

CHAPTER TWELVE

PROTECTING SUBMARINE CABLES FROM INTENTIONAL DAMAGE— THE SECURITY GAP

Robert Beckman

INTRODUCTION

Submarine communications cables route approximately 97 per cent of the world's data traffic and provide essential services such as the internet, phone and banking services. They have undoubtedly become critical communications infrastructure. An intentional attack on international submarine cables could cause devastating damage to the world's economy and to the security of many States. Yet a significant number of States do not have legislation in place making it a crime to intentionally damage submarine cables for personal or political gain. Further, while there are currently global conventions that make it an 'international crime' to intentionally damage or destroy airports, international aviation facilities,¹ lighthouses and other aids to international maritime navigation,² there is no global convention that makes it an international crime to intentionally damage or destroy international submarine cables.

The purpose of this Chapter is to examine the gaps and loopholes in the current legal regime governing the protection of submarine cables from terrorist attacks and other intentional acts that damage or destroy cables. It calls on States to amend their domestic legislation to make it a criminal offence to intentionally destroy or damage international submarine cables, and for States to support a global convention to establish a cooperative regime to combat intentional acts

¹ See for example, the Convention for the Suppression of Unlawful Acts Against the Safety of Civil Aviation, adopted 23 September 1971, 974 UNTS 177 (entered into force 26 January 1973) [Montreal Convention] and Protocol for the Suppression of Unlawful Acts of Violence at Airports Serving International Civil Aviation, supplementary to the Convention for the Suppression of Unlawful Acts against the Safety of Civil Aviation, adopted 24 February 1988, 1589 UNTS 474 (entered into force 6 August 1989).

² Convention for the Suppression of Unlawful Acts against the Safety of Maritime Navigation, adopted 10 March 1988, 1678 UNTS 201 (entered into force 6 March 1992) [SUA Convention].

against submarine cable networks. Part I will examine the incidents of intentional damage to submarine cables and Part II will discuss general principles of criminal jurisdiction, as many attacks against submarine cables will occur outside the territory of any State. Part III will explore the adequacy of the legal regime established in the 1982 UN Convention on the Law of the Sea (UNCLOS)³ and Part IV sets out recommendations on what steps can be taken to protect submarine cables from intentional damage. Part V discusses recent developments and increasing recognition of the threat to submarine cables and Part VI sets out some conclusions.

I. INCIDENTS OF INTENTIONAL DAMAGE TO SUBMARINE CABLES

The large majority of cable breaks are caused by negligence resulting from fishing and shipping activities or from natural hazards such as earthquakes and typhoons. There have, however, been several isolated incidents of intentional damage being caused to submarine cables. For example, on 23 March 2007, at least two vessels were involved in hostile activities on the high seas against the TVH cable system involving the removal of 98 km of cable, and against the APCN cable system involving the removal of 79 km of cable, including critical optical amplifiers. A cable repair vessel arrived at the scene and photographed one of the vessels, which was registered in Vietnam, in the act of removing the cable. The extensive nature of the damage was such that repairs could not be completed for three months because new amplifiers had to be built at a factory.⁴ In November 2007, there was a report of intentional sabotage of a cable in Bangladesh, which resulted in a total loss of communications for at least one week.⁵ In addition, there have also been reports of cable theft in Jamaica in 2008,⁶ and a 2010 attack by separatists against the beach manhole connection of a submarine cable system linking the Philippines with Japan.⁷ In March 2013, it was reported that 16 tons of submarine cables laid on the seabed between Bangka Island and the

³ United Nations Convention on the Law of the Sea, adopted 10 December 1982, UNTS 1833 (entered into force 16 November 1994) [UNCLOS].

⁴ M. Green and D. Burnett, "Security of International Submarine Cable Infrastructure: Time to Rethink?" in M. Nordquist *et al.*, (eds), *Legal Challenges in Maritime Security* (Martinus Nijhoff Publishers, 2008) at 559–563.

⁵ M. Sechrist, "Cyberspace in Deep Water: Protecting Undersea Communications Cables by Creating an International Public-Private Partnership" (Harvard Kennedy School, 2010) at 38 available online at http://live.belfercenter.org/publication/20710/cyberspace_in_deep_water.html?breadcrumb=%2Fexperts%2F2223%2Fmichael_sechrist (last accessed 9 June 2013).

⁶ *Ibid.*

⁷ A. Dalizon, "Reds Bomb Cagayan Globe Site, Disarm Cop, Guards" *People's Journal*, 11 June 2010.

