

Paul Garrad – BSc PhD AMCIWEM

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Key Skills Flood Hydrology, River and catchment modelling, Flood risk assessment
Career 1979-1984. PhD. "A Sediment Budget of the River Bure, Norfolk". Hydrological and sediment modelling to predict rates of bank erosion and sediment deposition on the Norfolk Broads. University of East Anglia.

1984 - 1988. Assistant Hydrologist, Forth River Purification Board (now SEPA)

1988 – 1991. Hydrologist, Howard Humphries and Partners

1991 - 1996. Principal Hydrologist, L G Mouchel and Partners

1996 – date. Independent consultant hydrologist.

Summary Consultant hydrologist with 30 years' UK and overseas experience in flood hydrology, water resources and environmental management at a technical and project management level.

Key Experience

- Hydrology**
- Hydrology and hydrometry, water resources, flood management, low and high flow estimates
 - FEH calcs (FEH-CD, WinFAP, ReFH, PDM) for various studies
 - Training courses on FEH methods, Flood Risk Assessment and urban hydrology.
 - Technical review and project management of FEH methods for EAs SFRM studies.
 - Review and advice on SFRM and CFMP projects, EA Southern Region.
- FRAs**
- More than 600 FRAs for sites in Zones 1, 2 and 3 for dwellings, business parks, retail uses involving FEH, river modeling, site runoff and SUDS calculations, tidal extremes, overtopping.
- Modelling**
- River model construction and review (HECRAS, ISIS, Flood Mapper) for SFRMs and FRAs.
 - HYSIM catchment model for flow derivation and water resource modeling
- Resources**
- Water resources for abstractions, rivers, a canal, mine, habitat creation and amenity lake.
 - Groundwater model for the Sukhothai irrigation scheme, Thailand.
 - Water resources model and yield studies for proposed Thika Dam in Kenya.
 - Water quality management and planning for the Gulf of Thailand.
- Hydrometry**
- Review of ratings at Gauging Stations as part of SFRM studies.
 - R&D Project on extension of rating curves at UK gauging stations.
- Tidal**
- Extreme sea levels for flood defence standards, EA Southern Region.
 - Sea wall overtopping and tidal inundation calcs for FRAs.
- Catchments**
- Advice and support for EAs CFMP and SFRM programmes.
 - CAMS/RAM assessment for the tidal Eastern Rother based on water level and flow modeling.
 - Derivation of a flood indicator and examination of trends in flood peaks for the EA.
- Reservoirs**
- Reservoir hydrology and flood routing (PMF, PMP, cascades, optimum sizing).
 - FSR and FEH hydrological calculations (PMFs and routing) for reservoir flood studies.
 - Hydropower yield assessment of a multi-reservoir scheme, Turkey
- Groundwater**
- Groundwater modeling
 - Review of groundwater flooding at rail tunnels and approach cuttings.
 - Review of proposals for a deep waste repository for radioactive waste at Sellafield.
- EIA**
- Hydrological and hydrogeological aspects of EIAs.
 - Methodology for EIA in South Africa based on water resources in rural Kwazulu Natal.
 - Water quality plan and management strategy for 9 rivers in south east Thailand.
- Expert Witness**
- Public Inquiries, Appeals, hearings and inquiries