection and Immunity Translational Research Group Conference (a prize for 'best talk' was awarded to one of the Virology Branch Ph.D. students), the Nuffield Sentinus Awards Evening and the AFBI Open day. A Pirbright Institute's Poultry Health Course lecture and the 'A' level update lecture in W5 Belfast were delivered. A workshop in Sao Paulo, Brazil, was attended funded by the British Council entitled "Next generation sequencing applications to improve livestock welfare, food security and socioeconomic stability in Brazil" and Horizon 2020 events in Brussels. Visits were also made to the Pirbright institute and Backwestern.



The Virology Branch also provides a commercial service to support local industry as well as national and international companies. This work encompasses testing, R & D and advice on a range of virological topics. Commercial contracts have been obtained for vaccine testing, fish testing and studies of poultry enteric disease. The Branch also looks for opportunities to develop and commercialise kits and products, has obtained licences and is filing a patent application.

FINANCE & CORPORATE AFFAIRS DIVISION

Introduction

AFBI's Finance and Corporate Affairs Division (FCAD) is responsible for the management of AFBI's corporate functions and supports the delivery of services by AFBI's Science Divisions. FCAD consists of:

- Governance and Performance Branch (incorporating the Corporate Communications and the Secretariat & Coordination Units)
- AFBI Innovations;
- Biometrics and Information Systems Branch;
- Emergency Planning, Health and Safety and Estates Branch;
- Finance Branch; and
- Human Resources Branch.

AFBI has a Management Statement and Financial Memorandum with DAERA that describes the governance arrangements under which it operates. These take account of The Agriculture (Northern Ireland) Order 2004 as well as Managing Public Money Northern Ireland.

A Memorandum of Understanding (MoU) is in place setting out the governance arrangements for the delivery of the Assigned Work Programme for DAERA. DAERA commissions bi-annual reviews of the implementation and operation of the MoU during the year.

More detailed information on the functions and achievements of FCAD is set out below.

Governance and Performance Branch

As a publicly funded body, AFBI operates within an increasingly complex NI public sector governance, accountability and scrutiny framework. The Board and EMT are accountable for setting clear objectives and taking decisions on expenditure and allocation of public funds. They are required to demonstrate efficiency, economy and effectiveness and prudence in the administration of public resources, to deliver value for money as well as delivering excellent and responsive services to customers and stakeholders.

FCAD through the Governance and Performance Branch (GPB) takes the lead in supporting the Chief Executive and Accounting Officer in ensuring that good governance arrangements are in place. This includes coordinating the Institute's contact with the Board, its sub-committees and internal and external auditors.

GPB support the Board, Accounting Officer and EMT to deliver their roles effectively within this framework by providing comprehensive and robust advice on:

- governance;
- business planning;
- risk management;
- audit and assurance;
- insurance and indemnities;
- information governance; and
- organisational performance management.

A key priority for GPB has been to assist in the creation of a strong performance culture within AFBI where everyone understands where they fit in helping to achieve AFBI's objectives. In 2015/16 the



branch improved the existing business planning and performance reporting process to ensure that there are clearer links down from the Corporate Plan and Objectives through the Divisional and Branch plans down to Individual performance plans.

The Branch has made a significant contribution to the governance arrangements within AFBI through the production or review of a wide range of governance documents and guidance for staff. This includes, for example new guidance on handling Whistleblowing, an updated Corporate Fraud Policy, new business planning guidance and guidance on handling complaints etc. The branch also contributed to ensure effective governance of the AFBI Board through the production of a suite of governance documents including Standing Orders and Scheme of Delegation.

This progress is evidenced in the positive assurances provided by Internal Audit on 3 key areas which the branch are responsible for – Corporate Governance received a ‘Substantial’ Assurance opinion, with ‘Satisfactory’ assurance opinions also provided on AFBI’s Performance Management and Risk Management arrangements.

The Secretariat and Coordination Unit provides support to the AFBI Board, its committees and the Executive Management Team. The Unit also provides support to a number of other corporate committees such as the Health and Safety Committee and the Risk Management and Business Planning Group.

Corporate Communications and Stakeholder Engagement

AFBI continued to focus on communicating the AFBI brand both internally and externally. Corporate Communications delivers marketing, events and media management including production of corporate promotional and scientific material and displays to promote AFBI’s activities and projects.

External communications

Public engagement - AFBI took part in a wide variety of both stakeholder and public events including the RUAS Balmoral Show and Winter Fair, the Ploughing Championships, the Maritime Festival and the 2016 NI Science Festival. AFBI’s ship, the RV *Corystes*, hosted an Artist-in-Residence in August and September and following this, welcomed over 120 members of the public on board for pre-booked scientific tours during two days of the 2016 Northern Ireland Science Festival.

AFBI events - AFBI delivered a variety of events for invited stakeholders including a Dairy Research Seminar, which was oversubscribed, and a series of farm walks, delivered in partnership with CAFRE and AgriSearch. The theme for the annual Open Meeting held in September was ‘AFBI Research for Sustainable Expansion of the Agri-Food Sector’ and was attended by 60 industry stakeholders.

AFBI Press Office - The AFBI Press Office issued over 110 press releases with 25 stories achieving coverage and interviews in local radio and television. Digital communications and Social Media – AFBI launched a new web site in March (www.afbini.gov.uk) and continues to grow its Twitter following



AFBI's twitter handle is @AFBI_NI



Balmoral Show 2015, L-R, Dr Maria Guelbenzu, Head of AFBI DSIB, Perpetua McNamee, DARD Deputy Chief Veterinary Officer, Mme Wang, Chinese Consulate, Belfast, Siobhan Corry, DSIB, AFBI Omagh

(@AFBI_NI). A monthly e-newsletter 'AFBI News & Views' is sent to over 1,200 key contacts.

Internal Communications

Over the last year AFBI has continued to develop a culture of 2-way communication and enhance staff engagement on a corporate level. A variety of initiatives and platforms promote AFBI's corporate profile and engage with the workforce, this included initiating and delivering a series events and forums for staff to engage with the CEO, EMT and AFBI's Voluntary Exit Manager.

Digital communications and Print – Monthly staff newsletters and the Team Brief process have ensured that staff within AFBI are kept informed of key developments as the year progresses and have an opportunity to raise questions to EMT. 12 editions of the staff newsletter and Team Brief were issued throughout 2015/16, both by email and in hard copy.

Communicating the AFBI Voluntary Exit Scheme

- The AFBI Voluntary Exit Scheme was launched on 13 April 2015. Supporting information was prepared for staff including a Staff Guide and Frequently Asked Questions and this was featured on the AFBI Intranet. Staff were also invited to attend a series of 'On-Site Staff Support Sessions'. Towards the end of the scheme a special event was held for staff with 30+ years of service. This was hosted by the AFBI Board and held at AFBI Hillsborough.

Staff Events – The theme of the 2015 Staff Open Day was 'Implementing AFBI's 2020 Strategy' and this was followed by a series of Staff Briefings at Crossnacreevy, NFL, Stormont, Hillsborough and Loughgall. In October AFBI participated in the 2015 Community Relations & Cultural Awareness Week with a special edition of the Staff Newsletter – Theme 'One Place, Many People'.

AFBI Innovations

AFBI Innovations was set up to support AFBI staff in taking new discoveries from AFBI's science base through the commercialisation process and to find markets for the Institute's services and inventions. Formerly, the scope of AFBI Innovations also included the full breadth of marketing, events and customer engagement, commercialization strategies and the provision of legal support for licensing and contract and intellectual property management and the provision of support to AFBI staff in sourcing and securing research funding.

Key Services and Expertise

Licensing and Contract Management.

AFBI Innovations supports scientists by negotiating and agreeing commercial agreements and contracts. The branch also have responsibility for identifying potential tender opportunities for AFBI staff and lends administrative support in completing bids and tender submissions. The unit also provides support in providing Intellectual Property legal advice and intellectual property awareness training.



CIEL logo



Fall Forum

AFBI's Research Support

AFBI Innovations contributes to AFBI's Research Support function, undertaking functions along with members of AFBI Finance to assist staff in seeking and then obtaining research funding from external sources.

