JBA Trust Limited

Annual Report

Year ending 31 October 2014

Charity Number: 1150278

Company Number: 07840801

The JBA Trust is an independent charity, registration No. 1150278.

The JBA Trust supports and promotes scientific research, education and training in the fields of environmental risks and resources.

Report of the Trustees for the year ending 31 October 2014

The trustees are pleased to present their annual report for the year ending 31 October 2014.

Director's Report

Over the course of the past year we have continued our programme of activities to promote research and education in the fields of environmental risks and resources management. I am pleased to report on our progress in our financial year 2013-14, during which we have built on initiatives started since our foundation in 2012.

Our work continues to fall broadly into educational and research activities, which naturally overlap in some of our projects. Thematically, we seek to work in three important areas: environmental risks, environmental resources and sustainability. Our focus is on the water environment. In this, our second full year since incorporation, we have funded work in these areas, and begun to generate research outputs.

The JBA Trust's headline achievements for the year are:

- Our contributions to educational and knowledge exchange events with schools, public agencies and student conferences
- Financial sponsorship for ten post-graduate students enabling them to pursue training and research at masters or doctoral level
- We have engaged with academic researchers to write strong letters of support to UK research councils to underline industry needs for postgraduate training in relation to two doctoral training centres/programmes and also individual research grant proposals
- We have continued to engage with UK universities to help set up studentships, placements, collaborative research and to contribute to advisory boards (Newcastle, Leeds, Lancaster, Bristol, York, Reading, Edinburgh, Oxford, Exeter)
- We have supported larger third sector organisations including the British Hydrological Society, through our sponsorship of student bursaries, and CIWEM, through sponsorship of a Journal of Flood Risk Management prize which has made one paper chosen by the Editors available free of charge to all through our payment of publication fees.

We would like to thank all the organisations and individuals who have worked with us, not least the students and early career researchers who we have been able to support. We are grateful for continued commitment to funding the JBA Trust from the JBA Group companies and their Directors.

Rob Lamb

Director

1 Our purposes and activities

The purpose of the charity is to support and promote scientific research, education and training in the fields of environmental risks and resources, especially related to flood risk and the water environment.

Our activities for the year reflect the Trustees' consideration of the Charity Commission's guidance on public benefit. The major areas of activity are:

- Provision of water management training and education in schools and in the flood risk management community
- Support for post-graduate education through provision of technical expertise and financial bursaries for MSc and PhD studentships
- Facilitating collaboration between academia and industry to deliver scientific research that improves society's understanding and management of environmental risks and resources
- Publication and dissemination of research outputs, enabling knowledge exchange and sharing best practice
- Sponsorship of relevant conferences to enable students in higher education or early career professionals to attend

This report reviews the activities of the JBA Trust over the past year and how the outcomes of our work have delivered public benefit.

2 Environmental Education and Training

JBA Trust supports a wide range of activities aimed at encouraging students at schools and universities across the country to develop an interest in water and environmental management topics, which could ultimately lead them to pursue careers in the field. Our education and training activities also extend to the wider community and flood risk management professionals.

2.1 Demonstration Hydraulic Flume

In 2012, we designed and built a mobile hydraulic flume to demonstrate how the design of culverts, bridges and weirs affects the flow of water in rivers and their impact on flooding.

In partnership with other organisations, the flume has provided an excellent learning resource for many flood awareness activities and events including the **Flood Awareness Roadshow** in Rochdale on 3 August 2014. This event was organised by Rochdale Council, the National Flood Forum and the Flood Resilience Community Pathfinder Project to help local people become more aware of how they might be affected by flooding and what they and their families can do to help prepare against the threat of flooding.

Photo: Jeremy Benn demonstrating how good river engineering can help to reduce flood risk to a community in Rochdale at a Flood Awareness Roadshow

In 2013-14, JBA Trust continued to give demonstrations to a wide range of school and University students, including A-Level geography students and students in higher education studying flood risk management and hydraulic engineering.

