



Client	Network Rail and various Contractors
Project Description	<p>Network Rail's bridge stock in Mid Wales includes 9 remaining under-line bridges which were constructed in timber over rivers and estuaries on the Shrewsbury to Aberystwyth and to Pwllheli Coast routes. Cass Hayward has been regularly engaged in consultancy commissions supporting the maintenance of these special assets for 20 years and now has a more direct role in the asset management strategy.</p> <p>The largest bridge is Barmouth Viaduct with 113 spans and those at the other sites vary in length vary between 3 and 16 spans. The spans are generally similar in length at about 6m and their construction is also of similar form but has variations in the assembly of the timber baulks.</p>
Cass Hayward Role(s)	<ul style="list-style-type: none"> • Site examination, inspection, sampling, testing and monitoring • Structural assessment • Design for maintenance interventions typically involving replacement of timbers • Studies and trial designs for use of new composite materials • Construction methodology studies and advice • Temporary works concepts and design
Project Statistics	<ul style="list-style-type: none"> • DJP 1 River Dovey Viaduct – 10 spans • DJP 40 Barmouth Viaduct – 113 spans • DJP 66 River Artro Viaduct – 16 spans • DJP 83 Traeth Mawr Viaduct – 16 spans • SBA2 171 Caersws Viaduct – 11 spans • SBA2 242 Afon Llyfnant Bridge, – 3 spans • SBA2 243 Cottage Bridge - 4 spans • SBA2 247 River Clettwr Viaduct – 7 spans • SBA2 250 River Leri Viaduct – 7 spans <p>Over 50 studies, assessments and scheme designs completed since 1995 Over 20 maintenance interventions implemented</p>
Special Features	<ul style="list-style-type: none"> • Asset management tool for timber replacement strategy developed by Cass Hayward generally using suitably sourced hardwoods

- Maintenance programme includes trialling of modern composites including frp for secondary structural components including handrails, decking, recycled plastics, resin repairs etc.
- Barmouth Viaduct is a Grade II* listed structure
- Studies and testing carried out to investigate and contain damage from infestation by ship worm

Awards

- National Rail Award - Highly commended for the Innovation of the Year.

INNOVATION OF THE YEAR

HIGHLY COMMENDED

GRIFFITHS
civil engineering and construction

NetworkRail

mabeey
enabling global infrastructure

CASS HAYWARD
CONSULTING ENGINEERS

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John Swift
Chairman
of the Judges

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