

Appendix 5.1.E – APEM – Investigations – cost assurance

Wessex Water

September 2018



Wessex Water
YTL GROUP

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Chris Tattersall
Environmental Investigations Programme Manager
Wessex Water
Claverton Down
Bath
BA2 7WW

9th July 2018

APEM Ref: P00002560

RE: AMP7 costing exercises

Dear Chris,

This letter briefly describes the scope of work that APEM undertook to support the development of Wessex Water Services' (Wessex Water) business plan for the period 2020 to 2025. APEM undertook this work under two separate contract commissions, with the reports delivered in December 2017 and May 2018, respectively.

Context of work

Wessex Water is currently preparing the company business plan for the period 2020 to 2025 (AMP7). Following the recent issue of the draft Water Industry National Environment Plan (WINEP3), Wessex Water has assessed the likely costs of the environmental investigations, based on experience of completing investigations in previous AMPs.

Aims and objectives

Wessex Water identified the need for an independent assessment of the likely time, costs and resources required to deliver these investigations.

The objectives of the exercise were to:

- Provide independent assessment of the likely tasks and resources required to deliver each investigation;
- Enable Wessex Water to understand whether the allowances made by the company for these investigations is realistic; and



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- Identify potential alternative approaches to those selected by Wessex Water.

Work completed

APEM delivered the costing exercise for two investigations in December 2017:

- Middle Bristol Avon Groundwater Investigation; and
- Holes Bay Nitrogen and Phosphorus Investigation.

ESI Ltd was sub-contracted by APEM to provide specialist on groundwater modelling for the Middle Bristol Avon Groundwater Investigation.

The costing exercise for a further four investigations were delivered by APEM in May 2018:

- Poole Harbour shellfish investigation;
- Diversbridge Drinking Water Protection Area (DrWPA) - biodiversity investigation with catchment scheme nitrate;
- Invasive non-native species (INNS) raw water transfer risk assessment; and
- Natural Capital and biodiversity values of non priority habitat sites.

APEM sub-contracted Intertek for the Poole Harbour shellfish investigation, The Farm Environment Ltd (Tony Seymour) and Biocensus for the Diversbridge Drinking Water Protection Area investigation and Biocensus for the Natural Capital and biodiversity values of non priority habitat sites investigation.

The costing exercise used consultancy rates and included the following activities::

- Staff time to deliver the investigation. This should include allowances for the production of:
 - A scoping report, for agreement with stakeholders.
 - A desk study and monitoring plan.
 - Options appraisal.
 - A draft final report.
 - A final report.
 - Interim reporting at an appropriate frequency during project delivery.
 - Delivery of all environmental monitoring (water quality, ecology, hydrology and hydrogeology) as required during the course of the project.
 - Analysis and interpretation of all environmental monitoring information collected during the course of the investigation.
 - Managing and overseeing the delivery of any surveys that might be delivered by contractors/ subcontractors.
 - Stakeholder liaison at all stages of the project. It should be assumed that this includes Environment Agency and Natural England as a minimum, but allowances should also be made for liaising with other third parties.
- Environmental modelling as appropriate to the investigation needs, e.g. hydrological, hydrogeological, water quality and sewerage network modelling.



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- Assets, equipment and materials required to deliver the environmental monitoring outlined above. This may include (but not be limited to) observation boreholes, flow gauging structures, spot flow gauging equipment, sondes, autosamplers, etc.

The main outputs of this work were costing spreadsheets for each investigation:

- The completed Wessex Water cost template; and
- a document summarising the scope of the works and the assumptions for each costed investigation.

Consultant experience

APEM is the largest aquatic science consultancy in the UK, recently celebrating its 30th year of providing evidence-based monitoring and expert services to support the management of water environments. The Company employs about 120 full-time staff in our offices in Cardiff, Edinburgh, Chester, Manchester, Oxford, Cambridge and Letchworth. APEM's capabilities comprise dedicated field teams, biological laboratories, cutting edge remote sensing technologies and specialist technical consultancy, supported by first-class project management. APEM's expertise covers all environments from source to sea: upland rivers, lakes, lowland river systems wetlands, estuaries, coastal environments and the open ocean.

APEM was ideally suited to undertaking this costing exercise because it has considerable experience of delivering projects covering the scope of the investigations to be costed for many water companies under the AMP funding cycles.

In particular, APEM led the survey component of the detailed programme of investigations for Dwr Cymru Welsh Water's (DCWW) flagship AMP6 environmental project – the Coastal Investigations Project. APEM worked collaboratively with the Alliance Partners, led by Mott MacDonald. This was the largest environmental study ever undertaken in Wales and no other UK water company has attempted to understand sources of coastal water pollution at this scale anywhere else before. The project will enable DCWW to prioritise actions and investment that will further improve coastal bathing water quality by understanding the impacts of its assets on coastal waters. This project won the data project of the year in the Water Industry Achievement Awards 2018.

APEM is also working with other water companies to develop scopes of work and prioritise early start investigations for the WINEP, due to be delivered in early AMP7. For example, for Severn Trent Water, APEM is working with Alliance partner, ESI Ltd, to develop a framework for prioritising investigations under WINEP to achieve a rationalised workload and budget. This work also involves the development of technical methods to achieve the Environment Agency's requirements for ensuring no deterioration under the Water Framework Directive due to potential changes in abstraction rates under existing licences.

The individual personnel that contributed to the Wessex Water costing exercise are described below.