Working with schools, the JBA Trust aims to encourage students to participate in STEM (Science, Technology, Engineering, Maths) subjects and show how the skills gained in these subjects can be applied in the real world.

The hydraulic flume is also proving helpful in explaining open channel hydraulics to professionals working in roles connected with flood risk, water and environmental management, especially groups with varying levels of formal technical training in river hydraulic theory. This helps us to promote best practice in channel design and maintenance and minimising flood risk to communities.

JBA Trust is planning to continue these activities in 2014-15, focusing on flood awareness demonstrations to the public in partnership with organisations like the National Flood Forum, and technical demonstrations to students (A-Levels and higher education) and flood risk management professionals.

In 2013 we created a short film of the demonstration and posted it on the JBA Trust website, making this learning resource more accessible to a wider audience. Since then, over 4,000 people have viewed the demonstration online (see http://www.jbatrust.org/jbademonstrationflume).

Photo: The hydraulic flume demonstration video is now available on the JBA Trust website.

2.2 STEM (Science, Technology, Engineering and Maths) activities

1.1.1 Centre of Excellence for Environmental Technologies

In 2013, JBA Trust began to develop a partnership with the Centre of Excellence for Environmental Technologies (CE:ET) in Bradford which links Buttershaw Business and Enterprise College and the University of Bradford. The CE:ET is committed to the developing the technical skills of students providing career pathways into the emerging and dynamic environmental technologies sector.

The CE:ET was formally launched on 11 December 2013 and the JBA Trust supported a session at this event delivered by Steve Maslen, a Director at JBA Consulting, who introduced the students to energy generation from wind turbines.

1.1.2 Geographical Information Systems (GIS) in Schools

JBA Trust has helped to share industrial expertise with school students through a variety of routes including class workshops, seminars and lectures.

This year, we continued our support for GIS workshops for students and teachers at Tarporley High School in Cheshire. Mike Williamson, a Senior GIS Analyst at JBA Consulting, shared his GIS expertise and gave students an insight into how GIS can be applied to environmental challenges in the real world. The JBA Trust funded the school's subscription to ArcGIS Online enabling students, teachers and industry to remotely access ArcGIS. This allows students to access GIS at relatively little cost and industry partners can add data and work with the schools to apply GIS to real world examples.

In 2014, the Trust started working with ESRI (the company that owns ArcGIS) to develop further resources to support GIS in schools.

3 Support for students in higher education

There are many academic subjects that touch upon our core interests in environmental risks and resources. Whilst undergraduate courses such as Geography and Environmental or Physical Sciences are important, the relevant specialist training comes into focus at masters or PhD level. JBA Trust therefore supports students and projects at this level.

3.1 MSc Projects

JBA Trust helps students completing their MSc dissertation projects through provision of case study data, facilitating access to software resources and technical expertise from within the JBA Group companies for co-supervision and supporting the dissemination and publication of outputs in the professional and public domains.

Students gain an insight into how methodologies and techniques are applied in industry and have an opportunity to experience how they will be able to use their skills in a career in the industry.

In 2013-14, the Trust helped six students from the Universities of Edinburgh, Leeds and Newcastle. The students worked with JBA Consulting staff on a wide range of MSc projects including:

- Salmonid and macroinvertebrate responses to engineered large wooded debris structures in a low gradient UK upland stream in Coverdale
- Catchment surveying using Unmanned Aerial Vehicles (UAVs) and terrestrial laser scanning
- Feasibility study for installation of a hydropower scheme and fish pass at Wetherby
- Real time two dimensional urban flood modelling
- The optimisation of long and short term marine renewable Operation and Maintenance (O&M) strategies: lessons learned from more established industries
- The optimisation of O&M strategies for the offshore renewable energy industry: the effect of downscaling on modelled results

Additionally we are supporting one BSc student at the University of York in a dissertation project investigating agricultural buffer zone widths in the Humberhead Levels over time and the consequences of non-compliance with environmental regulation.

