

REGISTER OF INDIVIDUAL CONSULTANTS – 2011

David C **BEALE** MSc BEng MICE MCWEM

Robert P C **BROWN** BA BSc MSc DIC PGCTM DMS MCIWEM C.WEM CEnv

James E **DENT** B.Sc., FRMetS, C.Met., C.Env

Brian L **FAULKNER** BA MSc FCWEM FConsE DipEM MCMI

David S **FLOYD** MSc MCWEM

Paul **GARRAD** BSc PhD AMCWEM MIEnvS

Lindsey **McEWEN** MA (Hons) PhD FRGS ARSGS FHEA

Duncan W **REED** BSc PhD MCWEM

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David C BEALE MSc BEng MICE MCWEM

Telephone: +44 1483 423768 **Fax:** +44 1483 527178 **Email:** davidebeale@yahoo.co.uk

Born: 1947 **Address:** 1 Mary Vale, Godalming, Surrey, GU7 1SW

Employment: 1970-1973 VSO/ODA Engineering Hydrologist Jamaica;
1974-1997 JD & DM Watson, Hydrologist & Engineer;
1977-1980, Sir M MacDonald and Partners Hydrologist & Irrigation Engineer;
1980-1981, Newcastle University, MSc Engineering Hydrologist;
1981-1991 Howard Humphreys & Ptnrs Hydrologist and Principal Engineer;
1991-2000 DHV Consultants Associate Director;
2000 to date, Independent Consultant.

Expertise: Thirty eight years of worldwide specialist work in sewerage, hydrology, flood studies, storm drainage and water resource assessment. Extensive experience in providing both long and short term project technical inputs. Specialist in managing integrated water supply, sewerage and or drainage projects. Experience of working with International Contractors, Consulting Engineers, Government Departments and International Agencies.

Recent jobs:

- Drainage and Sanitation Engineer, The Study for Improvement of Water Supply and Sanitation in Metro Cebu, Republic of the Philippines, Nippon Koei UK, Review of existing sewerage and drainage and formulation of a conceptual plan and recommendable approaches on sanitation improvement
- Hydrologist and Drainage Engineer for four small projects in UK, assessing drainage problems and yields from wells and ponds.
- Hydrologist and Drainage Engineer for three rural road projects in Albania and Ethiopia. Roughton International, Hydrological review of flood flows, design of structures, cross drains and roadside drainage.
- Hydraulic Analysis Engineer, Technical Assistance and Supervision for ISPA Contracts in Caras Severin County, Romania, DHV BV. Construction of models for water supply schemes in Resita and seven major County Towns and construction of a model of the sewerage system in Resita
- Project Manager, Uttar Pradesh Sewerage and Drainage Masterplans; Feasibility Studies and Design Reports for sewerage in 8 Cities, India, DHV BV. Jamuna Action Plan scheme to collect and treat all sewerage from the cities to remove pollution from the sacred river
- Project Manager, Asmara Wastewater Management Plan, Eritrea. Preparation of designs for sewerage, drainage and sewage treatment by wastewater stabilisation ponds for Asmara
- Advisor, Kolkata Municipal Corporation, India, DHV BV. Preparation of a programme for desilting of large trunk sewers and programme for renovation for 200km of large brick sewers
- Infrastructure Engineer, Basic Social Infrastructure Development Project, Sri Lanka. IPE. Identification and outline design of infrastructure projects to provide a vehicle for local government reform and improvement.
- Team Leader, Adama Sewerage project, Ethiopia, DHV Water. Preparation of detailed designs and contract documents for the sewerage and wastewater treatment for a district town
- Drainage and Sanitation Specialist. Kolkata Environmental Improvement Project, India, DHV Water. Project Management Consultancy to assist in the design and implementation of \$US 150m drainage and sewerage works and canal improvements
- Project Manager, Addis Ababa Water and Sewerage Project., Ethiopia, DHV Water. Detailed design of new water and sewerage works, including supply reservoirs, pumping stations and waste stabilization ponds.
- Team Leader Sanitation, Delhi Water Supply and Sewerage Project, India, DHV Water. Identification of rehabilitation options, preparation of project implementation plan and overview of detailed design for the rehabilitation of the Delhi Sewerage system