The Northern Ireland Contact Point (NICP) for agri-food under Horizon 2020 is funded by DAERA and based within AFBI, but works across Northern Ireland with both the private sector and researchers. Horizon 2020 (H2020) is the EU's Framework Programme providing €8 million for research and innovation across Europe and open for applications from 2014 to 2020. Following meetings with individual staff and branch heads, a Horizon 2020 strategy and action plan for 2016-2017 will focus on fewer, high quality applications, whilst still raising AFBI's profile and responding to new opportunities which may arise as a result.

Outside of Horizon 2020 the business strategy for targeting other collaborations and increasing commercial income is developed within each of the scientific divisions and within each scientific branch. Increased efforts have also been made to identify and tender for other funding sources from both state and private sectors.

Key Achievements in 2015/16 Year

AFBI's in-house lawyer within Innovations has had a key role in formalizing the arrangements for AFBI's participation as a founder member of the Centre

for Innovation and Excellence in Livestock (CIEL), a company limited by guarantee which is expected to result in capital co-funding to AFBI from InnovateUK.

AFBI continued to initiate and build collaborations across the USA and Canada via the Four-Nation, Transatlantic Scientific Forum, and strengthened relationships with both government and private sector bodies. AFBI played a full role in the Third Forum on Agri-Food Research in October 2015, hosted by Genome Alberta in Edmonton Canada. This forum has now established itself as an annual event on both sides of the Atlantic and provides a cost effective platform for knowledge sharing, agreeing mutual regional priorities and, by means of a series of intensive thematic workshops over two days, agreeing specific topics for international collaborations which are both capable of attracting jurisdictional funding and capable of delivering measurable outputs of genuine benefit to each region.

Support to AFBI staff and raising of AFBI's profile resulted in twenty H2020 proposal submissions during the year 2015-2016. Many of these were for first-time applicants in AFBI, for whom a first experience of participation has been important. Success rates in H2020 generally have been low. The results are still pending for five proposals; of these, three have been invited to Stage 2 of the application process (in comparison to one for 2014/15).

Biometrics & Information Systems Branch (BISB)

BISB provides integrated IT and statistical services in support of AFBI business areas and external customers and co-ordination of quality assurance for AFBI research and scientific activities.

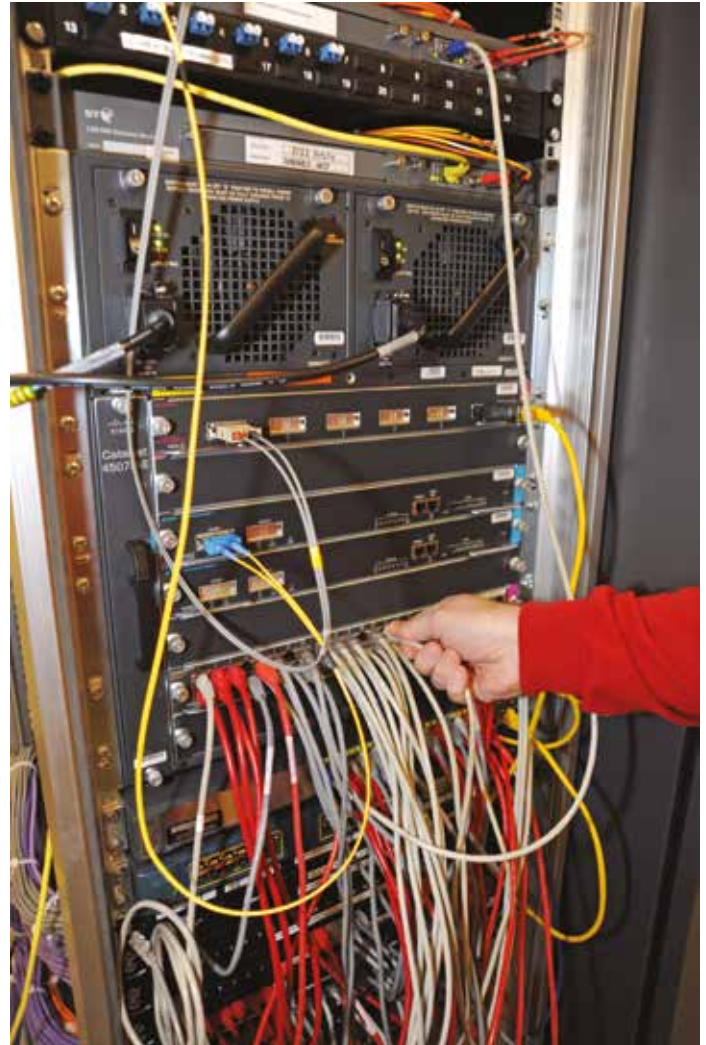
Key Services and Expertise

BISB Information Systems Unit develops interactive scientific applications for DAERA and the agri-food industry, develops solutions for the efficient and secure management of AFBI scientific and business data, maintains compliance with public sector data security and government network accreditation requirements, and provides for the resilience and scalability of AFBI line-of-business IT systems. BISB Statistics Unit provides statistical services including the design of experiments and surveys in relation to DAERA research projects and external research contracts, and the analysis, interpretation and reporting of scientific data. It also co-ordinates the AFBI ISO9001 quality management programme and provides internal training in office software applications and data analysis.

Key Achievements in 2015/16 Year

During the year BISB updated the AHWNI Cattle Health Database underpinning the industry-led program for eradication of the bovine virus diarrhoea (BVD) virus from the cattle population in preparation for the compulsory BVD testing scheme that was launched 1 March 2015. BIS updated Farm Nutrient Management Calculators to align with new EU Nitrates Directive and NI legislation for deployment on the DAERA Online Services portal, and continued to create and update various aquatics databases aligned with the EU Data Collection Framework.

BISB provided direct support to DAERA by completing a verification check on the Department's Land Parcel Identification System to insure compliance with the EU's regulatory requirements; supported the operation of Food Standards Agency surveillance software in AFBI's laboratories for DAERA Agri-food Inspection Branch; supported the online carcass investigation analysis system for the pig industry; supported the utility for uploading analyses of DAERA farm business survey data to EU portal; developed a facility to upload farm survey data to online greenhouse gas calculators to view carbon footprint trends within the dairy sectors with beef interface updates underway; developed a mart data upload facility for the



BISB provides line -of -business IT Management

Livestock & Meat Commission (LMC); supported DAERA's pesticide usage and forest inventory surveys; provided statistics consultancy to DAERA's Veterinary Service; carried out statistical evaluation of the ability to improve output of the NI suckler herd and analyses of a survey of beef cattle housing in NI; carried out statistical analysis of pesticide treatment of orchard crops for DAFM; and application of time series methods in an investigation relating to *Fasciola hepatica* infection(s) in NI.

In the provision of these services the Branch works with a range of stakeholders including other AFBI FCAD branches (HR, Finance, H&S) for business support applications, AFBI project leaders for scientific/database applications, statistical analysis and survey design, and quality assurance;; DAERA policy branches for online scientific applications; and other public and private sector customers also for scientific/ database/statistical services.

In taking forward current responsibilities, the Branch works in close association with a range of stakeholders such as DoF IT Assist, DAERA Digital Services Division, DoF Central Procurement Directorate (CPD), DAERA Veterinary Service, DAERA Forest Service, DAERA College of Agriculture, Food and Rural Enterprise (CAFRE) and Queen's University Belfast (QUB). Other stakeholders include for example Scottish Environment Protection Agency (SEPA), Inland Fisheries Ireland, DAFM, and Food and Environment Research Agency (FERA).

In addition BISB supported essential AFBI corporate functions including renewal of AFBI's Government IT Systems Accreditation and ISO9001 certification; deployment of a new approvals system for commercial work, deployment of corporate Wi-Fi provision for visitors at AFBI's 3 largest sites, development of online questionnaires/surveys and analysis of results; and updates to various business support systems for enhanced financial monitoring and management information capability.

Emergency Planning, Safety & Estate Branch

The remit of the AFBI Emergency Planning, Safety & Estate Branch, a business unit of the Finance & Corporate Services Division is to deliver:

- an emergency planning capability for the Institute including Business Continuity Management and Incident Management with an overarching input to delivery of the Emergency Response Capability (ERC) required of AFBI by DAERA and other government departments/bodies;
- estate and property management services for the AFBI Estate across seven sites; and
- Health and Safety advice.