3.2 PhD Projects

JBA Trust is supporting Peter Metcalfe, a PhD student at Lancaster Environment Centre, who is investigating intermediate complexity modelling approaches for catchment management. The PhD aims to develop models to support catchment management decisions by predicting the transport of pollutants from all parts of the catchment.

Peter's research, supervised by Keith Beven in partnership with JBA Consulting and the Centre for Global Eco-Innovation, builds on Lancaster University's research interests in particle tracking and uncertainty along with JBA expertise in broad scale modelling.

The research this year has centred on development of a dual-layer pollutant transport model, to help understand and predict pollution from excess nutrient run-off, which is an increasing problem in agricultural catchments. Modelling pollutant run-off is beset by significant uncertainties in inputs, lack of knowledge of subsurface processes attenuating a solute signal from source to channel, and the coarse temporal resolution of many data sets. However, meeting water quality objectives is also an essential

part of the UK's commitment under the WFD and River Basin Management Plans are required to outline how remedial steps should be taken to improve 'failing' catchments.

Peter is developing multi-scale approaches to transport modelling that may also be able to improve the predictions of catchment scale models. Some models rely on hydrological distance to the channel as a proxy for travel time. The effects on the attenuation of the solute signal are not dealt with fully by this approach as the residence time is highly affected by the local storage and many orders of magnitude greater than the lifetime of disturbances in the water table.

A stochastic, discrete model is being applied to derive a travel time distribution for solute flux crossing the boundary of the riparian zone. This will provide a spatial-temporal distribution of solute concentration entering the area to be fed into a broader, catchment scale model. It will thereby help to improve that model's predictions of the distribution of annual solute loads across the channel network.

Interim outputs from this work include the development of modelling code in 'R' - a language and environment for statistical computing and graphics. The 'dynatopmodel' package is now published on CRAN (Comprehensive R Archive Network). It includes digital terrain analysis for discretisation of catchments by topographic indexes and other geo-referenced landscape layers.

3.3 The British Hydrological Society and JBA Trust Studentship Awards

Following the withdrawal of the Natural Environment Research Council's MSc degree sponsorship in 2011, the British Hydrological Society (BHS), a registered charity, recognised the gap in funding and, in partnership with the JBA Trust, created an award scheme to support potential MSc students. Graduates of MSc courses play a vital part in the future management of the water environment.

Now in its fourth year, the Studentship Award aims to encourage talented students wishing to pursue development of their academic experience and qualifications in this sector. In 2013-14, seven bursaries were awarded to students applying for a hydrology related MSc.

Student	University	Course title
Dee Gilbert	Leeds	MSc in River Basin Dynamics and Channel Management With GIS
Rebecca Hobby	Worcester	MRes in River Science
Danny Croghan	Birmingham	MSc in River Environments and their Management
Laura Foden	Birmingham	MSc in River Environments and their Management
Luke Clay	Leeds	MSc in River Basin Management and GIS
Leanne Fawcett	Newcastle	MSc in Hydrology and Climate Change
Fredric Windsor	Birmingham	MSc in River Environments and their Management

The JBA Trust also developed a web-based application management system for the BHS to support the application process. The system was successful and greatly increased the efficiency of the process by managing and tracking applications and supporting documentation.

3.4 Flood and Coastal Risk Management Postgraduate Certificate Scholarships

The JBA Trust supports training and education in the fields of environmental risks and resources. The challenges of more frequent extreme weather and new flood risk responsibilities mean that there is a growing need for skilled water and environmental risk management professionals.

In recognition of this, the JBA Trust awarded two scholarships in 2013-14 to fully fund the tuition fees for Lancaster University's Flood and Coastal Risk Management Postgraduate Certificate course. The successful recipients were Robin Gray and Stuart Edwards, who will develop their knowledge and practical skills in modelling, understanding and managing risk.

Robin is the Development Manager at Pennine Prospects and is involved in the Calderdale Community Flood Resilience Pathfinder Scheme which works with local residents, flood groups, landowners and practitioners.

