THE DUTY TO RENDER ASSISTANCE IN THE SATELLITE AGE

"Eternal Father, strong to save, whose arm hath bound the restless wave, who bidd'st the mighty ocean deep its own appointed limits keep:

O hear us when we cry to thee, for those in peril on the sea."

I. INTRODUCTION

In March 2004, an Emergency Position Indicating Radio Beacon (EPIRB) was immersed in salt water as the forty-seven-foot catamaran *Paragon I* capsized off the coast of Hawaii.² While snorkelers and honeymooners clung to the side of boat awaiting rescue, the EPIRB activated, triggering a chain of events thousands of miles away.³ Within three hours, the captain of a nearby fishing boat received word of the distress call, made haste to the scene, plucked the vacationers and crew of *Paragon I* from the sea, and returned them to shore.⁴

This type of rescue at sea has become commonplace through a significant amount of international cooperation stemming from an agreement regarding salvage that was drafted nearly a century ago. Yet rendering assistance to people in distress on the sea is a tradition as old as seafaring itself, and it is questionable whether international agreements have made assistance from nearby seafarers more likely. This Comment examines the duty to render assistance, its role in influencing the parallel duty to offer search and rescue services, and the technological developments associated with the former.

Part II of this Comment discusses the development of the duty to render assistance and determines that the duty, though widely ac-

^{1.} WILLIAM WHITING, Eternal Father, Strong to Save, in HYMNS ANCIENT AND MODERN (1861), available at http://www.oremus.org/hymnal/e/e038.html.

^{2.} Nat'l Atmospheric & Oceanic Admin. [NOAA], NOAA Satellites Help Rescue Boaters in Distress, NOAA MAG., http://www.noaanews.noaa.gov/stories2004/s2183.htm (last visited Jan. 27, 2006); Christine Wilson, California Man Praised for Bravery after Catamaran Capsized Off Lana'i, HONOLULU ADVERTISER, Mar. 11, 2004, at A1.

^{3.} NOAA, supra note 2; Wilson, supra note 2.

^{4.} Wilson, supra note 2.

cepted, is seldom enforced. Part III examines the parallel duty to offer search and rescue services, which, in comparison, has been successfully implemented. Part IV presents the Global Maritime Distress Safety System (GMDSS) as an example of how such successful implementation has been achieved by combining international cooperation and technology. Part V recommends that the technological and legal developments of the GMDSS be applied to the duty to render assistance to improve its enforcement. In conclusion, Part VI calls for the International Maritime Organization to require the technical changes that will make masters and states more likely to fulfill the duty to render assistance.

II. THE DUTY TO RENDER ASSISTANCE

Under U.S. law, the duty to render assistance is codified at 46 U.S.C. section 2304.⁵ The law provides, "A master or individual in charge of a vessel shall render assistance to any individual found at sea in danger of being lost, so far as the master or individual in charge can do so without serious danger to the master's or individual's vessel or individuals on board." The law also imposes criminal sanctions for failure to comply. This "Good Samaritan" obligation did not previously exist under Anglo-American admiralty or common law. How then did the obligation become part of U.S. law?

^{5. 46} U.S.C. § 2304(a) (2000).

^{6.} Id. Forty-one U.S. states and territories have adopted Good Samaritan boating laws. See NAT'L ASS'N OF STATE BOATING LAW ADM'RS, REFERENCE GUIDE TO STATE BOATING LAWS 56 (Chris Moore & Ron Sarver eds., 6th ed. 2000), available at http://www.uscgboating.org/regulations/Nasbla_Ref_Guide_6.pdf. Many of these states and territories also have policies or regulations regarding search and rescue, accident response, and towing boats in distress. Id.

^{7. 48} U.S.C. § 2304(b) (2000) ("A master or individual violating this section shall be fined not more than \$1,000, imprisoned for not more than 2 years, or both.").

^{8.} Patrick J. Long, The Good Samaritan and Admiralty: A Parable of a Statute Lost at Sea, 48 BUFF. L. REV. 591, 593, 596 (2000); LOUIS B. SOHN & JOHN E. NOYES, CASES AND MATERIALS ON THE LAW OF THE SEA 96 n.3 (2004). "[L]egislators... ignored several hundred years of British and American decisions disavowing the duty of one stranger to rescue another" in enacting this statute. Long, supra, at 596. "Under the common law, there traditionally is no liability for failing to come to the aid of someone in need, at least absent a special relationship between the rescuer and the party in distress." SOHN & NOYES, supra, at 96 n.3.