Countries: Abu Dhabi, Albania, Bangladesh, Bhutan, Cyprus, Eritrea, Ethiopia, The Gambia, Ghana, Hong Kong, India, Iraq, Jamaica, Jordan, Kenya, Kuwait, Malaysia, Nigeria, Philippines, Qatar, Romania, Sierra Leone, St Lucia, Sri Lanka, Thailand, Trinidad, Vietnam and Zambia

Languages: Spanish (basic), French (basic)

Robert P C **BROWN** BA BSc MSc DIC PGCTM DMS MCWEM C.WEM CEnv

Chartered Environmentalist, Chartered Water and Environmental Manager.

Telephone: 016977 48797

Email: Rob.Brown@Hydrology.UK.com

Born: 1963

Address: Stapleton House, Stapleton, Carlisle, Cumbria, CA6 6LD, UK

Employment:

Institute of Hydrology, Flow Regimes and Environmental Management, 1987-90. WS Atkins Water, Principal Hydrologist, 1990-95. Independent Consultant since 1995.

Expertise:

Water resources, river flow monitoring and naturalisation, resource system modelling and auditing, extensive Aquator resource model support including MS VBA programming and customisation, abstraction licence support, probabilistic yield assessment of river and reservoir systems, resource system operational modelling and control curve development, low flows and flow regime analysis, micro-hydro power assessment, hydrological and river modelling (including HYSIM), groundwater/river flow interactions, hydrological analysis for potential HEP sites, arid zone flood hydrology and modelling, arid zone rainfall and flood frequency/magnitude analysis.

Recent jobs:

- Hydrological Consultant to Essex & Suffolk Water: including PR09 DO assessment; development of Aquator for operational simulation; resources system modelling using Aquator (including VBA customisation); Ely Ouse flow naturalisation, hydrological modelling using HYSIM; Drought Contingency Planning; probabilistic and marginal yield analysis; reliability-based operational policy and reservoir control curve development; technical support for Aquator. (1993-present).
- Hydro-Electric Power potential assessment for region around Brampton, Cumbria. Voluntary services offered to local sustainable community organisation assessing potential for generation of local renewable forms of energy. Manipulation of GIS data, automatic catchment derivation, stream flow gauging, interaction with Environment Agency.
- Hydrological Consultant to Palm Paper Ltd assessing available water resources in the Flood Relief Channel and the Ely Ouse through Aquator resource modelling and negotiations with the Environment Agency in support an abstraction licence application for a new paper manufacturing plant at Kings Lynn. Tidal river and flood gate release modelling.
- Rainfall frequency/intensity/duration analysis, arid zone rainfall-runoff modelling, and flood frequency/magnitude/volume analysis for Kuwait City storm water drainage master plan and Jeddah storm water drainage design, Saudi Arabia. Development of the Arid Regions Rainfall-Runoff Model (ARRRM) used for flood hydrograph design.
- Advice and assistance in assessing rainfall and resources of remote upland sources in the Highlands and Islands of Scotland on behalf of North of Scotland Water Authority.

Countries:

UK, Kenya, Kuwait, Saudi Arabia (in addition, worked with data from France, Libya, Norway, St Helena, Spain, Turkey)

Languages:

French (basic).

James E Dent, B.Sc., FRMetS, C.Met., C.Env

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(0)1473 827134

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Email: jamesdent247@hotmail.com

Born: 1947 **Address:** 2 Bell Mews, Hadleigh, IPSWICH, Suffolk, IP7 5AW

Employment: Self-employed as independent consultant in Hydrometeorology

Expertise: Hydrometeorology as a bridge between meteorology/climatology and flood and water management.

Flood forecasting and warning. Includes senior long-term posts in national flood forecasting and warning organisations (UK and Bangladesh)

Flood risk assessment

Analysis of severe rainfall events and probable maximum precipitation

Water management for control, compliance and Environment Agency Consents.