Stuart is a SuDS and Development Control Officer at North Yorkshire County Council and aims to ensure that actions of local authorities minimise flood risk.

4 Science and research

One of the aims of JBA Trust is to facilitate collaboration between academia and industry and deliver scientific research that improves society's understanding and management of environmental risks and resources.

4.1 Summary of active research projects in 2013-14

In 2013-14, we collaborated with universities, research institutions and organisations. A number of our projects have already delivered research outputs (see Section 5).

The following collaborative research projects made good progress this year and will continue in 2014-15:

4.2 Monitoring of an event on an ephemeral chalk stream near Henley

Assendon Stream near Henley-on-Thames is an extremely ephemeral watercourse that is normally completely dry, even during a wet winter. It last flowed in 2001, resulting in flooding to roads and property, and before that it had not flowed since the 1960s. In February 2014 the spring started to flow following the extreme wet weather of the previous few months. This presented a very rare opportunity to monitor the progress of the stream down the valley, and gather important data in relation to the stream's response to groundwater levels and the mechanisms of flooding.

JBA Trust funded a monitoring programme at Assendon stream to collect data over six months in relation to the stream's response to groundwater levels and the mechanisms of flooding. A case study and report documenting the findings of the monitoring will be published in 2015.

4.3 Infrastructure flood risk analysis

JBA Trust continued to work with the ITRC (Infrastructure Transition Research Consortium) team led by Oxford University to develop and apply spatial risk assessment models for infrastructure networks. The cooperative research between JBA Trust and ITRC centres on the risk of flooding for the railway network in Britain. We are developing risk and resilience models that combine information from JBA Trust research with outputs from JBA Group's R&D into spatial joint probability of flooding and detailed mapping of flood scenarios by JBA Risk Management Ltd.

The research includes a new empirical study of the probability of railway bridge collapses and work with ITRC partners to develop strategic risk models for infrastructure networks that will be able to inform long term and large scale infrastructure planning. Two scientific journal papers are in preparation, along with plans for a workshop in 2015 to begin a wider debate about the results of the research.

4.4 Tools and guidance for covariate analysis of flood and wave threshold exceedances

This Probability, Uncertainty and Risk in the Environment (PURE) project was fully funded by NERC with JBA Trust providing co-supervision support for the research associate leading the project, Ross Towe. The project aimed to develop a prototype/demonstrator tool to help risk analysts in trialling and experimenting with advanced statistical methodology for the analysis of threshold exceedance data.

The outputs will be disseminated in 2015 to help show flood hydrology and offshore risk specialists how recent advances can be applied to improve estimates of extremes and assess uncertainty in those estimates.

4.5 Assessing the multiple benefits of SuDS

CIRIA is delivering a project to develop an evidence base, guidance, nationally agreed methodology and a tool which can evaluate the full range of costs and benefits associated with SuDS schemes. JBA Trust

is one of the project partners and is working with CIRIA and other partners to test the tool and apply it to relevant case studies.

4.6 Susceptibility of catchments to INTense RAinfall and flooding (SINATRA)

The SINATRA project aims to advance scientific understanding of the drivers, thresholds, and impacts of flooding from intense rainfall in 'at-risk' UK catchments. Decision-support tools will be developed to improve the capacity of forecasting agencies to deliver impacts-based warnings and predictions needed for managing flooding from intense rainfall.

The project is funded by NERC, the Environment Agency and the UK Met Office under the Flooding from Intense Rainfall thematic programme, and started in September 2013. JBA Trust is providing an in-kind contribution in terms of expertise on applied research for flood forecasting, risk assessment and management. The objectives of the Trust's contribution to SINATRA are to provide historical flood event chronologies and event modelling reanalysis, feeding into the assembly of a comprehensive archive of flood events and impacts for analysis in cooperation with the SINATRA researchers based at Newcastle University.