Key Achievements in 2015/16

AFBI is working closely with DAERA on plans to develop the Institute's estate so AFBI has modern, efficient laboratory and other research facilities. In 2015/16 the DAERA Minister indicated her desire to secure the large scale capital funding required for these ambitious development proposals. These developments are positive and have the potential to provide AFBI with state of the art, modern and fit-for-purpose accommodation thereby increasing AFBI's attractiveness and potential to bring in income from external sources. Plans also include considering a joint approach to AFBI and CAFRE's

facilities, to ensure there is no duplication of investment in the Department's farming platforms and other cross-cutting infrastructure.

During 2015/16 Outline Business Cases (OBC) were completed for the AFBI VSD-Stormont Main Building Project and AFBI Headquarters/Plant Sciences Centre Project and submitted by DAERA to DoF Supply Division. The VSD-Stormont Main Building project is the highest priority project within the overall AFBI estate programme given the pressing issues with the current main building. The preferred option in the business case is the replacement of the main building and associated accommodation / facilities to be located on another part of the site. Following submission to DoF in July 2015 followed by review and update post comment from DoF and outcomes of the AFBI 2020 Strategy, the OBC was resubmitted to DoF in January 2016 and was granted 'conditional approval' in April 2016. The estimated capital spend is £32m.

AFBI's Headquarter premises (which houses the Institute's corporate functions and a range of scientific functions of the Sustainable Agri-Food Sciences Division) at Newforge Lane, Belfast are excessively large, energy and space inefficient and attract high overhead costs. The potential exists for AFBI to move off the site onto a purpose-built facility elsewhere with a reduced footprint. This would allow the release of a valuable asset and secure the associated running cost savings. This includes an opportunity to relocate and consolidate some of the plant sciences functions at Newforge to an existing AFBI site (e.g. Hillsborough or Loughgall). Following submission of the OBC to DoF in July 2015 the OBC will be updated following comment received from DoF Supply Division and outcomes of the AFBI 2020 Strategy. Actions pertaining to SAFSD and FCAD functions in relation to the Ministerial response to the AFBI 2020 Strategy must be taken into account in the OBC update particularly where these relate to the footprint of the accommodation solution required. Once the OBC is updated it resubmitted by DAERA to DoF.

AFBI and DoF Central Procurement Directorate (CPD) made good progress in-year to produce an updated Master Plan for the AFBI-Hillsborough farmed accommodation. A rolling programme of works is envisaged to update AFBI's farm accommodation (e.g. beef, dairy, pig facilities) including the underpinning infrastructure for slurry/silage management, roads and electricity

supply. This will be carried out in conjunction with CAFRE, to ensure a holistic approach is taken to development of DAERA's farmed estate. As part of AFBI-Hillsborough site development during 2015/16, a business case for development of a Nutrient Management Centre at Hillsborough was produced, the estimated capital cost of which is approximately £0.86m. It is anticipated the associated works will be undertaken and completed during 2016/17.

As usual a significant quantum of regular and ongoing maintenance of the AFBI occupied estate was undertaken during 2015/16 through the annual planned preventative maintenance (PPM) programme and associated remedial works, reactive maintenance, capital and minor works projects. The number of PPM works scheduled for each site can be summarized as: Crossnacreevy – 139; Hillsborough – 599; Loughgall – 396; Newforge – 1,080; and Omagh and Stormont – 1,068. It is estimated for the VSD-Stormont site alone approximately 1,600 PPM services (inspections and remedials) are undertaken on an annual basis whilst for Newforge this can be upwards of 1,750. All these works were facilitated by the AFBI Premises Teams in co-operation with DAERA Estate Branch, DoF Properties Division and CPD, and their associated contractors /sub-contractors.

As part of the AFBI 2020 Strategy, estate related work on the consolidation of functions on the Newforge and Stormont sites has been ongoing. Plant Health & Environmental Protection Branch functions have consolidated within the Newforge site whilst works are ongoing to accommodate relocation of food microbiology and food chemistry functions from AFBI-Newforge to AFBI-Stormont during 2016/17.

The overall expenditure by DAERA Estate Branch on the AFBI occupied estate for 2015/16 was £2,079k with further maintenance expenditure by the AFBI Estate Unit of around £550k.

Emergency Planning:

AFBI's emergency response capability (ERC) plans were reviewed and updated by the respective scientific business and additional plans were put in place. The ERC contingency plans detail how AFBI will respond to external emergencies on serious pests & plant health diseases, exotic pests and diseases on honey bees, epizootic diseases, fish diseases, shellfish contamination incidents, fish kills in freshwater, marine pollution incidents

and food and animal feed incidents for customers including DAERA (incorporating DCAL and NIEA) and FSA. Scenarios based exercises and real events were used during the reporting year to test the contingency plans.

During 2015/16 AFBI scientific staff provided significant input to the 2015 DAERA ERC Review. The primary objective of the review was to determine DAERA's emergency response capability needs and whether AFBI, as DAERA's main service provider, could respond to meet these needs. AFBI scientific staff also responded to the action points recommended by the DAERA ERC Working Group from the 2014 ERC Review.

In relation to incident management/business continuity AFBI has continued to work with the NI Fire & Rescue Service with site familiarisation visits being undertaken at various sites. A scenario based exercise in relation to slurry gas was also undertaken by NIFRS at AFBI-Loughgall in October 2015. Such exercises enable AFBI to determine the effectiveness of incident management arrangements in place and communication with NIFRS.

Health & Safety:

The AFBI Health & Safety Unit provided the Institute with advice and guidance on relevant issues throughout the year. Adverse event statistics for the Institute continue to remain low with no significant increase in accidents from 2014/15. Health & Safety training was provided largely via the AFBI e-learning Health & Safety training package.

Finance Branch

Finance Branch provides support to AFBI's Executive Management Team and the wider organisation on financial management. This includes financial planning, budgeting and accounting, strategic and business planning and financial systems.

AFBI continues to operate in an economic environment where budgets are under pressure and the requirement to grow sources of non grant-in-aid and improve efficiency increases year on year in order to enable AFBI to balance its budget and maintain the same levels of service delivery to DAERA.

Key Achievements in 2015/16

The maintenance of the high standards of financial management and corporate governance is of

critical importance to the Finance and Corporate Affairs Division and its programme of continued improvement was maintained throughout the year.

Human Resources

The Human Resource (HR) Branch provides strategic and operational support for the delivery of all personnel related functions to AFBI's Executive Management Team and its staff. AFBI's Terms and Conditions of employment follow those of the Northern Ireland Civil Service and AFBI's HR service has been structured in conjunction with the role of HRConnect.

HR Branch is made of four discrete business function sections:

- Employee Relations and Management of Attendance;
- Workforce Planning and Pay Remits;
- Learning & Development and Performance Management; and
- Equality and Equal Opportunities.

In support of these services the Branch works with a range of stakeholders including AFBI Sponsor Branch in DAERA, other core departments, Principal Civil Service Pensions Scheme, HRConnect, Occupational Health Service, Health & Safety Executive NI, the Equality Commission and Trade Unions.

Key Achievements in 2015/16

Career Development: AFBI continues to promote opportunities for career development internally and during the course of this year 26 staff achieved promotion in a wide range of disciplines and grades.

Learning and Development: One of AFBI's strategic goals is to sustain and develop its knowledge base through attracting and investing in talented people. In support of this objective, AFBI's Learning and Development Unit provide learning and development opportunities to support achievement of AFBI's business needs. This Unit also administers AFBI's Assistance to Study programme which has provided support for 23 staff this year in their pursuit of professional qualifications specific to AFBI's business.

Recruitment: AFBI continues to develop its workforce in line with business aims. This has resulted in a total of 8 new appointments this year, covering various grades across the scientific, administrative and industrial disciplines.

Work Experience: AFBI continues to promote work experience opportunities for students at all levels to assist them in developing the key skills required to be successful in today's working environment. Thirty Eight students in higher education were given the opportunity to develop key work-related skills through a relevant, supervised work placement programme. Work experience was also given to 75 students covering a range of areas within AFBI.

Sickness absence: AFBI was unsuccessful in achieving their operational objective of an average of 7.5 working days lost per staff member however, compared to the NICS overall AFBI were one of the better performers for 2015/16 by achieving 10.1 working days lost per staff member.

Equality: In accordance with its statutory duties, AFBI submitted its annual Fair Employment Monitoring Return and the Section 75/Section 49a Annual Progress Report to the Equality Commission (ECNI). AFBI's second Article 55 Review was submitted to the ECNI. The status and progress of AFBI's Equality Scheme was monitored bi-annually by the AFBI Board. An audit of AFBI's Equality Unit was completed and achieved an assurance rating of "Satisfactory".