Riau Islands in Indonesia were stolen.⁸ In the same month, there were also reports that three men were arrested by the Egyptian coastguard after an attempt to cut the SEA-ME-WE-4 cable, although the motives of such an act remain unknown.⁹ On 8 July 2013 PT Indosat filed a report that 31.7 km of a critical cable linking Indonesia to Singapore had been removed through an act of theft.¹⁰

To date, there has been no large-scale terrorist attack against submarine cables. However, it has been observed that at some point in the future submarine cables could be targeted by terrorist groups.¹¹ This potential threat was highlighted in December 2010 when the US State Department labelled a WikiLeaks disclosure of critical infrastructure around the world, including submarine cables and cable landings, as tantamount to giving terrorists a target list.¹² The risk of a deliberate attack against submarine cables with the intention of crippling the world's telecommunications system is not as remote a possibility as is commonly perceived. Even more alarming, the asymmetrical act could be as simple as a vessel dropping an anchor and dragging it several kilometers in an area where there is a network of cables laid, causing a multitude of cable faults and maximum damage to international telecommunications systems. Alone or in combination with car bomb attacks on terminal landing stations or against cables and their spares depots, significant damage to critical international infrastructure would quickly impact economies. Cable system owners and cables operators work hard to maximize security for their systems and ships, but they require help from national governments on an international scale in order to meaningfully reduce these threats by preventing hostile actions, especially outside of territorial seas and, in the event of a successful attack, restoring communications and quickly repairing damaged cable infrastructure. This Chapter examines the current legal basis for actions by national governments to protect submarine cable systems.

⁸ A. Panji, "Duh, Kabel Internet Indonesia Sering Dicuri untuk Besi Tua" Kompas, 27 March 2013, available online at <http://teknokompas.com/read/2013/03/27/09324795/duh.kabel.internet.indonesia.sering.dicuri.untuk.besi.tua> (last accessed 7 June 2013).

⁹ "Three Cable-Breaking Incidents Affect the Internet" ICPC Environment Update, Issue 127, 3 April 2013.

¹⁰ Jakarta Post, "Ministry Sets up Submersible Cable Task Force" 8 July 2013, see <http://www.thejakartapost.com/news/2013/07/08/ministry-sets-submersible-cable-task-force.html>.

¹¹ S. Kaye, "International Measures to Protect Oil Platforms, Pipelines and Submarine Cables from Attack" (2006–2007) 31 *Tulane Maritime Law Journal* 337–423, at 418.

¹² See M. Clayton, "WikiLeaks List of Critical Sites: Is It a Menu for Terrorists?" *Christian Science Monitor*, 6 December 2010, available at <http://www.csmonitor.com/USA/Foreign-Policy/2010/1206/WikiLeaks-list-of-critical-sites-Is-it-a-menu-for-terrorists> (last accessed 7 June 2013).

II. CRIMINAL JURISDICTION OVER ACTS AT SEA

Intentional acts of damage to submarine cables will occur either within areas under the territorial sovereignty of a coastal State (such as internal waters, the territorial sea, archipelagic waters and international straits) or in areas outside the territorial sovereignty of a coastal State (the EEZ, continental shelf, high seas and deep seabed area).¹³ A State may only prosecute the perpetrators of such intentional damage to cables in a manner consistent with the general principles of criminal jurisdiction. It is therefore important to understand what these general principles are and how they operate in international law.

Jurisdiction refers to the:

[P]ower of a State under international law to govern persons and property by its municipal law. It includes both the power to prescribe rules (prescriptive jurisdiction) and the power to enforce them (enforcement jurisdiction). The latter includes both executive and judicial powers of enforcement.¹⁴

As established above, there are two types of jurisdiction. ‘Prescriptive jurisdiction’ generally refers to the authority of a State to *prescribe* laws and make them applicable to persons or circumstances.¹⁵ ‘Enforcement jurisdiction’ describes the “authority of a State to take action to enforce those laws through, for example, arresting, detaining, prosecuting, convicting, sentencing and punishing persons for breaking those laws”.¹⁶

Under international law, all States have the right to exercise prescriptive and enforcement jurisdiction over events occurring and persons (whether nationals or foreigners) present in their territory. This is known as the ‘principle of territoriality’.¹⁷ This also applies to maritime areas within the territorial sovereignty of a coastal State, namely, internal waters, territorial seas, archipelagic waters and international straits.¹⁸ In these areas, a coastal State is entitled to apply its domestic laws, i.e. it has prescriptive jurisdiction.¹⁹ The coastal State is also entitled to *enforce* these domestic laws, either by measures such as board-

¹³ For an overview of the various maritime zones recognized under international law, please refer to Chapter 3 on “Overview of the International Legal Regime Governing Submarine Cables.”