An example analysis of rate of rise of flash floods is show below for the River Rye at Ness. These will feed into the assembly of a comprehensive archive of flood events and impacts for analysis in cooperation with the SINATRA researchers based at Newcastle University.

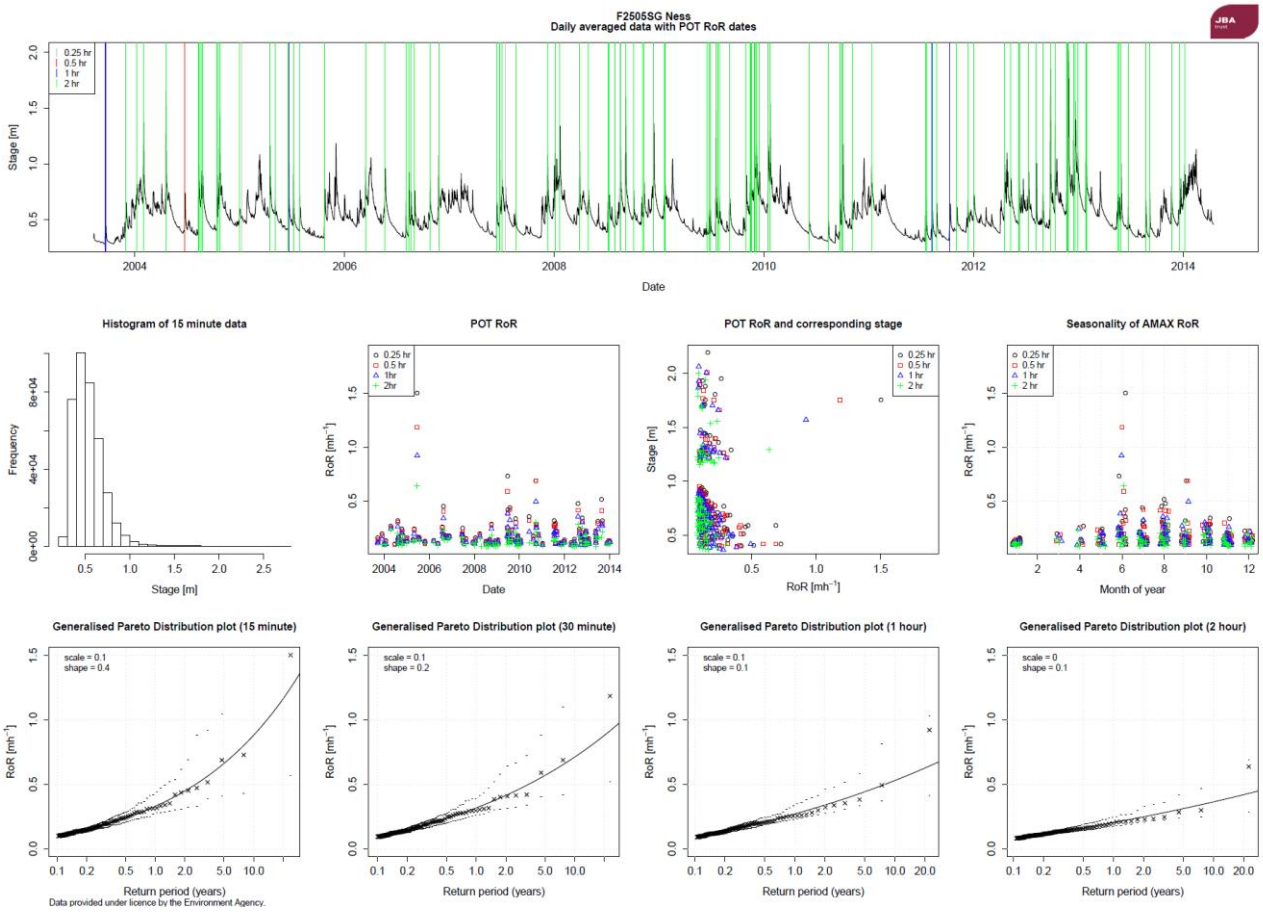


Figure 1. Rate of rise analysis example: River Rye at Ness, North Yorkshire

4.7 Knowledge Transfer Partnership on spatial extremes in river flows and rainfall

JBA Trust is working with Lancaster University's Department of Mathematics and Statistics and JBA Consulting as part of a two year Knowledge Transfer Partnership (KTP) project, which commences in December 2014. The partnership will deliver a project on the development of improved models for extremes of localised and widespread flooding. This will lead to better estimates of flood risk in cities, over large scales and for important infrastructure networks such as railways and roads.

