

# Summary Background

# Teme Valley Geological Society

# Knighton Mapping Project

BGS Map Series Sheet 180

Dr Arthur Tingley in collaboration with the Teme Valley Geological Society  
and Hereford and Worcestershire Earth Heritage Trust

# Dr Arthur Tingley

- Geological Cartographer and Surveyor - BGS 1966 – 1979
- Geological Surveyor - Kent County Council 1979 -1996
  - Geotechnical Engineer
  - Exchange surveyor with the **Cross-channel euroregion** and BRGM
  - Engineering and Environmental Geologist
- Head of Environmental Protection -Environment Agency 1996-2006
- Tutor – Third level geology and environment courses - Open University 2006 -
- Volunteer Surveyor - Hereford and Worcester Earth Heritage Trust 2006 –

# History of the Project

- The only published geological sheet was in 1850 –since then the Geological Survey [now BGS] has not surveyed the area until 2017.
- A range of small scale academic studies have been published, to varying standards and nomenclature.
- Whilst undertaking RIGS assessments in 2011 around the classic Ludlow area on behalf of HWEHT and Shropshire Geological Society – my attention was drawn to this gap in the geological opus.
- A feasibility study showed that with sufficient resources that the project can be done over a reasonable time period.
- Discussions with some key individuals persuaded me of the practicality
- The key to moving forward was to contact the Geologist's Association

# Feasibility Study in 2013

- Key resource issues – Maps, Manpower, Money, Skill and Knowledge
- Consultation with:
  - Woolhope Club
  - Shropshire Geological Society
  - Mid Wales Geological Society
  - Open University Geological Society
  - Teme Valley Geological Society
  - Herefordshire and Worcestershire Earth Heritage Trust
  - British Geological Survey \*

\* In 2013 there was no program of funding to allow for a survey, but in 2017 permission was given to start a survey using a training budget.

# Simplified History of Research in the area [Key Works

and workers Only]

- 1 Aveline et al 1850
- 1 Stamp – 1918
- 2 Cox 1912 – Boynton 1997 –Moseley 2008
- 3 Straw - 1937
- 4 Earp - 1938
- 5 Kirk - 1949
- 6 Holland and others -1958
- 7 McWhitaker – 1962- 1994
- 8 Woodcock and others 1976 – 1996
- 9 Cave and others BGS surveys of surrounding sheets 1990's

# Key Barriers to overcome [in 2014]

- Manpower – Teme Valley Geological Society and Woolhope Society
- Field Slips and Maps – Digimap by EDINA via the Open University
- References – Geological Society and Open University
- Funding – Geologist's Association
- Expertise and Skill Development – by survey team under guidance of ACT



# Field Survey began in 2015

- Area of 1:50 000 sheet
- Divided up into 20 1:10 000 sheets
- Allocated to lead surveyors
- Leadership , tutoring and compilation of each facet to draw together the evidence.
- Interim results and communications within team partly assisted by the Knighton Map System by Mike Brooks
  
- Primary Survey phase – data collection
- Secondary Survey phase – detailed observations, measurement and sampling where needed
- Revision of lithology – and provision of rock atlas

# Project Objectives

- To survey the area of the 1:50 000 sheet at 1:10 000 scale over four years 2015 -2018
- Draw up a fair copy map at 1:50 000 scale to BGS standards 2019
- Prepare ready for publication
- Write an explanatory booklet
- Make research materials available as an open source

# A collaborative effort

- Project Leader –Arthur Tingley
- Teme Valley Geological Society
  - Meeting and updates
  - Web site platform
- HWEHT – General Support , library, insurance, building stones link
- Geologists Association – Award
- Wider network – Ludlow Resource Centre, Cardiff Museum, Portsmouth and Birmingham University etc
- BGS – Archives and Rhian Kendal

# Field Surveyors

- Mike Brooks
- Paul Bate
- Alan Hughes
- Ingrid Darnley
- Adrian Wyatt
- Neil Raha
- Kirsten Hunter
- John Moseley
- Sue Chester
- Moira Jenkins
- Arthur Tingley

# Acknowledgements and Associates

- John Nicklin -TVGS
- Herefordshire and Worcester Earth Heritage Trust – Prof Ian Fairchild and Team
- Paul Olver –TVGS/GA
- Moira Jenkins and John –HWEHT/WC
- Ludlow Resource Centre
- David Schofield -BGS
- Rhian Kendal –BGS
- Caroline Buttler –Cardiff Museum
- David Lloydell - PortsmouthUniversity
- Nigel Woodcock – Cambridge University
- and very many others....

# Geologists Association

- Special thanks must go to officers of the GA who have been especially instrumental in unlocking some of the barriers to progress
- The GA have given the project 2 awards , to support both the training element and research needs.
- A brief outline of the project was published in the Newsletter of the Geologists Association in 2015.

# Sequence of working

- Detailed desk study and literature search
- Each 1:10 000 sheet has a lead surveyor
- Feature and exposure mapping
- Air Survey using google and Environment Agency LIDAR
- Build a field slip/ field note and rock atlas - photographic dossier
- Vertical interpretation
- Horizontal correlation – comparison of facies and environmental indicators
- Specialist search for evidence
- Integration and fair copy interpretation