Recent jobs: - **Jacobs'**. Part of project team to study pluvial flooding and flood warning in Dublin

- **Consultant, UK Met Office**, 2004-2010. Main projects included:

- Assessment of PMP for major dam design in Uganda/Sudan and for a similar project in Kenya
- Analysis for Pro-active Detection of Landslides on the Scottish roads network
- Team member on the joint CEH/Met Office study on Long Return Period rainfall and Dam Safety (Defra)
- Establishment of Numerical Weather Prediction System of Bangladesh Meteorological Dept. Min. of Defence, Bangladesh.
- Providing a Warning Service for Pluvial Flooding. DEFRA, Making Space for Water.

- **Cumbria Wildlife Trust/Natural England**. Hydrological and flood risk issues in restoration of raised bogs

- **World Meteorological Organisation**.

- Preparation of a review document on climate and water management
- Member of WMO team to develop a Manual for Flood Forecasting and Warning. Contributing author and final editor
- Contributor to the latest edition of "Guide to Hydrological Practices".

Countries: UK, Bangladesh, Sri Lanka, India, South Africa, Indonesia, Papua New Guinea, Pakistan, Malaysia, Iran.

Languages: French (basic). Indonesian (basic, spoken only)

Brian L **FAULKNER** BA MSc FCIWEM FConSE DipEM MCMI

Telephone: 01392 666 953 **Skype:** waterconsultant **Email:** office@waterconsultant.com
Mobile: 07967 399 874 **Website:** www.waterconsultant.com

Born: 1958 **Address:** The Old Print Works, 9 – 10 Melbourne Street, St Leonards, Exeter, Devon, EX2 4AU

Employment: 1983-86 Water Resources Planner with Dept of Water Affairs, South Africa.
1986-89 Urban Drainage Engineer with Water Research Centre, Swindon
1989-91 Senior Flood Defence Engineer with NRA Wessex Region
1991-96 Principal Engineer, later Associate Director with Parkman Consulting Engineers
1996- Independent Consultant

Expertise: Application of hydraulic, hydrological and economic analysis techniques for river engineering, catchment planning and water resource management purposes. Specialisms include – water resources master-planning, river hydraulic modelling - reservoir planning - urban-rural drainage interactions - sewerage modelling and planning - Geographic Information Systems - Irrigation Management - Risk Assessment - Cost-Benefit and Investment Appraisal

Recent jobs:

- Flood Alleviation Scheme Assessments, West Midlands, Amey plc
- Water Cycle Strategy, Herefordshire Council
- Strategic Flood Risk Assessment, Wye Catchment (SFRA) Herefordshire Council
- Water Resources Masterplan for South West Kosovo – World Bank
- Flood Risk Assessments throughout Wales and Southern England
- Water Supply Regulation and Institutional Strengthening, Kosovo
- Strategic planning of tidal and fluvial defences for Newport, South Wales
- Lecturing on CIWEM River Engineering Course, University of Bristol

Countries: UK, West Africa, Southern Africa, Mediterranean, Baltics, Eastern Europe

Languages: French

David S FLOYD MSc MCWEM

Telephone: 01588 640771 **Fax:** **Email:** david.floyd@H2Ools.co.uk

Born: 1952 **Address:** Dingle House, Churchbank, Clun, Shropshire SY7 8LP, UK

Employment: Independent Consultant since 1987.
1983-87 Senior Hydrologist with ELC-Electroconsult, Milan, Italy.
1975-83 Hydrologist with Sir M MacDonald & Partners, Cambridge.

Expertise: Hydrological analysis and software development in the fields of: flood risk assessment (FEH/FSR, HEC-RAS, PPG25/PPS25 and TAN15); water resources investigations; irrigation; water supply; hydropower development; catchment models; stochastic modelling; frequency analysis; design floods; reservoir operation; hydraulic modelling; environmental impact assessment.