The project will focus on risks caused by a combination of river and surface water floods – where high rates of overland flow, typically associated with intense rain storms, can be particularly damaging in built up areas. Some of the UK's worst floods in recent years have been of this type.

4.8 Attribution of winter 2013-14 flooding to anthropogenic climate change

We are contributing to a study led by Oxford University to examine the possible contributions form climate change caused by human activities to the likelihood of flooding in winter 2013-14, or events of a similar nature.

The Trust has obtained permission from JBA Risk Management Ltd to use their flood map data and from Ordnance Survey for use of their property data to assess the properties at risk of flooding in the Thames river basin to be incorporated into the study. A scientific paper is currently in preparation, led by ECI Oxford.

5 Publications and knowledge exchange

The JBA Trust aims to publish and disseminate research outputs, enabling knowledge exchange and sharing best practice. The following publications and knowledge exchange events took place in 2013-14.

5.1 How well do flood defence models match reality?

In the summer of 2013 JBA Trust worked with Janie Haven who was studying for her MSc in Water and Environmental Management at the University of Bristol. Janie's work for her dissertation, "A Comparison of Actual Fluvial Embankment Flood Defence Performance to RASP Estimated Performance", was completed with the support of the JBA Trust, Horritt Consulting and the Environment Agency.

The research found that:

- The flood risk models suggested that we should have been seeing more flood defence failures then actually seem to have been observed
- Sensitivity analysis showed that substantially more flood defence failures would be expected if these assets were in a worse condition

The findings of this study support on-going initiatives to collect better, more consistent records on flood defences, including breaches, and to update flood risk models. JBA Trust developed these findings to create a discussion paper which was published on the JBA Trust website in January 2014.

5.2 Flood and scour related failure incidents at railway assets between 1846 and 2013

JBA Trust funded a summer placement in 2013 to investigate and document railway asset failure incidents due to flooding and scour between 2003 and 2013. The project built on a report carried out by JBA for the Rail Safety and Standards Board (RSSB) in 2004 to investigate and record failures of railway assets in flood conditions.

Asset failure was defined as "complete or partial collapse of the structure sufficient to cause derailment or closure of the line". The placement student, Zora van Leeuwen, carried out the research and analysis, supported by technical experts from JBA Consulting. The most common failure mechanism was found to be the undermining of abutments or piers by scour, resulting in their collapse.

We combined the 2003-2013 update with the results from the earlier RSSB study to provide a consolidated chronology of railway asset failures relating to flooding for the period 1846 to 2013.

The full report was published on the JBA Trust website in March 2014 as an educational and research resource and we are working with the RSSB to disseminate the findings to support continuing improvements in railway safety. The supporting data and failure incident reports will be made available on request.

5.3 Urban Flood Modelling

The city of Newcastle-upon-Tyne in North East England flooded on 28 June 2012 during intense summer storms, known locally as the 'Toon Monsoon'. Newcastle University collected evidence about the depth of flood water in the city and this unique data set presented an opportunity to test models for surface water flooding.

The JBA Trust worked with students at Newcastle University, Robert Bertsch and Marion Duprez, and their supervisor, Vedrana Kutija, to investigate "Real time 2D urban flood forecasting" and "How good are 'broad-scale' models of urban flooding?" through two MSc projects.

Summaries of the research were produced by JBA Trust and published on the website in July 2014.