Equality & Diversity Awareness Training was developed for delivery to all staff as a mandatory requirement, and staff are kept aware of equality issues through communications and updates posted to the AFBI intranet.

Voluntary Exit Scheme: AFBI launched a VES on Monday 13 April 2015 for all AFBI staff. The VES was necessary to help address the considerable budgetary pressures facing AFBI. The organisational requirement was for approximately 200 staff to exit through the Scheme in two tranches, leaving on 30 September and 30 November 2015. However, the number of staff actually leaving the organisation would depend on the number of applications received, approval of a business case by DAERA, the funding available and business continuity requirements.

AFBI received 142 applications from staff to leave under Tranche 1 of the scheme with a total of 78 staff leaving on 30 September 2015. For Tranche 2 of the scheme AFBI received 104 applications with 57 staff leaving on 30 November 2015. A further 17 staff left post year end.



ACCOUNTS

FINANCIAL STATEMENTS FOR THE
YEAR ENDED 31 MARCH 2016

Statement of Comprehensive Net Expenditure for the year ended 31 March 2016

	Note	2015/16 £000	2014/15 £000
Income			
Income from sale of goods and services	5	(15,459)	(15,394)
EU Income from sale of goods and services	5	(1,484)	(2,588)
Total operating income		(16,943)	(17,982)
Expenditure			
Staff costs	3	25,834	28,932
Depreciation and impairment charges	4	2,408	2,731
Other operating expenditure	4	28,402	25,863
Total operating expenditure		56,644	57,526
Net operating expenditure		39,701	39,544
Finance expense			
Taxation charge	4	975	887
Notional charges	4	1,320	1,462
Net Expenditure for the year		41,996	41,893
Other comprehensive net expenditure			
Net (gain)/loss on revaluation of property, plant and equipment	6	(78)	(81)
Net (gain) on revaluation of Intangibles	7	(7)	(2)
Comprehensive net expenditure for the year		41,911	41,810

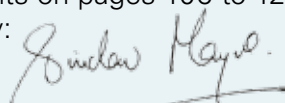
The notes on pages 110 to 128 form part of these accounts.

Statement of Financial Position

as at 31 March 2016

	Note	2016		Restated 2015	
		£000	£000	£000	£000
Non-current assets:					
Property, plant and equipment	6	8,138		9,255	
Intangible assets	7	438		435	
Biological assets	8	1,160		1,306	
Total non-current assets			9,736		10,996
Current assets:					
Inventories	11	440		502	
Trade and other receivables	12	10,190		8,182	
Cash and cash equivalents	13	88		3,035	
Total current assets			10,718		11,719
Total assets			20,454		22,715
Current liabilities					
Trade and other payables	14	(7,084)		(8,027)	
Total current liabilities			(7,084)		(8,027)
Total assets less current liabilities			13,370		14,688
Non-current liabilities					
Provisions	15		(1,083)		(934)
Total non-current liabilities			(1,083)		(934)
Total assets less total liabilities			12,287		13,754
Taxpayers' equity and other reserves					
Revaluation Reserve			2,915		3,157
General Fund			9,372		10,597
(See Statement of Changes in Taxpayers' Equity)			12,287		13,754

The financial statements on pages 106 to 128 were approved by the Board on 3rd November 2016 and were signed on its behalf by:



Dr CS Mayne, B.Agr, PhD, FRAGS - Chief Executive and Accounting Officer

Date: 23 January 2017

The notes on pages 110 to 128 form part of these accounts.

Statement of Cash Flows

for the year ended 31 March 2016

	Note		2015/16 £000		2014/15 £000
Cash flows from operating activities					
Net operating cost			(41,996)		(41,893)
Adjustments for non-cash transactions	4	3,607		4,340	
Use of bad debt provision		(1)		(2)	
(Increase) / Decrease in trade receivables	12	(2,082)		233	
(Increase) / Decrease in inventories	11	62		(108)	
Increase/(Decrease) in trade payables	14	387		326	
Use of provisions	15	(58)		(448)	
			1,915		4,341
Net cash outflow from operating activities					
			(40,081)		(37,552)
Cash flows from investing activities					
Purchase of plant and equipment	6	(2,452)		(1,561)	
Purchase of intangible assets	7	(134)		(291)	
Purchase of biological assets	8	(29)		(24)	
Proceeds of disposal of plant and equipment		38		31	
Proceeds of disposal of biological assets		585		677	
Net cash outflow from investing activities					
			(1,992)		(1,168)
Cash flows from financing activities					
Grant from sponsoring department		39,126		39,029	
Net financing					
			39,126		39,029
Net increase/(decrease) in cash and cash equivalents in the period					
			(2,947)		309
Cash and cash equivalents at the beginning of the year					
	13		3,035		2,726
Cash and cash equivalents at the end of the year					
	13		88		3,035

The notes on pages 110 to 128 form part of these accounts.

Statement of Changes in Taxpayers' Equity

for the period ended 31 March 2016

	Note	Restated General Fund £000	Restated Revaluation Reserve £000	Taxpayers' equity £000
Balance as at 31 March 2014		10,920	4,170	15,090
Prior year adjustment		660	(660)	-
Restated balance as at 31 March 2014		11,580	3,510	15,090
Changes in Taxpayers Equity 2014/15				
Grant from sponsoring entity		39,029	-	39,029
Net gain/(loss) on revaluation of plant and equipment		-	68	68
Net gain/(loss) on revaluation of intangible assets		-	2	2
Relifing adjustment		-	-	-
Release of reserves to the SoCNE		(4)	-	(4)
Notional charges - IT Assist		1,462	-	1,462
Transfers between reserves (prior year adjustment)		423	(423)	-
Comprehensive net expenditure for the year		(41,893)	-	(41,893)
		(983)	(353)	(1,336)
Balance at 31 March 2015		10,597	3,157	13,754
Changes in Taxpayers Equity 2015/16				
Grant from sponsoring entity		39,126	-	39,126
Net gain/(loss) on revaluation of plant and equipment	6	-	78	78
Net gain/(loss) on revaluation of intangible assets	7	-	7	7
Relifing adjustment	6	-	-	-
Release of reserves to the SoCNE		(2)	-	(2)
Notional charges - IT Assist	4	1,320	-	1,320
Transfers between reserves		327	(327)	-
Comprehensive net expenditure for the year		(41,996)	-	(41,996)
		(1,225)	(242)	(1,467)
Balance at 31 March 2016		9,372	2,915	12,287

The notes on pages 110 to 128 form part of these accounts.

Notes to the accounts

for the year ended 31 March 2016

These financial statements have been prepared in accordance with the 2015/16 *Government Financial Reporting Manual (FReM)* issued by DFP. The accounting policies contained in the FReM apply International Financial Reporting Standards (IFRS) as adapted or interpreted for the public sector context. Where the FReM permits a choice of accounting policy, the accounting policy which is judged to be most appropriate to the particular circumstances of the Agri-Food and Biosciences Institute (AFBI) for the purpose of giving a true and fair view has been selected. The particular policies adopted by the Agri-Food and Biosciences Institute are described below. They have been applied consistently in dealing with items that are considered material to the accounts. These financial statements have been prepared in sterling and are rounded to the nearest £'000.

Accounting convention

These accounts have been prepared under the historical cost convention modified to account for the revaluation of plant and equipment, intangible assets, biological assets and inventories.

Property, plant and equipment

AFBI does not own any other land or buildings but leases them from the Department of Agriculture and Rural Development (DARD).

Other non-property assets are stated at current cost using appropriate indices to account for the effects of inflation. No independent valuer is involved in the valuation of assets. The date of the revaluation is the reporting date of 31 March each year.

The threshold for capitalisation is £5,000 excluding any VAT capitalised.

Donated fixed assets

Donated fixed assets are capitalised at their fair value on receipt and this value is credited to the Statement of Net Comprehensive Expenditure (SoCNE) reserve. Donated fixed assets are valued and depreciated as described below for purchased assets. Gains and losses on revaluations are also taken to the SoCNE reserve and, each year, an amount equal

to the depreciation charge on the asset is released from the donated asset charged to the Statement of Comprehensive Net Expenditure. Any impairment on donated assets charged to the Statement of Comprehensive Net Expenditure is matched by a transfer from the SoCNE reserve.