Recent jobs:

- UK flood risk assessments for planning applications and appeals - various combinations of PPG25 / PPS25 / TAN15 guidelines, design floods using FEH, hydraulic modelling using HEC-RAS, LiDAR data processing :
 - o Private residences;
 - o Major residential developments;
 - o Commercial;
 - o Quarrying ;
 - o Caravan parks;
 - o Major supermarket/hospital development (Selly Oak).
- Water Management Audits (flood risk / water resources) for polytunnel farms.
- Water resources, flood risk + environmental impact for hydropower development.
- Ely Ouse Essex Transfer Scheme; low flow processing of Aquator model output, daily flows 1933-96 (flow duration, spells etc). Flow factoring for multi-site EIA modelling.
- Awash IV Hydropower Pre-Feasibility, Ethiopia.
- Design flood routing for reservoir inspections.
- Low flow studies and flow accretion modelling for Thames Water Drought Order application.
- Flood alleviation potential of former mill pool, Selly Oak – detailed FEH hydrological analysis and HEC-RAS unsteady modelling.
- Environmental impact assessment for proposed Yorkshire Water river abstractions.

Countries: UK, Italy, Oman, Yemen, Ethiopia, India, Indonesia, Malaysia, Vietnam, Laos, Thailand, Peru, Argentina .

Languages: Italian, French, Indonesian

Paul **GARRAD** BSc PhD AMCWEM

Telephone: 01483 575433 **Fax:** 01483 823473 **Email:** PGarrad@CompuServe.Com

Born: 1958 **Address:** 66 Charlock Way, Guildford, SURREY, UK, GU1 1XZ

Employment: Assistant Hydrologist with FRPB, Edinburgh for 4 years, followed by 9 years as Senior and then Principal Hydrologist with various consultants. Independent Consultant since August 1996.

Expertise: Hydrology, hydrometry, flood warning, flood risk assessments, river and catchment modelling, water resources assessment, hydrogeology, water quality, groundwater modelling, EIA. Expert Witness on water quality and water resources issues.

Recent jobs:

- Various Flood Risk Assessments for Zone 1, 2 and 3 sites involving HECRAS or ISIS modelling, site runoff calculations and SUDS etc.
- Review of FRAs for the EA, particularly those with HECRAS, ISIS and FEH elements.
- Review of FEH calculations and FEH hydrology as part of flood map challenges
- FEH flood hydrology calculations and reviews for FRAs and flood studies.
- Hydrology for flood forecasting model for the Bristol Avon
- Low flow studies and modelling (HYSIM) for Sussex Ouse catchment.
- Inspection of river and coastal assets and flood defences.
- Extreme sea level analyses for various parts of the UK coastline.
- Advice on river management and wetland habitat creation.
- Water resources assessment for mines, wetlands and abstraction licence applications.
- Aquatic aspects of EIAs for CCGT Power Station Ivory Coast and Rutile mine, Sierra Leone.
- Water resource studies for a marina, canal system, sand excavation and gold mine.

Countries: Bangladesh, Cote d'Ivoire, Hong Kong, Sierra Leone, South Africa, Thailand, Ukraine.

Languages: Basic French

Lindsey **McEWEN** MA (Hons) PhD FRGS ARSGS FHEA

Telephone: 01 242 714675 or **Fax:** 01 242 714856 **Email:** lmcewen@glos.ac.uk
01 242 714572 (office)

Born: 1959 **Address:** Centre for the Study of Floods and Communities, School of Natural and Social Sciences, University of Gloucestershire, Francis Close Hall, Swindon Road, Cheltenham, GL50 4AZ, UK

Employment: Professor in Physical Geography. Teaches on undergraduate and postgraduate courses in pure and applied hydrology, fluvial geomorphology, flood hazard management and river conservation and management. Undertaken environmental research and consultancy since 1986 through University.

Expertise: Historical reconstruction of flood chronologies in flood risk assessment– placing recent extremes in a longer-term context; flood risk management; flood education
Hydrological and river processes in hydrological assessments and fluvial audits; catchment sediment budgets; geomorphological assessments of river landscape sensitivity to climate, land use changes and flood impacts; river sediment assessment and management; river conservation and management – specific interest in upland, high energy cold and temperate river environments;

Recent jobs:

- Assessment of sediment budgets associated with an upland catchment with ecological conservation status for Scottish Natural Heritage.
- Scoping study on water resource applications of pumped mine drainage in Forest of Dean for the Environment Agency.
- Flood hazard assessment of the Avon catchment, West Midlands for the Environment Agency.
- Geomorphological assessment of the River Dee, Aberdeenshire for Scottish National Heritage.
- Hydrological assessment of the Great Witcombe Roman Villa for English Heritage.
- Hydrological Assessment of Painswick Rococo Garden, Gloucestershire for Painswick Rococo Garden Trust
- Impacts of gravel extraction on lamprey and salmonid habitats: Endrick Water, Scotland, for Scottish Natural Heritage
- Scoping study of the sediment character of the Gavenny for Environment Agency, Wales
- Assessment of sedimentation and siltation impacts on fish habitat quality on sub-catchments of the River Wye for Environment Agency, Wales
- Fluvial Audit of the Afon Tywi for Countryside Council for Wales
- Reconstruction of historical flood patterns on the middle Severn as part of a COPUS Connecting People to Science project.
- Flood science communication; community/ stakeholder engagement with flood risk

Countries: UK, research experience in Iceland, Norway and Canada.

Languages: English (mother tongue), French (intermediate).

Duncan W REED BSc PhD MCWEM

Telephone: 01491 651441

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Website: www.dwrconsult.demon.co.uk

Born: 1951

Address: **DWRconsult**, 32 Ilges Lane, Cholsey, Wallingford, Oxfordshire, OX10 9PA, UK

Employment:

Independent consultant since 2001. Previously, Institute of Hydrology (1979-2000), North West Water Authority (1976-79).

Expertise:

Applied hydrology with emphasis on: floods, inter-site dependence, statistical/mathematical analysis and R&D. Led research team that developed UK *Flood Estimation Handbook* (1999). Author of *Letters in applied hydrology* (2011) – see **DWRconsult** website. Interested in applications to reinsurance.

Recent jobs:

- Writing an alternative book on applied hydrology (1997-2010)
- Technical advisor to Irish Flood Studies Update R&D programme (for OPW, 2004-present)
- Hydrological advisor on pumped catchments (for EA via HR Wallingford, 2009-present)
- Hydrological reviewer/advisor on river flood-risk estimation and mapping (various)
- Research on inter-site dependence in rainfall extremes (inc. drought), river flooding and sewer flooding (various)
- Researching flood chronologies for specific sites/ivers (various)
- Training in flood estimation methods & practice (Atkins Water, Bureau Veritas, Capita Symonds, Faber Maunsell, JBA, OPW, United Utilities) – see **DWRconsult** website for style of training now favoured
- Expert witness on Lower Thames flood risk, with emphasis on non-stationarity effects (for developer via PBA, 2007-2008)
- Development and mapping of wetness index for Ireland (for OPW, 2007)
- Rainfall analysis in relation to sewer flooding performance (for Atkins Water, 2006)
- Review of national hydrometric network, Estonia (for EU via Jacobs, 2002)

Countries:

UK, Ireland, Estonia

Languages:

English (mother tongue), French (basic reading)

John H W Turner BSc CEng C.WEM CEnv MICE FCIWEM

Telephone: 0113 2675251 **Mobile:** 07917 390290

Email: johnhw.turner@ntlworld.com

Born: 1946 **Address:** 44 Moseley Wood Drive, Cookridge, Leeds LS16 7HJ

Employment:

1969 – 1971 Chesterfield BC Borough Engineers Dept

1971 – 1983 Sheffield CC City Engineers Department – Senior Engineer/ Group Engineer

1983 – 2000 Leeds CC City Engineers Department – Head of Main Drainage

2000 – 2010 Environment Agency Flood Risk Management – Team Leader/ Technical Specialist/
Area Controller Yorkshire S&W

Experience:

Forty years experience in urban drainage, river engineering and hydrology. Whilst at Sheffield CC Design Group Leader and Resident Engineer on major sewerage schemes, including £10m Contract 1 of the Don Valley Intercepting Sewer (5km of 6.0m OD machine driven tunnel). Responsible for managing 70 staff as Head of Main Drainage at Leeds City Council, and a similar level of responsibility as Area Controller for the South and West Yorkshire Area for the Environment Agency. Feasibility, design and construction of major sewerage and river engineering schemes. Hydrology and hydraulic modelling of sewerage systems and rivers. Maintenance and operation of sewerage systems and river defence assets.