5.4 Xiamen Workshop on large scale urban flood risk systems

An international workshop on managing large scale inter-connected systems for sustainable flood risk reduction was held at the Institute of Urban Environment (IUE), Chinese Academy of Sciences (CAS) in Xiamen, from March 22 to March 23, 2014. Its focus was on the complex systems and inter-connections that link flood risk management with urban development, industry, society and a sustainable environment

The event was jointly organized by IUE, University of Lancaster and JBA Trust. Funding was secured from the British Consulate-General via the Science and Innovation Network UK. Over 40 flood management experts and practitioners from Britain and China convened in Xiamen for the conference to discuss the strategies, challenges and cooperation opportunities for sustainable flood management.

The workshop opened with a keynote lecture delivered by Professor Xingcan Zheng of the National Centre of Water and Waste Water Engineering. The event brought together researchers, agencies and industry experts from China and the UK to present concepts and experience of the science and technology needed to manage and reduce flood risk in today's landscape and cities, and into the future.

Photos: Low impact drainage site at the Institute of Urban Environment, Xiamen (above left) and Professor Rob Lamb, Director of the JBA Trust, giving a keynote talk on "Managing large scale inter-connected systems for sustainable flood risk reduction" (above right).

5.5 California Water and Environmental Modelling Forum

Professor Rob Lamb delivered presentations on "experiences with high performance 2D flood modelling" and "reflections on 2D flood inundation model benchmarking" at two sessions of the California Water and Environmental Modelling Forum annual conference in February 2014.

The theme of the conference was '20 Years of Supporting the California Water Community'. In 2014, California experienced a record setting drought and declared a state of emergency. The JBA Trust aimed to share best practice, technical advances and experiences of water and environmental modelling from the UK.

6 Sponsorship

JBA Trust aims to encourage more open access to research and information for both students and early career professionals.

6.1 JBA Trust Outstanding Paper Award

This year, the Trust sponsored an 'Outstanding Paper Award' in the Journal of Flood Risk Management to enable the paper to be made open access and shared with the flood risk management community.

Chosen from a total of thirty articles published in Volume 6, the paper by J.M. Wicks, C. Hu, M. Scott, L. Chen and X. Cheng, entitled *"A broad scale model for flood simulation in the Taihu Basin, China"* published in issue 1 was the winning paper.

The paper addresses a complex practical problem of real concern: the evolution of future flood risk in an area of about 37,000km^2 in China, which generates about 13% of the national GDP and where flooding is caused by multiple sources.

Spatial and temporal considerations required a flood simulation approach, which enabled credible assessment of future climatic, economic and social conditions, within the constraints of available resources and data. This challenge, of assessing policy and management responses to flood risk at national and regional scale, is one that affects many countries

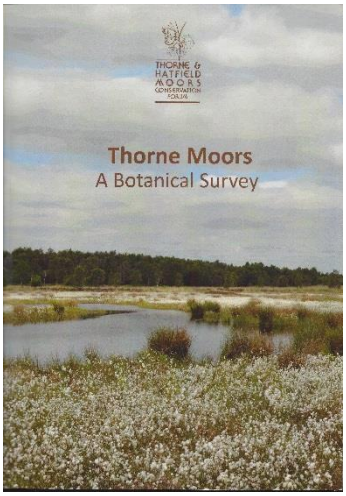
The paper is freely available on the Journal of Flood Risk Management webpage on the Wiley Online Library.

6.2 Conferences

JBA Trust sponsored two conferences in 2013-14 to support knowledge exchange, particularly for early career professionals and students about to embark on a career in the sector.

- 37th Research Students' Conference in Probability, Statistics and Social Statistics at Lancaster University – this conference encouraged students to apply specialist skills in risk and statistics to environmental challenges.
- Institute of Fisheries Management Lamprey Conference at the National Science Learning Centre in York – the JBA Trust funded student places to enable students specialising in this area of environmental management to attend.

6.3 Thorne Moors: A Botanical Survey



In 2014, the Thorne and Hatfield Moors Conservation Forum published the results of extensive field work to deliver valid current records on the botanical species found on Thorne Moors SSSI.