Depreciation

Depreciation is charged on a straight line basis in order to write off the valuation of assets, less estimated residual value, of each asset over the expected useful life.

Assets are generally depreciated from the period of acquisition and not depreciated in the period of disposal. However, an exception to this practice occurs when AFBI makes a late addition in the financial year. Where the cost of the asset remains unpaid at the date the financial statements are prepared, the depreciation charge for the asset is included in the following year's financial statements.

The useful lives of tangible assets, which are reviewed regularly, are:

Plant	3 to 39 years
Equipment	3 to 24 years
Transport equipment: boats	4 to 15 years
Transport equipment: vehicles	5 to 21 years
Information technology: computers	3 to 25 years

The useful lives of intangible assets, which are reviewed regularly, are:

Software licences	2 to 11 years
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Intangible assets

Software licences are stated at current cost using appropriate indices to account for the effects of inflation. Software assets are depreciated from the period of acquisition and not depreciated in the period of disposal.

Biological assets

Biological assets comprise cattle, sheep, pigs and goats which are used for research purposes. They are categorised according to the attributes used in the market to facilitate their valuation at the reporting date.

Cattle were further grouped as follows:

- Beef cattle are grouped by gender, breed and age.
- Dairy cattle are grouped by lactation and breed.

Biological assets are valued at fair value less estimated costs at the point of sale at the end of the reporting period. This is further disclosed in accordance with IAS 41 Agriculture, by showing the aggregate value of purchases, sales, changes in value due to changes in physical conditions of the herd and changes in the value of the herd due to changes in market price.

Changes in value due to changes in physical conditions of the herd represent births which took place during the current financial year. The economic value of these transactions is debited or credited to the Statement of Comprehensive Net Expenditure when they occur.

Changes in value of the herd due to changes in market price represent the difference between the purchase cost or the value brought forward of each animal and the market value at the end of the reporting period. The difference is recognised in the Statement of Comprehensive Net Expenditure.

Inventories

Inventories are valued at the lower of cost and net realisable value.

Research and Development Expenditure

Research and development expenditures include all costs relating to the scientific and technical patent work, education and training necessary to ensure the development, start-up and commercialisation of new or improved products or processes.

Research expenditure is recognised as an expense when incurred.

Development expenditure on new or substantially improved products is capitalised as an intangible asset and amortised through cost of sales over the expected useful life of the product concerned. Capitalisation commences from the point at which the technical feasibility and commercial viability of the product can be demonstrated and AFBI Management is satisfied that it is probable that future economic benefit will result from the product

once completed. This is usually at the point of regulatory filing in a major market and approval is highly probable. Capitalisation ceases when the product is ready for launch.

Cash and cash equivalents

Cash and cash equivalents comprise of cash and deposits with commercial banks. At each year end, the carrying value of cash at bank and in hand approximates their fair value due to their short-term nature.

Operating income

Revenue is recognised when it is probable that the economic benefits will flow to AFBI and the revenue can be reliably measured. Revenue is recognised as follows:

For sales of services, revenue is recognised in the accounting period in which the services are rendered by reference to stage of completion of the specific transaction assessed on the basis of the actual service provided as a proportion of the total services to be provided.

For sales of goods, revenue is recognised when the significant risks and rewards of ownership of the goods have passed to the buyer and the amount of revenue can be measured reliably.

Royalties, charter of ship and rents receivable: Revenue is recognised on an accruals basis in accordance with the substance of the relevant agreement. In order to estimate royalty income not yet notified, a review is undertaken of sales trends in the past.

Employee benefits

Under the requirements of IAS 19 Employee Benefits, staff costs must be recorded as an expense as soon as the organisation is obligated to pay them. This includes the cost of any untaken leave that has been earned at the year end. The figure has been based on a specific report run from the Personnel system which calculates the year end balance using leave balances on the system. It is not anticipated that the level of untaken annual and flexi leave will vary significantly from year to year.

Leases

Operating lease rentals are charged directly to the Statement of Comprehensive Net Expenditure over the period of the lease. There are no finance leases.

Financial instruments

AFBI is not allowed to borrow or invest surplus funds as per the Management Statement and Financial Memorandum. Financial assets and liabilities are generated by operational activities and are not held to handle the risk profile facing AFBI in undertaking its operations.

- **Liquidity risk**
AFBI's net revenue resource requirements are financed by the Grant in Aid agreed with DARD, as is its capital expenditure. It is not, therefore, exposed to significant liquidity risks.
- **Interest rate risk**
All AFBI's financial assets and liabilities carry nil rate of interest and it is not therefore exposed to significant interest rate risk.
- **Foreign currency risk**
The majority of AFBI's operations, assets and liabilities are denominated in sterling. Therefore, its exposure to foreign currency risk is not significant during this financial year.

Grant in aid receivable

Grant in aid represents net funding received from DARD and is credited to SoCNE reserve.

Provisions

AFBI makes provisions for liabilities and charges where, at the Statement of Financial Position date, a legal or constructive liability exists (i.e. a present obligation for past events exists), where the transfer of economic benefits is probable and a reasonable estimate can be made. Where the time value of money is material, AFBI discounts the provision to its present value using a standard government discount rate, which currently stands at 2.20%.

Estimation techniques used and changes in accounting estimates

Provision is made for all debts greater than 90 days old which are considered doubtful. The effect of a change in accounting estimate is recognised by including it in the Statement of Comprehensive Net Expenditure in:

- the period of the change, if the change affects that period only;
- the period of the change and future periods, if that change affects both.

Value added tax

Value added tax (VAT) is accounted for in accordance with the Statement of Standard Accounting Practice 5, in the absence of an International Financial Reporting Standard (IFRS). Amounts are shown net of VAT, and irrecoverable VAT is charged to the Statement of Comprehensive Net Expenditure.

Third party assets

AFBI does not hold any third party assets.

Operating segments

IFRS 8 Operating Segments requires the identification of operating segments on the basis of internal reports reviewed by AFBI's Chief Decision Maker in order to allocate resources to each specific segment and assess its performance.

AFBI has completed a review against the criteria set out in IFRS 8 and considers that the disclosure format within the accounts meets IFRS 8 criteria.

Contingent liabilities

In addition to contingent liabilities disclosed in accordance with IAS 37, AFBI discloses for parliamentary reporting and accountability purposes certain statutory and non-statutory contingent liabilities where the likelihood of a transfer of economic benefit is remote, but which have been reported to the Assembly in accordance with the requirements of Managing Public Money Northern Ireland.

Where the time value of money is material, contingent liabilities which are required to be disclosed under IAS 37 are stated at discounted amounts and the amount reported to the Assembly separately noted.

Contingent liabilities that are not required to be disclosed by IAS 37 are stated at the amounts reported to the Assembly.

Reserves

Revaluation reserve

The Revaluation Reserve reflects the unrealised balance of the cumulative indexation and revaluation adjustments to assets other than donated assets and those funded by grants.

SoCNE reserve

The SoCNE Reserve represents AFBI's total assets less total liabilities which is not represented by other reserves and financing items. It is a notional reserve for financial reporting purposes only. AFBI are not permitted to carry forward any cash or reserves. Any surplus cash must be returned to DARD at the end of the financial year.

Pensions

Past and present employees are covered by the provisions of the Principal Civil Service Pension Scheme (Northern Ireland) (PCSPS (NI)), which is a defined benefit scheme and is unfunded. AFBI recognises the expected cost of providing pensions on a systematic and rational basis over the period during which it benefits from employees' services by payment to the PCSPS (NI) of amounts calculated on an accruals basis.

All pension contributions are charged to the Statement of Comprehensive Net Expenditure when incurred.

Prior year adjustment

During 2015-16, a prior year adjustment was required to transfer amounts from the revaluation reserve to the general fund. These amounts relate to realised depreciation which had not been adjusted through the reserves in 2013-14 (£660k) and 2014-15 (£423k).

Impending Application of Newly Issued Accounting Standards Not Yet Effective

Management has reviewed new accounting standards that have been issued but are not yet effective, and has not adopted early for these accounts.

The IASB have issued IFRS14 Regulatory Deferral Accounts effective from all accounting period after 1 January 2016 and IFRS15 Revenue from Contracts and Customers effective from all accounting periods after 1 January 2017.

Management consider that there are no items likely to have a significant impact on the accounts in the period of initial application.