However, the Good Samaritan rule is found in other legal systems. German criminal law, for example, contains a general duty to render assistance, especially when there is no personal danger. See Deutscher Bundestag, Entwurf eines Gesetzes zu dem Internationalen Übereinkommen von 1989 über Bergung [Proposed Law Regarding the 1989 International Salvage Agreement], BTDrucks 14/4673, Nov. 11, 2000 (F.R.G.), available at http://193.159.218.145/btd/14/046/1404673.pdf.

The moral obligation for one mariner to assist another in peril on the seas is an ancient and "practical response to the dangers of the high seas." This obligation entered U.S. law by way of the Convention for the Unification of Certain Rules of Law Respecting Assistance and Salvage at Sea.¹⁰ Article 11 of the Convention transformed this moral obligation into a legal one, stating:

Every master is bound, so far as he can do so without serious danger to his vessel, her crew and her passengers, to render assistance to everybody, even though an enemy, found at sea in danger

The owner of a vessel incurs no liability by reason of contraven-

tion of the above position.

This Convention, signed in Brussels on September 23, 1910, was one of the products of twenty-five years of commercial law negotiations that included admiralty issues, such as salvage. 12 Article 12 of the Convention obligated the United States to consider implementing leg-

Die Nichtbeachtung [der Verpflichtung, Menschenleben zu retten,] ist . . . strafrechtlich sanktioniert. § 323c StGB bedroht denjenigen mit Strafe, der bei Unglücksfällen oder gemeiner Gefahr oder Not nicht Hilfe leistet, obwohl dies erforderlich und ihm den Umständen nach zuzumuten, insbesondere ohne erhebliche eigene Gefahr und ohne Verletzung anderer wichtiger Pflichten möglich ist. Damit ist der Verpflichtung des Absatzes 2 [des Artikels 10] Genüge

Id. This passage may be translated as follows:

Failure to honor the duty to save human life is subject to criminal sanctions. Section 323c of the "Strafgesetzbuch" [German criminal code] threatens a penalty for one who fails to render assistance in cases of accident, common danger, or emergency, when such assistance is necessary and reasonable under the circumstances, especially when rendering assistance is possible without appreciable personal danger and without violating other, superior duties. Thus, the obligation of Article 10, Paragraph 2 is fulfilled.

French criminal law contains a similar provision punishing persons who fail to render assistance. Mark Pallis, Obligations of States Towards Asylum Seekers at Sea: Interactions and Conflicts Between Legal Regimes, 14 INT'L J. REFUGEE L. 329, 334 (2002).

- 9. Jessica E. Tauman, Rescued at Sea, but Nowhere to Go: The Cloudy Legal Waters of the Tampa Crisis, 11 PAC. RIM L. & POL'Y J. 461, 473 (2002); see also Int'l Maritime Org. [IMO], Guidelines for the Treatment of Persons Rescued at Sea, Maritime Safety Comm. [MSC] Res. 167(78) app. ¶ 1, MSC Doc. 78/26/Add.2 Annex 34 (May 20, 2004). Some legal scholars suggest that the duty to render assistance may have been customary international law even before it appeared in international conventions. Pallis, *supra* note 8, at 333.
- 10. Convention for the Unification of Certain Rule of Law Respecting Assistance and Salvage at Sea, Sept. 23, 1910, 37 Stat. 1658, 1930 Austl. T.S. No. 15 [hereinafter 1910 Salvage Convention]; see Warshauer v. Lloyd Sabaudo, S.A., 71 F.2d 146, 147 (2d Cir. 1934), cert, denied, 293 U.S. 610 (1934); see also Steven F. Friedell, Compensation and Reward for Saving Life at Sea, 77 MICH. L. REV. 1218, 1240 (1979).
 - 11. 1910 Salvage Convention, supra note 10, art. 11.
 - 12. See Friedell, supra note 10, at 1240; see also Long, supra note 8, at 594.

islation to give effect to this duty.¹³ The bills to do so were pending in Congress when *R.M.S. Titanic* sank on April 15, 1912.¹⁴ In the aftermath of the *Titanic* disaster, Congress enacted the legislation without substantial debate.¹⁵

Though creating the duty to render assistance was a break with existing law, the Brussels Convention and Congress did not go any further. The other substantive provision of both the 1910 Salvage Convention, and the legislation passed in 1912 regarding the duty, more closely reflected existing Anglo-American law. It denied salvage rewards to mariners who saved life but not property unless another salvor rescued the property. Article 9 of the Convention provided:

No remuneration is due from persons whose lives are saved, but nothing in this Article shall affect the provisions of the national laws on this subject.