This high quality research will provide a scientific basis for the conservation of Thorne and Hatfield Moors and support the conservation and restoration of this unique habitat.

The publication of 'Thorne Moors: A Botanical Survey' was sponsored by Natural England and the JBA Trust to enable students and early career researchers to access to this valuable educational resource.

7 Directors and Trustees

The Trustees serving during the year were as follows:

Trustees	Rob Lamb, JBA (Managing Director)
	Jeremy Benn, JBA
	Jim Hall, Oxford University
	Keith Beven, Lancaster University
	Nick Russell, Independent financial consultant
Secretary	Craig Robson (from July 2013)

8 Structure, Governance and Management

JBA Trust is a company limited by guarantee and is governed by it Memorandum and Articles of Association. It was incorporated on 9 November 2011.

The trustees review the activities of JBA Trust every six months to ensure that they are focussed on supporting the purpose of the charity. The review also considers the strategic direction of the charity and considers how planned activities will contribute to public benefit.

We have referred to the guidance contained in the Charity Commission's general guidance on public benefit when reviewing our aims and objectives and in planning our future activities.

8.1 Appointment of Trustees

On incorporation of the JBA Trust, the Board of Trustees was appointed by invitation.

To preserve independence of the JBA Trust from JBA Group companies, which provide part of its core funding, the JBA Trust's Articles of Association stipulate that the number of trustees connected to or employed by JBA Group shall always be less than half of the total number of trustees appointed at any given time.

The Trustees are not remunerated (other than payment to cover travel and accommodation costs where required for JBA Trust business).

8.2 Trustee Induction and Training

The current Trustees were appointed in 2012 when the charity was first established and have been briefed on their legal obligations under charity and company law, updates to the Charity Commission's guidance on public benefit, the content of the Memorandum and Articles of Association and the JBA Trust business plan.

8.3 Organisation

The Board of Trustees meets every six months and is responsible for the strategic direction and policy of the charity. A Managing Director is appointed by the Trustees to manage the day-to day operations of the charity and is supported by a Programme Manager.

8.4 Risk Management

The trustees have a risk management strategy which comprises:

- An annual review of the risks the charity may face
- Policies and procedures in place to mitigate those risks
- Plans in place to minimise the impact of the risks should they materialise.

The principal risk to JBA Trust is financial sustainability. This is mitigated by having a robust reserves policy and a clear financial plan which is reviewed and subsequently approved by the trustees at the start of the financial year.

JBA Trust is governed by the same policies and procedures as the JBA Group. These include policies on: Health and Safety; Energy Use; Environment; Sustainability; Social Responsibility; Information Security: Equality and Diversity.

9 Financial Review

The principal funding source for JBA Trust is JBA Group dividends. JBA Trust also aims to leverage funding for research projects by applying for external funding from external organisations, for example Innovate UK or Research Councils. In October 2014 we helped to secure research project funding for Bristol University from the Natural Environment Research Council (NERC) for an international workshop on bridge scour vulnerability.

9.1 Reserves Policy

Reserves are required to minimise the financial risks associated with the unlikely event of unplanned or unforeseen expenditure. As a newly established charity, JBA Trust is in the process of establishing research and education partnerships with a number of external organisations and consequently is slowly building up reserves.

The JBA Trust maintains sufficient reserves to cover all contractually committed expenditure or liabilities, and a contingency fund of minimum 5% of annual operating budget.

9.2 Plan for Future Periods

JBA Trust anticipates continued long term funding from JBA Group. To ensure that the charity maximises the value of its income in carrying out its activities, the strategic plan focuses on continuing to seek match funding for research projects from funding bodies, including Universities and Research Councils. In the future JBA Trust may also wish to generate an income by licensing datasets, results or models generated by research.

The trustees declare that they have approved the Trustees Report above

Signed on behalf of the trustees

Rob Lamb, Managing Director of JBA Trust 26 February 2015