2. Statement of Operating Costs by Operating Segment

Segmental selection is based on the organisational structure that AFBI uses to make decisions on resource allocation as well as the availability of financial information based on that structure. AFBI has two operational divisions supported by the Finance and Corporate Affairs Division (FCAD). The operational divisions are:

Sustainable Agri-Food Sciences Division (SAFSD) provides statutory services including certification of monitoring for the Department of Agriculture and Rural Development (DARD) of pasture, seeds and plant health, and provides specialist advice on weeds, crop plants, varieties and disease problems. SAFSD provides scientific support for the growth, sustainability and competitiveness of Northern Ireland's farming, fishing and agri-food industries, and assists the industry to maintain high standards of environmental protection and animal welfare. SAFSD's research takes account of environmental needs and sustainable economic growth in Northern Ireland's countryside.

Veterinary Sciences Division (VSD) delivers world class veterinary science to the animal, food and fish based sectors of the agri-food industry.

Analysis of net expenditure by segment

	2015/16				2014/15			
	SAFSD	VSD	FCAD	Total	SAFSD	VSD	FCAD	Total
Gross expenditure	19,287	10,794	24,155	54,236	22,253	11,834	20,708	54,795
Depreciation & Amortisation	1,526	685	197	2,408	1,578	980	173	2,731
Taxation charges	-	-	975	975	-	-	887	887
Notional charges	-	-	1,320	1,320			1,462	1,462
	20,813	11,479	26,647	58,939	23,831	12,814	23,230	59,875
Income – Domicile	(5,655)	(2,685)	(7,091)	(15,431)	(6,242)	(2,341)	(6,692)	(15,275)
Income – Non Domicile	(1,274)	(235)	(3)	(1,512)	(2,273)	(434)	-	(2,707)
Income	(6,929)	(2,920)	(7,094)	(16,943)	(8,515)	(2,775)	(6,692)	(17,982)
Net expenditure	13,884	8,559	19,553	41,996	15,316	10,039	16,538	41,893
Total assets	10,213	3,278	6,963	20,454	10,745	3,298	8,672	22,715
Total liabilities	(1,958)	(1,472)	(4,737)	(8,167)	(2,665)	(1,958)	(4,338)	(8,961)
Net assets	8,255	1,806	2,226	12,287	8,080	1,340	4,334	13,754

3. Staff related costs

Staff costs comprise:

	Permanently employed staff	Others	2015/16 £000 Total	2014/15 £000 Total
Wages and salaries	19,639	530	20,169	23,111
Social security costs	1,421	-	1,421	1,618
Other pension costs	4,244	-	4,244	4,203
Sub Total	25,304	530	25,834	28,932
Less recoveries in respect of outward secondments	(61)	-	(61)	(58)
Total net costs	25,243	530	25,773	28,874

A breakdown of the above costs into permanent staff and others can be found in the Staff Report within the Accountability Report.

4. Other Expenditure

	Note	2015/16 £000		2014/15 £000	
<i>Other Expenditure</i>					
Lease of land and buildings		6,188		6,424	
Compensation payments VES		4,811		-	
Ship operating costs		2,289		2,196	
Laboratory consumables		2,280		2,723	
Rates and water		1,524		1,465	
Lab equipment maintenance & other expenses		1,500		1,383	
Other expenses		1,448		1,655	
Contracted out services		1,129		1,193	
Irrecoverable VAT ¹		1,068		1,319	
Electricity		1,041		1,102	
Royalty administration fees		709		652	
Animal feed and veterinary expenses		694		848	
Training, conferences and library expenses		559		724	
Gas		444		543	
Repairs and maintenance		394		410	
Travel and subsistence		346		366	
Clinical and other waste disposal costs		294		422	
Telephone		267		259	
Motor and tractor expenses		222		295	
Apparatus, glassware and minor equipment		217		488	
Postage, printing and stationery		172		218	
Legal costs and compensation		155		78	
Computer support		132		170	
Oil		122		144	
Carbon reduction		112		138	
Plants, shrubs, fertiliser		108		95	
Rent of land and buildings		70		36	
Marketing and advertisements		47		106	
Livestock expenses		45		93	
Internal Audit fees		36		38	
External Audit fees ³		35		31	
Hire of plant and vehicles		32		53	
Protective clothing		24		50	
Hospitality		9		11	
Taxation fines and penalties		-		(12)	
Consultancy costs		-		-	
			28,523		25,716

	Note	2015/16 £000		2014/15 £000	
Non-cash items					
Depreciation	6	2,274		2,664	
Amortisation	7	134		67	
Notional charges		1,320		1,462	
Provisions provided for in year	15	207		386	
Loss on disposal of non current assets		8		279	
Decrease in value of livestock due to deaths	8	89		114	
Increase in debt provision		75		58	
Bad debts written off		-		-	
Release from SoCNE reserve		(2)		(3)	
Indexation of fixed assets	10	1		(13)	
Change in value of livestock due to changes in physical conditions of the herd	8	(229)		(223)	
Change in market value of livestock	8	(145)		(292)	
Profit on disposal of biological assets		(125)		(159)	
			3,607		4,340
Taxation charges					
Taxation charges ²			975		887
Total other expenditure			33,105		30,943

¹ In Northern Ireland, VAT cannot be reclaimed on research performed for Government Departments or on work which is grant funded. As a proportion of AFBI's work is research for Government Departments and/or is grant funded, it cannot claim back all VAT. The "Irrecoverable VAT" line is the amount of VAT which AFBI cannot claim from HMRC. This VAT expense should ideally be expensed to the various Government / grant funded projects. However, the agreed process with HMRC is complex and AFBI are currently investigating means by which it can accurately allocate the expense to individual projects.

² Corporation tax is charged on AFBI's royalty income, adjusted for a 10% admin fee and rewards to staff payments. The rate of corporation tax for 2015/16 was 20% (2014/15, 21%).

³ The fee for the audit of 2015-16 financial statements is £35,000 and actual fee for 2014-15 was £35,000.

During the year AFBI did not purchase any non-audit services from its auditor (NIAO).

5. Income

	2015/16 £000	2014/15 £000
Income from analytical, diagnostic work and research contracts	7,807	8,023
EU income	1,484	2,588
Royalties	6,964	6,523
Sale of milk and general produce	574	700
Charter of the ship	15	20
Refunds	27	57
Recoveries in respect of outward secondments	61	58
Rents receivable	11	13
Total	16,943	17,982

Royalty income is received gross of a 10% administration fee. The administration fee is then paid over on receipt of a VAT invoice.

Fees and charges

A detailed analysis of fees and charges information is not provided as the full cost of each service provided does not exceed £1m.

6. Property, Plant and Equipment

2015/16

	Information Technology	Plant & Machinery*	Boats & Motor Vehicles	Land & Buildings	Total
	£000	£000	£000	£000	£000
Cost or valuation					
At 1 April 2015	1,041	26,952	4,643	-	32,636
Additions	5	1,121	(4)	-	1,122
Disposals	(106)	(1,367)	(65)	-	(1,538)
Reclassification	-	-	-	-	-
Revaluations	3	103	12	-	118
At 31 March 2016	943	26,809	4,586	-	32,338
	Information Technology	Plant & Machinery*	Boats & Motor Vehicles	Land & Buildings	Total
	£000	£000	£000	£000	£000
Depreciation					
At 1 April 2015	887	19,027	3,467	-	23,381
Charge for the year	67	1,811	396	-	2,274
Relieving adjustment	-	(5)	(1)	-	(6)
Disposals	(106)	(1,326)	(63)	-	(1,495)
Revaluations	(9)	64	(9)	-	46
At 31 March 2016	839	19,571	3,790	-	24,200
Carrying amount					
At 31 March 2015	154	7,925	1,176	-	9,255
Carrying amount					
At 31 March 2016	104	7,238	796	-	8,138
Asset financing:					
Owned	104	7,238	796	-	8,138
Finance leased	-	-	-	-	-
On-balance sheet PFI contracts	-	-	-	-	-
Carrying amount at 31 March 2016	104	7,238	796	-	8,138

* Plant & machinery includes a donated asset of scientific equipment with a carrying value of £264 at 31 March 2016.