¹⁴ D. Harris, *Cases and Materials on International Law* (7th ed, Sweet and Maxwell, 2010) at 227.

¹⁵ See International Bar Association, *Report of the Task Force on Extraterritorial Jurisdiction*, July 2008, at 7–8 available at <http://tinyurl.com/taskforce-etj-pdf> (last accessed 7 June 2013) [IBA Report].

¹⁶ *Ibid.*

¹⁷ Harris, *supra* note 13, at 228.

¹⁸ Since archipelagic waters are also within the territorial sovereignty of coastal States, the criminal laws would also apply in the archipelagic waters of States like Indonesia and the Philippines.

¹⁹ D. Nelson, “Maritime Jurisdiction” in Max Planck Encyclopedia of Public International Law, at 1 available online at <http://www.mpepil.com/ViewPdf/epil/entries/law-9780199231690-e1195.pdf?stylesheet=EPIL-display-full.xsl> (last accessed 7 June 2013).

ing, searching and arresting, or by measures imposed by courts, such as fines and imprisonment, i.e. enforcement jurisdiction.²⁰

However, if the criminal act takes place outside the territory of a State, it is required to exercise *extra-territorial jurisdiction*. An exercise of jurisdiction is extra-territorial “where it provides that acts taking place abroad may be offences within the local jurisdiction and individuals may be subject to local courts in respect of those acts”.²¹ International law generally recognizes five bases of extra-territorial jurisdiction, which will be briefly summarized for the purposes of this Chapter.²²

First, the ‘nationality principle’ allows States to exercise jurisdiction over its nationals for crimes committed anywhere in the world. Second, the ‘passive personality principle’ allows States to assert jurisdiction over a foreigner for a crime committed outside its territory against one of its own nationals. The ‘protective principle’ allows States to exercise jurisdiction over a limited range of crimes committed by foreigners outside its territory where the crime prejudices the State’s vital interests. The ‘effects doctrine’ allows States to exercise jurisdiction over certain conduct by foreigners outside its territory where the conduct has a certain effect within the State. Finally, the ‘universality principle’ enables States to assert jurisdiction over certain crimes committed by foreigners outside the State’s territory and having no connection to or impact on a prosecuting State. The exercise of universal jurisdiction is usually confined to war crimes, crimes against humanity, genocide, torture and piracy.²³

For crimes that are committed in maritime areas outside of territorial sovereignty, such as in the EEZ, on the continental shelf, or on the high seas, the situation is more complicated. Criminal acts which take place in the EEZ and continental shelf are in principle outside the territory of a coastal State, but occur in maritime zones where certain rights and jurisdiction of the coastal State are recognized. If such acts take place on the high seas, they are also outside the territory of any State. Generally, in such maritime zones outside the territorial sovereignty of a coastal State, coastal States are permitted to exercise prescriptive jurisdiction provided that such prescriptive jurisdiction is recognized in UNCLOS.²⁴ For example, because UNCLOS gives coastal States sovereign rights over fisheries resources,²⁵ the coastal State is also empowered to pass national legislation implementing such rights, as well as to create offences in respect of violations of these fishery laws.

²⁰ *Ibid.*

²¹ M. Dixon, *International Law* (6th ed, Oxford University Press, 2007) at 147.

²² *Ibid.*

²³ IBA Report, *supra* note 15 at 147.

²⁴ This is consistent with the general view that a State is not able to extend its prescriptive jurisdiction outside its territory unless permissive rules support such an exercise: See V. Lowe, “Jurisdiction” in M. Evans, (ed) *International Law* (2nd ed, Oxford University Press, 2006) at 335.

²⁵ UNCLOS Art 56.

However, with regard to *enforcement jurisdiction*, the general (and most important principle) is that only the flag State can exercise enforcement jurisdiction over vessels in the EEZ and on the high seas.²⁶ Ships in these maritime zones may not be boarded without the express consent of the flag State or the master.