Setting policy for new developments in relation to flood risk. Presented report to full Council meeting at Leeds City and gained approval to adopting the use of Sustainable Drainage Systems (SUDS) for new development; incorporated as Supplementary Planning Guidance prior to PPG25. Carrying out and checking of flood risk assessments. Design of SUDS.

Investigating the causes of flooding and pollution and planning operational and capital works interventions. Taking enforcement action against third parties in accordance with local authority and Environment Agency powers. Ensuring environmental issues addressed in relation to all of above.

Preparation of expert reports in relation to flooding and other issues in accordance with Part 35 of the Civil Procedures Rules. (Have attended Institution of Civil Engineers Expert Witness training course).

As Area Controller with the Environment Agency, control of operational response to major flood events and other major environmental incidents, including interaction with other authorities and services in accordance with Civil Contingencies Act. Direct experience of and involvement in the 2000, 2007 and 2008 major flood events.

Recent Jobs:

- £180m Leeds Flood Alleviation scheme – feasibility and business case
- River Aire modelling and £360m Flood Risk Management Strategy
- Chesterfield Flood Risk Management Strategy (paper awarded first prize at 2004 DEFRA River and Coastal Management Conference)
- Feasibility and design of major flood balancing reservoir, flood plain and river restoration on R. Rother, Chesterfield, in conjunction with £180m contaminated ground remediation of former Avenue Coking Works site (Paper in September 2007 edition of ICE Municipal Journal)
- UK flood risk assessments for planning applications
- Professional advice in connection with expert witness reports regarding sewerage and river flooding issues

Countries: UK

Languages: English, basic French

Robin **WARDLAW** BSc PhD FICE CEng MCWEM

Telephone: 01968 660697 **Email:** Robin.Wardlaw@wrpmc.co.uk

Born: 1953 **Address:** 32 Lyne Park, West Linton, Peebleshire EH46 7HP, UK

Employment: 2008 – date, WRPMC Ltd.
1993 – 2008 Senior Lecturer, Civil & Environmental Engineering, University of Edinburgh
1978 – 1992, Mott MacDonald, Divisional Director from 1989.
1978 Hydrologist, Secretariat of Dams and Water Resources, Libya

Expertise: Hydrological and hydraulic modelling, water resources systems modelling, water resources assessment planning and management, flood mitigation, hydrological risk assessments, climate change impact and adaptation assessments.

Recent Jobs:

- Hydrologic-agronomic-economic model development for climate change impact and adaptation studies in the Lower Mekong Basin.
- Hope / Doch Four northern relief channel design, Guyana.
- Principal hydrologist, Balloki Barrage and Lower Bari Doab Canal Rehabilitation Project, Pakistan.
- Climate change impact assessments, Water Resources Demand Management Assistance Project, China.
- Surface water modelling specialist, Water Resources Demand Management Assistance Project, China.
- Hydrological and hydraulic modelling, conservancies flood management studies, Guyana.
- Landfill site hydrological risk assessment, UK.
- Technical review, flood mitigation projects, UK.
- Updating forecasts of Caspian Sea level probabilities.
- On-farm water distribution modelling specialist, Water Resources Planning and Land Improvement Project, Kazakhstan.
- Hydrology and water resources assessments, Drainage and Irrigation Systems Rehabilitation Project, Guyana.
- Expert witness, hydrological assessment, UK.
- Coastal flood risk assessment, Portencross.
- Modelling specialist, Caspian Environmental Programme, Kazakhstan.
- Technical advisor, modelling on Water Utilization Programme, Mekong River Commission Secretariat, Cambodia.
- Flood assessments and forecasting approaches for River Great Ouse, UK.
- Hydrological forecasting, National Water Plan Project, Bangladesh.
- Modelling specialist, Water Resources Assessment Project, Uganda.

Countries: UK, Bangladesh, Cambodia, China, Guyana, Hong Kong, Indonesia, Iran, Kazakhstan, Lao PDR, Libya, Malaysia, Pakistan, Russia, Panama, Spain, Sudan, Thailand, Uganda, Uzbekistan