6. Property, Plant and Equipment

2014/15

	Information Technology	Plant & Machinery*	Boats & Motor Vehicles	Land & Buildings	Total
	£000	£000	£000	£000	£000
Cost or valuation					
At 1 April 2014	996	25,627	4,628	217	31,468
Additions	44	2,444	144	-	2,632
Disposals	(4)	(1,373)	(153)	(217)	(1,747)
Reclassification	-	-	-	-	-
Revaluations	5	254	24	-	283
At 31 March 2015	1,041	26,952	4,643	-	32,636
	Information Technology	Plant & machinery	Boats & Motor Vehicles	Land & Buildings	Total
	£000	£000	£000	£000	£000
Depreciation					
At 1 April 2014	804	17,983	3,169	-	21,956
Charge for the year	83	2,159	422	-	2,664
Relieving adjustment	-	-	-	-	-
Disposals	(4)	(1,288)	(149)	-	(1,441)
Revaluations	4	173	25	-	202
At 31 March 2015	887	19,027	3,467	-	23,381
Carrying Amount					
At 31 March 2014	192	7,644	1,459	217	9,512
Carrying Amount					
At 31 March 2015	154	7,925	1,176	-	9,255
Asset financing:					
Owned	154	7,925	1,176	-	9,255
Finance leased	-	-	-	-	-
On-balance sheet PFI contracts	-	-	-	-	-
Carrying amount 31 March 2014	154	7,925	1,176	-	9,255

* Plant & Machinery includes a donated asset of scientific equipment with a carrying value of £3,437 at 31 March 2015.

7. Intangible assets

Intangible assets comprise of software licences.

2015/16	2015/16 £000	2014/15 £000
Cost or valuation		
At 1 April 2015	872	602
Additions	134	291
Disposals	(103)	(25)
Revaluation	10	4
At 31 March 2016	913	872
	£000	
Amortisation		
At 1 April 2015	437	389
Charge for the year	134	67
Disposals	(99)	(21)
Revaluations	3	2
At 31 March 2016	475	437
Carrying amount		
At 31 March 2016	438	435

8. Biological Assets

	2015/16	2014/15
	£000	£000
Livestock at Fair Value		
Valuation as at 01 April	1,306	1,399
Purchases	29	27
Decreases due to sales	(460)	(521)
Changes in value due to deaths	(89)	(114)
Changes in value due to changes in physical conditions of the herd (births)	229	223
Changes in value due to changes in market price	145	292
Valuation as at 31 March	1,160	1,306

9. Financial Instruments

As the cash requirements of Agri-Food and Biosciences Institute (AFBI) are met through Grant in Aid provided by DAERA and commercial income received, financial instruments play a more limited role in creating and managing risk than would apply to a non-public sector body. The majority of financial instruments relate to contracts to buy non-financial items in line with AFBI's expected purchase and usage requirements and AFBI is therefore exposed to little credit, liquidity or market risk.

10. Indexation

Indexation of non-current assets took place during 2015/16 which resulted in £85k being credited to the Revaluation Reserve and indexation of £1k being charged to the Statement of Comprehensive Net Expenditure. Indexation of non-current assets took place during 2014/15 which resulted in £70k being credited to the Revaluation Reserve and indexation of £13k being credited to the Statement of Comprehensive Net Expenditure.

Breakdown of impairments/indexation by category

	2015/16 £000	2014/15 £000
Charged to statement of comprehensive net expenditure	1	(13)
Charged to revaluation reserve	(85)	(70)
	(84)	(83)

11. Inventories

	2015/16 £000	2014/15 £000
Feedstuffs and sundry stocks at Hillsborough and Stoney Road	307	371
Consumables at Newforge and Stoney Road	133	131
	440	502

12. Trade receivables and other current assets

	2015/16 £000	2014/15 £000
Amounts falling due within one year;		
Trade receivables	2,375	1,324
Other receivables	49	62
Prepayments and accrued Income	7,239	5,903
EU accrued income	527	893
	10,190	8,182

13. Cash and cash equivalents

	2015/16 £000	2014/15 £000
Balance at 1 April	3,035	2,726
Net change in cash and cash equivalent balances	(2,947)	309
Balance at 31 March	88	3,035
The following balances at 31 March were held at:		
Cash in hand	3	3
Cash at bank	85	3,032
Balance at 31 March	88	3,035

14. Trade payables and other current liabilities

	2015/16 £000	2014/15 £000
Amounts falling due within one year;		
Bank overdraft	-	-
VAT	111	120
Other taxation and social security	274	654
Trade payables	720	652
Other payables	41	35
Capital creditors	174	1,504
Accruals and deferred Income	5,764	5,062
	7,084	8,027

15. Provisions for liabilities and charges

2015/16

	Legal £'000	Decommissioning costs £'000	Early departure £'000	Injury benefit £'000	Total £'000
Balance at 1 April 2015	661	80	13	180	934
Provided in the year	205	76	-	-	281
Provisions not required written back	(73)	-	(1)	-	(74)
Provisions utilised in year	(31)	-	(12)	(15)	(58)
Balance at 31 March 2016	762	156	-	165	1,083

Analysis of expected timing of discounted flows

	Legal £'000	Decommissioning costs £'000	Early departure £'000	Injury benefit £'000	Total £'000
Not later than one year	54	-	-	15	69
Later than one year and not later than five years	708	-	-	60	768
Later than five years	-	156	-	90	246
Balance at 31 March 2016	762	156	-	165	1,083

2014/15

	Legal £'000	Decommissioning costs £'000	Early departure £'000	Injury benefit £'000	Total £'000
Balance at 1 April 2014	675	80	46	195	996
Provided in the year	555	-	-	-	555
Provisions not required written back	(169)	-	-	-	(169)
Provisions utilised in year	(400)	-	(33)	(15)	(448)
Balance at 31 March 2015	661	80	13	180	934

Analysis of expected timing of discounted flows

	Legal £'000	Decommissioning costs £'000	Early departure £'000	Injury benefit £'000	Total £'000
Not later than one year	661	-	13	15	689
Later than one year and not later than five years	-	-	-	60	60
Later than five years	-	80	-	105	185
Balance at 31 March 2015	661	80	13	180	934

Provisions have not been discounted as these relate to payments due to be paid in the near future.

Legal

This relates to personal injury legal cases and intellectual property claims. Legal claims are assessed by independent solicitors and a provision of 100% of the likely maximum claim value is made. This percentage is to be reviewed on an ongoing basis to ensure it continues to represent a reasonable estimate of the expenditure on such claims.

Decommissioning costs

This relates to a piece of equipment which holds radioactive material and as such falls under the High Activity Sealed Radioactive Sources (HASS) Regulations 2003. The material is used by AFBI in the course of its business. The provision is required to cover the cost of compliance with HASS Regulations when the equipment is disposed of.

Early Departure

This relates to pension payments to staff members who took early retirement. AFBI are required to make the payments until the individuals reach 60 years of age.

Injury Benefit

This relates to payments to staff members who have suffered an impairment to earnings as a result of an injury that has been sustained within the context of one of the qualifying conditions outlined within the legislation governing the scheme, which is known as the Civil Service Injury Benefit Scheme (NI) (CSIBS(NI)). Injury benefit is paid when a qualifying injury impairs the individual's earning capacity.

16. Capital commitments

	2015/16 £000	2014/15 £000
Contracted Capital Commitments at 31 March not otherwise included in these financial statements		
Assets under construction	0	0

17. Commitments under leases

17.1 Operating leases

AFBI has an operating lease with DAERA for the land and buildings it occupies. Total future minimum lease payments under operating leases are given in the table below for each of the following periods:

	2015/16 £000	2014/15 £000
Obligations under operating leases comprise:		
Land and buildings		
Not later than one year	6,079	6,188
Later than one year and not later than five years	6,079	12,376
	<u>12,158</u>	<u>18,564</u>
Photocopiers		
Not later than one year	0	1
Later than one year and not later than five years	0	0
	<u>0</u>	<u>1</u>

17.2 Finance leases

AFBI has no finance lease commitments at the year end.

18. Commitments under PFI contracts

AFBI had no PFI contracts during 2015/16.

19. Other financial commitments

AFBI had no other financial commitments at the year end.

20. Contingent liabilities disclosed under IAS 37

AFBI uses fixed term contracts of employment to support its core base of permanent staff in order to manage peaks and troughs of work. Fixed term contract employees are entitled to redundancy payments on expiry of their fixed term contract if they have 2 or more years' service, the work that they are undertaking is ceasing and there are no suitable redeployment vacancies. AFBI have reviewed its remaining fixed term contracts and considers that it is unlikely that their expiry will attract redundancy payments either because the underlying posts will still be required or because a suitable redeployment opportunity will become available.