There are limited exceptions to the principle of exclusive enforcement jurisdiction of the flag State in the EEZ and on the high seas. First, warships or ships on government service of all States²⁷ may board and arrest pirate ships in areas outside the territorial sovereignty of any State i.e. in the EEZ and on the high seas.²⁸ A ship is considered a pirate ship if it is intended by the persons in dominant control of the ship to be used for the purpose of committing any of the acts of piracy referred to in Article 101 of UNCLOS.²⁹

Second, a warship may board another ship in the EEZ of another State or on the high seas if there are reasonable grounds for suspecting that the ship is engaged in piracy, the slave trade, or unauthorized broadcasting, the ship is without nationality, or the ship is the same flag as the warship. This is known as the right of visit under UNCLOS.³⁰

Third, UNCLOS also recognizes that additional reasons for exercising the right to board foreign flagged ships may be established by treaty.³¹

Fourth, it should also be noted that a State has enforcement jurisdiction under UNCLOS in relation to certain other matters. UNCLOS gives coastal States the power to enforce their fishing laws and regulations in their EEZ, including the power to board, inspect and arrest ships violating their fisheries laws and regulations,³² as well as limited enforcement jurisdiction to enforce their laws governing marine scientific research and pollution of the marine environment.³³

These are exceptions to the principle of exclusive flag State jurisdiction in areas outside the sovereignty of any State and do not apply to warships and government ships owned and operated by States and used only on government non-

²⁶ UNCLOS Art 89 provides that "(n)o State may validly purport to subject any part of the high seas to its sovereignty." Article 94 sets out the duties of the flag State over vessels flying its flag on the high seas. Articles 88 to 115 on the high seas apply to the exclusive economic zone in so far as they are not incompatible with Part V on the exclusive economic zone (UNCLOS Art 58 (2)).

²⁷ UNCLOS Art 107.

²⁸ See UNCLOS Art 105 which allows all States to seize a pirate ship or a ship taken by piracy and under the control of pirates (piracy is defined in Art 101), and arrest the persons and seize the property on board. Article 105 applies in the EEZ by virtue of Art 58(2) of UNCLOS.

²⁹ UNCLOS Art 103.

³⁰ See UNCLOS Art 110. This would apply in the EEZ by virtue of Art 58(2).

³¹ Article 110 of UNCLOS provides that "except where acts of interference derive from powers conferred by treaty". For example, Article X of the 1884 Cable Convention.

³² UNCLOS Art 73.

³³ Article 56(b) of UNCLOS gives the coastal State jurisdiction over marine scientific research and the protection and preservation of the marine environment in the EEZ.

commercial service. Such ships have complete immunity from the jurisdiction of any State other than the flag State.³⁴

III. GAPS IN THE CURRENT LEGAL REGIME GOVERNING SUBMARINE CABLES

This Part examines the reasons why the current legal regime governing submarine cables,³⁵ consisting of the 1884 Convention for the Protection of Submarine Telegraph Cables (1884 Cable Convention)³⁶ and UNCLOS may not adequately protect submarine cables from intentional damage.

In Areas within the Territorial Sovereignty

While coastal States have the right to adopt laws and regulations to criminalize acts of intentional damage to submarine cables within their territorial sea and archipelagic waters pursuant to their general sovereignty over these areas, there is no obligation for them to do so under UNCLOS or otherwise. The drafters of the Convention appear to have assumed that coastal States would recognize that they have an interest in protecting submarine cables which land in their territory or which pass through maritime zones under their sovereignty, and that they would adopt laws and regulations to protect submarine cables. However, very few States have express provisions criminalizing damage to submarine cables in their territorial waters,³⁷ although in some cases offences against submarine cables in the territorial sea will be covered by general legislation criminalizing damage to installations used for telecommunications.³⁸ Even when States do have legislation criminalizing intentional damage to cables, the penalties imposed are not sufficient to present an adequate deterrent to would-be perpetrators.³⁹

³⁴ UNCLOS Arts 95 and 96.

³⁵ For a more detailed overview of the legal regime governing submarine cables, please see Chapter 3.

³⁶ Convention for the Protection of Submarine Telegraph Cables, adopted 14 March 1884, TS 380 (entered into force 1 May 1888) [1884 Cable Convention].

³⁷ For example, in the review of the national legislation of Southeast Asian States, none of the States had an express provision criminalizing intentional or willful damage to submarine fiber optic cables.

³⁸ See, for example, Section 21 of Brunei's Telecommunications Order 2001, Section 41 of Singapore's Telecommunications Act, Sections 44, 72 and 73 of Thailand's Telecommunications Business Act (2001).

³⁹ This was a specific complaint of U.S. Cable Owners about their national law, which imposed only a maximum penalty of US\$5000 for wilful injury to submarine cables (47 U.S.C. § 21). This "insignificant maximum criminal penalty provides little incentive for enforcement authorities to assign full-time legal and investigative personnel to prosecute vessel owners caught damaging a submarine." See S. Coffen-Smout and G.J. Herbert, "Submarine Cables: A Challenge for Ocean Management" (2000)