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Personnel

Dr David Bradley – Project Director

David has been leading projects to support water companies in their delivery of the NEP for over 13 years. He has published hydroecological research that has made the first direct links between the levels of public water supply groundwater abstraction and the ecological condition of surface river water bodies. He has a good understanding of WINEP and the associated issues of no deterioration under the WFD.

Michael Dobson – Associate Director

Michael is a freshwater biologist with over 25 years' research experience. For six years before moving to APEM, Mike ran the Freshwater Biological Association (FBA) as its Director. Michael has worked has been involved for several years with invasive non-native freshwater invertebrates, working with INNS and Defra to create identification guides for invasive crustaceans and with CEH in horizon scanning for species of concern. He is a UK national expert on invasive freshwater shrimps (amphipods and mysids).

Rob Moore – Principal Consultant

Rob has a range of specialist water quality experience gained over 25 years through previous operational, planning, research and policy roles at the Environment Agency and in consultancy. He has both a detailed technical knowledge gained from managing large-scale water quality monitoring projects and an excellent understanding of the regulatory drivers from leading the National Policy Team for water quality in the Environment Agency and a project for the European Commission on the implementation of the WFD.

Elisa Phillips –Senior Consultant

Elisa is an experienced project manager and specializes in managing environmental assessment and monitoring studies associated with drought permit and abstraction related activities on behalf of water companies. She has been heavily involved in the theoretical development of APEM's river habitat walkover survey methods and the quality assurance and interpretation of these data. Elisa has used her knowledge of river restoration techniques combined with her technical proficiency in habitat survey and GIS in the design of restoration/ re-habilitation options by encouraging the return of natural river processes.

Mark Barnett – Senior Consultant

Mark has over 12 years experience; his main specialisms lie in a range of water quality studies and Natural Capital and Ecosystem Services, ranging from eutrophication studies, catchment investigations and assessments, creating catchment action plans and providing detailed technical steer and guidance on water quality legislation and directives.



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Simon Whitton – Senior Consultant

Before recently joining APEM, Simon worked for Affinity Water as an Asset Scientist (River Restoration), responsible for delivering river restoration and habitat improvement projects on six chalk streams, to mitigate for abstraction and to help the rivers meet the requirements of the Water Framework Directive. Previous to that, Simon worked as a River Restoration Adviser at The River Restoration Centre, Cranfield University.

Peter Dennis – Associate Director (Field)

Peter is a senior member of APEM's Catchment Management Team and responsible for managing all APEM's Field Surveys departments throughout the UK. Peter has considerable experience in group and individual farmer-engagement activities, particularly with respect to working with land managers who are reluctant to engagement with agencies. He has worked with Rivers Trusts and delivered numerous farm plans looking to mitigate diffuse agricultural pollution.

Dr Rick Hayes – Senior Consultant APEM

Rick has over ten years' of experience in freshwater ecology, encompassing a PhD and four years' of applied experience at the Environment Agency, leading the Area water resources team. He is project managing several NEP driven investigations of the environmental impact of water company abstractions and has a detailed understanding of the regulatory drivers and technical work required.

Mike Streetly – Director ESI

Mike has been advising several other water companies on their approach to WINEP and has a very good appreciation of the key issues. He is a nationally-recognised hydrogeology expert and was the project director for the Cotswolds Limestone groundwater model project for the EA and thus has a good appreciation of the relevant aquifers.

Isabelle Girardin – Senior Consultant ESI

Isabelle is a very experienced hydrogeologist and was the main modeller developing the Cotswolds groundwater model. She has worked on a wide range of NEP and drought related water resource studies and thus has a good blend of knowledge of the key regulatory issues and the local aquifers.

Gavin Wilson – Director, Biocensus

Gavin has over the last 20 years experience in government science agencies, university departments, and environmental consultancies, including involvement in Biocensus as a non-exec since its beginnings. His PhD at Bristol University involved an assessment of the population status of the badger in Britain, and its trends over time. Until recently he worked in the Animal and Plant Health Agency where he managed a team of scientists, vets and field experts delivering projects on a range of human- wildlife conflicts.



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Robin Jones – Associate Director, Biocensus

Robin is a chartered environmentalist with 18 years experience, with protected species licensing: specialist in relation to great crested newt and water vole. He is experienced in the design and implementation of ecological mitigation measures in relation to infrastructure and development projects, ecological appraisals, impact assessments, management and biodiversity plans.

Biocensus have worked extensively with and supported APEM on the Dwr Cymru Welsh Water Environmental Monitoring and Assessment Framework over the past three years, across all areas of Wales and across multiple species and disciplines, delivering projects with cost efficiency, to deadlines and to an exceptional standard.

Tony Seymour – Director, The Farm Environment

Tony Seymour BSc (Hons), CIEEM, CEnv is the owner and Director of the Farm Environment Ltd (TFE), which he set-up in 2009 after 17 years as a farm conservation adviser with the Farming and Wildlife Advisory Group Ltd (FWAG). He is an established figure in the Scottish farm conservation arena as a highly experienced environmental adviser and countryside manager with over thirty years of expertise in rural land management, project management, policy implementation, stakeholder engagement and facilitation in the UK and Europe. He has innovated, led and delivered many and varied farming and conservation initiatives including pioneering work on addressing catchment-scale pollution of freshwater from agricultural sources, as well as collaborative multi-farm projects to benefit priority species and habitats. Tony has carried out hundreds of whole farm audits and appraisals with extensive and detailed experience of UK agri-environment measures across all agricultural sectors from upland sheep farming to intensive arable and vegetable production. He has provided technical advice and guidance to Scottish Government in the development and implementation of a wide range of measures for the current and previous agri-environment schemes, almost all of which have an equivalent measure within the ES and CS.



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