

ACOUSTICS2008/903 Surveillance and Protection of Underwater Archaeological Sites: Sea-Guard

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Recent advances in underwater detection and survey techniques have increased the possibility of finding the wrecks of vessels and their cargoes. Since prehistoric times, many populations have used vessels for transportation and trade and built harbors and it is now estimated that there are about a million antique wrecks that lie underwater, still to be discovered. Many of these wrecks and ancient harbours lie within shallow depths and can be discovered and accessed easily by humans using available hardware such as side-scan sonars, multi-beam echo sounders, ROVs, GPS navigation, diving gear. Even though the majority of known archaeological sites on land are well protected by guards and high tech equipment, there is no technology for surveillance and protection of underwater archeology sites. This paper presents a new system specifically adapted for the surveillance and protection of underwater archaeological sites (SEA-GUARD). Options available to the acoustic sensor suite of this system are pressure hydrophones and/or vector sensors. The system is based on an underwater acoustic monitoring of the noise field near an archaeological site sending preprocessed signals as an alarm to the authorities on shore via GSM/GPRS or Satellite network.