21. Related-party transactions

DAERA is the sponsor department of AFBI with which it had various material transactions during the year and is regarded as a related party. DAERA's executive agencies also had transactions with AFBI.

In addition AFBI had some transactions with other government departments and central government bodies. Most of these transactions have been with Northern Ireland departments and their executive agencies such as DFP (including CPD and Pensions Branch), DCAL, DOE, FSA (NI), HMRC, DEFRA & Northern Ireland Water.

Two current members of the AFBI Board are employed by an organisation to which AFBI provides scientific research services, Scottish Environmental Protection Agency and Warrenpoint Harbour Authority. In accordance with IAS 24 (2010) the transactions that occurred within the financial year and any balances at year end are shown below:

	Scottish Environmental Protection Agency		Warrenpoint Harbour Authority	
	2015/16	2014/15	2015/16	2014/15
	£000	£000	£000	£000
Revenues generated during the year	-	16	20	22
Expenditure incurred during the year	-	-	-	-
Net value of transactions at year end	-	16	20	22
	2015	2014	2015	2014
	£000	£000	£000	£000
Amount owed to AFBI	-	-	-	14
Amount owed by AFBI	-	-	-	-
Net balance at year end	-	-	-	14

Other than the above, no Board member, key manager or other related party has undertaken any material transactions with AFBI during the year.

Any other compensation payments issued to the AFBI Board in relation to IAS 19 Employee Benefits are disclosed within the Remuneration Report.

22. Third-party assets

AFBI does not hold any third party assets.

23. Events after the Reporting Period

Subsequent to the end of the financial reporting period, a new chief executive was appointed to AFBI, who is undertaking a review of operations and structures.

In June 2016, the UK voted to exit from the European Union. This will have an impact on EU funding opportunities, but the extent of this impact is as yet unknown but the Government have indicated that in the interim, business will continue as normal.

Date of authorisation for issue

The Accounting Officer authorised these financial statements on 24 January 2017

Glossary of abbreviations

Alphabetical Order

AB	Agriculture Branch
AD CHP	Anaerobic Digestion Combined Heat and Power
AEB	Agri-Environment Branch
AFBI	Agri-Food and Biosciences Institute
AFEB	Agriculture and Food Economics Branch
AHDB	Agriculture and Horticulture Development Board
AHWNl	Animal Health and Welfare Northern Ireland
ARAC	Audit and Risk Assurance Committee
ASB	AFBI Sponsor Branch
AWP	Assigned Work Programme
BB	Bacteriology Branch
BISB	Biometrics and Information Systems Branch
BSI	British Standards Institution
BVD	Bovine Virus Diarrhoea
CAAS	Chinese Academy of Agricultural Sciences
CAFRE	College of Agriculture Food and Rural Enterprise
CARE	Career Average Revalued Earnings
CATV	Cash Equivalent Transfer Value
CEFAS	Centre for Environment, Fisheries and Aquaculture Sciences
CIEL	Centre of Innovation Excellence in Livestock
CIPFA	Chartered Institute of Public Finance and Accountancy
CISB	Chemical and Immunodiagnostic Science Branch
CPI	Consumer Price Index
CRCEES	Carbon Reduction Commitment Energy Efficiency Scheme
CRR	Corporate Risk Register
CSP	Civil Service Pensions
DAERA	Department of Agriculture, Environment and Rural Affairs (May 2016)
DAFM	Department of Agriculture, Food and Marine (ROI)
DAO	Dear Accounting Officer
DARD	Department of Agriculture and Rural Development
DCAL	Department of Culture, Arts and Leisure
DEFRA	Department of Environment, Food and Rural Affairs (England and Wales)
DFP	Department of Finance and Personnel
DOE	Department of Environment
DOF	Department of Finance (May 2016)
DSIB	Disease Surveillance and Investigations Branch
E&I	Evidence and Innovation
ELISA	Enzyme-linked immunosorbent assay
EMT	Executive Management Team
EPSEB	Emergency, Planning, Safety and Estate Branch
EQA	External Quality Assessment
ERC	Emergency Response Capability
EREC	Environment and Renewable Energy Centre
EU	European Union
FAEB	Fisheries and Aquatic Ecosystems Branch
FAPRI	Food and Agricultural Policy Research Institute
FB	Finance Branch
FBSC	Finance and Business Strategy Committee
FCAD	Finance and Corporate Affairs Division
FRB	Food Research Branch

FSA	Food Standards Agency
FSB	Food Science Branch
GIA	Grant In Aid
GPB	Governance and Performance Branch
GPSB	Grasslands and Plant Sciences Branch
HRB	Human Resources Branch
ISO	International Organization for Standardization
KPI	Key Performance Indicator
LC-MSMS	Liquid Chromatography – tandem Mass Spectrometry
MOU	Memorandum of Understanding
MPMNI	Managing Public Money Northern Ireland
MSFM	Management Statement and Financial Memorandum
NDPB	Non Departmental Public Body
NIAO	Northern Ireland Audit Office
NICP	Northern Ireland Contact Point
NICS	Northern Ireland Civil Service
NIEA	Northern Ireland Environment Agency
NIFRS	Northern Ireland Fire and Rescue Service
OBC	Outline Business Case
OBF	Official Brucellosis Freedom
OCPA	Office of the Commissioner for Public Appointments
ODHRC	Organisational Development and Human Resources Committee
PAC	Public Accounts Committee
PCR	Polymerase Chain Reaction
PSRE	Public Sector Research Establishments
PSA	Public Service Agreement
PSIAS	Public Sector Internal Audit Standards
QUB	Queen’s University Belfast
R&D	Research and Development
RUAS	Royal Ulster Agricultural Society
SAFSD	Sustainable Agri-Food Sciences Division
SCM	Strategic Cost Model
SCS	Senior Civil Service
SEPA	Scottish Environment Protection Agency
SLA	Service Level Agreement
SMILE	Sustainable Mariculture in northern Irish Lough Ecosystems
SRC	Short Rotation Coppice
SRO	Senior Responsible Owner
SSC	Science Strategy Committee
TB	Tuberculosis
TRPSI	Tracking Rural Poverty and Social Isolation
TSE	Treated Sewage Effluent
TVR	Test-Vaccinate-Remove
UU	University of Ulster
VB	Virology Branch
VES	Voluntary Exit Scheme
VFM	Value for Money
VSD	Veterinary Science Division
WFD	Waste Framework Directive

Scientific excellence in Northern Ireland... ...serving the world

AFBI's mission is to maintain and enhance its reputation as a world-class scientific institute, delivering proven value to government and other customers.

AFBI provides research and development, analytical and diagnostic services, and scientific advice in agriculture, food, animal and plant health, marine and fresh water ecosystem management and the agri-environment.

Our customers include a range of local, national and international commercial companies, Northern Ireland and United Kingdom Departments, Agencies, and associated bodies and the European Union.

AFBI maintains a cutting edge skills and technology base to fulfil its statutory obligations including provision of rapid, scientific response capabilities for DAERA and other Departments during emergencies.

AFBI scientists have long standing experience and internationally recognised standards of providing evidence-based scientific advice to Government policy makers and commercial decision makers. We are the partner / contractor of choice for many local, national and international bodies. A major aim is to support industry by providing a "one-stop shop" for diverse specialist expertise and facilities.

We pride ourselves on the quality and breadth of our scientific expertise and maintain appropriate quality assured accreditation standards.

AFBI has various national and international reference laboratories.

AFBI has facilities sited across Northern Ireland which include modern laboratories and secure animal accommodation and has a purpose built marine research vessel. The facilities have "state of the art" equipment required to resolve scientific problems and produce sophisticated and reliable results.

Technological capabilities include: molecular technologies; light and electron microscopy; mass spectrometry; pathogenesis studies; biosensor technology; seabed mapping and minimal processing technologies.

AFBI's expertise includes: Veterinary diagnostics; animal health and welfare; food science; crop and livestock systems; biometric traceability; plant breeding; biometrics and statistics; agricultural economics; renewable energy and non-food crop agronomy; oceanography; fish stock management, aquatic and land based ecosystem management of natural resources.

Agri-Food and Biosciences Institute
18a Newforge Lane
Belfast BT9 5PX
Northern Ireland, UK

Tel: +44 (0) 2890 255 636
Email: info@afbini.gov.uk
twitter: @AFBI_NI