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Meeting report

An update on the use of tropical hardwoods in the maritime environment

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1. INTRODUCTION

The use of substantial quantities of greenheart in the Eastbourne Coast Protection Scheme[1] reopened the debate on the use of imported tropical hardwoods for such works. As a result the Maritime Board of the Institution held a half-day meeting on 'Tropical Hardwoods in the Maritime Environment—A Case for Their Continued Use' in the autumn of 1995.[2] This covered matters from ecology through certification to end-use in coastal and fluvial engineering.

The UK Government view at that time was expressed by the Overseas Development Administration as

> 'In the public debate on the importation of tropical timber, our view is that refusing to use such timber is not an environmentally sound option. It would reduce the long-term economic value of forests, and increase the likelihood of their conversion to other land uses. The best way to help conserve forests is to work with forest countries to help them manage their forests sustainably and to maintain a long-term market for sustainably produced timber.'

This view has continued and a discussion document proposing criteria for the assessment of certification schemes has recently been published.[3] Government policy is demonstrated by the adoption of Agenda 21—a commitment to integrate environment and development concerns, as part of a comprehensive plan to be actioned locally, nationally and globally. The policy became mandatory for government departments and agencies in July 2000 and requires, *inter alia*, specifying sustainably produced timber and verifying its provenance from source through to delivery. Further information is available from DEFRA.[4]

2. RESEARCH PROJECT

It was with this background and as a result of the conclusions of *The sustainable use of new and recycled materials in coastal and fluvial engineering*[5] that HR Wallingford set up a research project 'The use of timber in coastal and fluvial engineering'. The project is guided by a steering group including representatives of timber specialists, designers, environmental consultants, contractors, suppliers and end-users, who convened their first meeting in July 2001.

The study will address a number of key issues associated with the use of timber in the marine environment. These should enable the whole-life cost and environmental advantages of timber to be more fully exploited while simultaneously reducing waste.

Among the issues being explored are environmental matters including sustainable procurement (especially of tropical hardwoods) and the use of preservative treatments. Material properties of timbers will be reviewed and the requirements for design data (especially for lesser known species of timbers) identified. The potential for reduction of waste through increased standardisation will be explored.

It is also intended to document good design methods and details for different types of structures, since few designers are regularly engaged in maritime timber structures and many with valuable experience will be leaving the profession in the near future. It is hoped that this will contribute to reduced waste and increase durability.

2.1. Manual

The final outcome from the project will be a manual on the use of timber in coastal and fluvial engineering, which it is hoped will be published early in 2004. It is anticipated that this will complement existing guidance such as the British and European standards.[6,7]

2.2. Workshop

In order to ensure that the study addresses the needs of practising engineers, a workshop was arranged at the Institution on 13 March 2002, organised jointly by the Coastal Engineering Advisory Panel of the Maritime Board and HR Wallingford. The all-day event was split into three sessions: an introduction to timber; procurement and specification of timber; and case studies. Delegates were provided with a list of the provisional contents of the manual on the use of timber in coastal and fluvial engineering, and were encouraged to submit views or observations.[8]

Designers and contractors dominated the first session, with delegates commenting that there was a shortage of skills not only in the design office but also in the field. The importance of avoiding waste was reiterated both in design and procurement and there was wide support for the inclusion of standard design details within the manual.

Session 2 dealt at some length with the sustainable procurement of timber and the principle of maintaining a verifiable record from standing tree, to sawmill, to export and eventual user. The Environment Agency's policy for timber procurement was described, and a timber supplier explained the availability and specification of imported tropical hardwoods. There was discussion as to the practicality of procuring sustainable sources of material and some concern that environmental matters needed to be addressed in a separate section of the manual.

Session 3, the case studies, included description of the development of the impressive Bournemouth Groynes, British Waterways' timber lock gates, and the many improvements in Deptford Creek.

The 'Use of timber in coastal and fluvial engineering' is being supported and assisted by a wide range of organisations and individuals. The core funders are the DTI Partners in Innovation programme and the Environment Agency. Other funders include British Waterways, HR Wallingford, SCOPAC and TRADA.

Presentations from the workshop and information as the project progresses are available from the project website: www.timbermanual.org.

REFERENCES

1. Institution of Civil Engineers. Eastbourne Coast Protection 1991–2000. *Water and Maritime Engineering*, 2002, March.
2. Kemp P. Tropical hardwoods in the maritime environment—a case for their continued use. *Proceedings of a Half-day Meeting*, ICE, London, October 1995.
3. Department for Environment, Food and Rural Affairs. *Procurement of Timber Products from Legal and Sustainable Sources by Government and its Executive Agencies*. DEFRA, http://www.forestforum.org.uk/tradeb.htm.
4. DEFRA. Website: www.defra.gov.uk/environment/greening/greenpro/timber/buyers/index.htm.
5. Masters N. *Sustainable Use of New and Recycled Materials in Coastal and Fluvial Construction—A Guidance Manual*. Thomas Telford, London, 2001.
6. British Standards Institution. *Structural Use of Timber: Code of Practice for Permissible Stress Design, Materials and Workmanship*. BSI, London, 1996, BS 5268: Part 2.
7. British Standards Institution. *Structural Timber: Strength Classes and Strength Grading*. BSI, London, 1995, BS EN 338.
8. Further information is available from HR Wallingford email: timber@hrwallingford.co.uk.