

Broad Character: Communications

Character Type: Telecommunications

Regional Perspective: Southern England

Compiled by Seazone Solutions Ltd / M A Ltd, January 2011, after comment from D Hooley, English Heritage

INTRODUCTION: DEFINING/DISTINGUISHING ATTRIBUTES

This Character Type covers telecommunications infrastructure across coastal land, inter-tidal and marine zones. This includes historic telegraph stations and their associated cabling, and civic listening devices. Modern cables also transfer mass media such as the internet and telephone systems

There are two principal submarine cables routes through the region:

- 1) UK-France 3 runs from Brighton to Dieppe, Upper Normandy in France. It came into service in 1989 and is maintained by BT, C&W and France Telecom.
- 2) CIRCE South runs from Pevensey Bay to Cayeux-sur-Mer in France. It came into service in 1999 and is maintained by Viatel.

There are also cables which are no longer in commercial use, some of which may be employed for research purposes (DTI, 2007).

HISTORICAL PROCESSES; COMPONENTS, FEATURES AND VARIABILITY

The first submarine communications cables in the nineteenth century carried telegraphy (written communication) traffic. Subsequent generations of cables were utilised first to carry telephony (voice communication) traffic and later for data communications traffic. Modern cables use optical fibre technology (developed in the 1980s) to carry telephone traffic as well as Internet and private data traffic (http://en.wikipedia.org/wiki/Submarine_communication_cable).

There has been a considerable increase in global electronic data transmission since the final years of the 20th century, brought about by the unprecedented popularity of the Internet and the development of e-commerce. As a consequence, the number of cables linking England with mainland Europe has grown considerably.

VALUES AND PERCEPTIONS

Due to the character of submarine telecommunications cables, their presence in the marine environment is likely to be known only to those who were involved in laying them, and to people involved in communications infrastructure. Although highly dependent on them, the wider public are likely to know little about their location. However, their importance on public and private life cannot be underestimated due to the impact they have made for millions of internet and phone users.

RESEARCH, AMENITY AND EDUCATION

The work that is undertaken during the laying and maintenance of cables offers an opportunity to further investigate preceding phases of the historic environment, which in turn informs and enhances our ability to characterise the human imprints on the landscape/seascape. Palaeoenvironmental evidence has been unearthed during such works, uncovering deposits rich in pollen taxa and microfossils that can further inform our knowledge of the evolution of marine transgressions and previous character in the landscape/seascape.

The laying of submarine telecommunication cables has provided the means to allow internet and phone access for private companies and the general public, and has made accessible a wide variety of online educational and amenity tools.

The need for submarine telecommunication cables and the logistics, practicalities and issues associated with their installation and maintenance can provide an interesting cross-curricular educational case study.

CONDITION AND FORCES FOR CHANGE

Overall, the submarine telecommunication cables in the region join the historic environment as modern impositions onto other Character Types.

Such cables are designed to be highly robust, but damage can and does occur which requires their replacement periodically. Rapidly increasing volumes of cable-borne traffic and technological development in cable capacity also prompts the laying of new cables.

Offshore development arising from preliminary survey work, laying and maintenance of cables, and removal of disused cables can have a significant impact on the character of the landscape/seascape. Preparatory investigations may involve intrusive survey of the sea bed, disturbing and exposing archaeological deposits, but also providing detailed knowledge of seabed conditions. The laying the cables involves burying them where they cross the foreshore and in shallow waters, which can potentially disturb the historic environment. In deeper waters, submersible ploughs running on tracks or skis and towed by surface vessels are used for trenching, laying cable, and subsequent inspections. Consequently, the use of such machinery would have significant impact on the historic character of the region (see Fulford et al 1997).

RARITY AND VULNERABILITY

The laying of telecommunications cables is likely to increase, although the development of wireless technology may eventually lead to the redundancy of many of these cable routes.

PUBLISHED SOURCES

DTI, 2007 Offshore Energy Strategic Environmental Assessment Programme. Technical Report on the Other Users of the Sea 8 Area. Report No.R1673 Rev1

Fulford M, Champion T, Long A, eds. 1997. *England's Coastal Heritage: A Survey for English Heritage and the RCHME. RCHME/EH Archaeological Report 15*. London

WEBSITES

en.wikipedia.org/wiki/Submarine_communication_cable

www.futures-perfect.com

www.iscpc.org/cabledb/North_Sea_Cable_db.htm