Salvors of human life, who have taken part in the services rendered on the occasion of the accident giving rise to salvage or assis-

^{13. 1910} Salvage Convention, *supra* note 10, art. 12. Article 12 provides, "The High Contracting Parties, whose legislation does not forbid infringements of the preceding Article, bind themselves to take or to propose to their respective legislature the measures necessary for the prevention of such infringements." *Id.*

^{14.} Long, supra note 8, at 594-95.

^{15.} *Id.* at 595 (citing Friedell, *supra* note 10, at 1247 n.98).

^{16.} See Friedell, supra note 10, at 1222-23. This position, referred to as the "no cure-no pay rule" because salvors are only rewarded if they save some property, was not adopted without argument. Donald R. O'May, Lloyd's Form and the Montreal Convention, 57 TUL. L. REV. 1412, 1436, 1439 (1983). Arguments against rewarding pure life salvage included the difficulty of calculating the value of a life once it has been saved and determining who would pay the award. Id. at 1436-37. There have been cases where American courts have circumvented the rule, such as under a theory of unjust enrichment. Friedell, supra note 10, at 1220; see Peninsular & Oriental Steam Navigation Co. v. Overseas Oil Carriers, Inc., 553 F.2d 830, 832 (2d Cir. 1977).

However, common law jurisdictions other than the United States do provide rewards paid at the government's discretion. Steven F. Friedell, Salvage, 31 J. MAR. L. & COM. 311, 312 n.6 (2000) (referring to statutes from Canada, New Zealand, and Australia). Offering such rewards is an alternative solution to the problems presented here regarding the duty to render assistance. See id. at 315 (advocating for "end[ing] the heresy of denying additional recoveries to a property salvor who also saves lives" and predicting that such a "symbolic effort that affirms the value of human life and the merit of those who save others may itself lead to lives being saved."). For such rewards to motivate masters, they would need to be large enough to compensate for the legal and financial disincentives discussed later in this Comment. See infra notes 43-56 and accompanying text. If rewards can effectively motivate masters to render assistance, masters' jurisdictions that already offer rewards could reasonably be expected to render assistance more frequently than those masters from jurisdictions that do not offer rewards. However, since such empirical evidence has not been presented, the effectiveness of rewards as a motivator remains in doubt.

tance, are entitled to a fair share of the remuneration awarded to the salvors of the vessel, her cargo, and accessories.

Congress adopted this limit on salvage rewards for "pure life salvors" in the 1912 legislation, and it was codified at 46 U.S.C. appendix section 729, which currently provides:

Salvors of human life, who have taken part in the services rendered on the occasion of the accident giving rise to salvage, are entitled to a fair share of the payment awarded to the salvor for salving the vessel or other property or preventing or minimizing damage to the environment.1

Both the duty to render assistance and the limit on rewards for pure life salvors have been retained in subsequent international agreements. The International Maritime Organization (IMO) reaffirmed these provisions in 1989 in the International Convention on Salvage. Regarding the duty to render assistance, Article 10 states:

1. Every master is bound, so far as he can do so without serious danger to his vessel and persons thereon, to render assistance to any person in danger of being lost at sea.

2. The States Parties shall adopt the measures necessary to enforce the duty set out in paragraph 1.

3. The owner of the vessel shall incur no liability for a breach of the duty of the master under paragraph 1.20

Regarding the rewards for life salvors, Article 16 provides:

^{17. 1910} Salvage Convention, supra note 10, art. 9. Article 9 does not prohibit awards, rather "[i]t was intended to provide a floor, but not a ceiling, on life salvage recovery." Friedell, supra note 16, at 313. The rational of the article's provision for providing compensation to life salvors when others saved property "was to prevent salvors from giving priority to property over life." Simon W. Tache, The Law of Salvage: Criteria for Compensation of Public Service Vessels, 9 Tul. Mar. Law. J. 79, 83 (1984).

^{18.} Friedell, *supra* note 10, at 1223. A "pure life salvor" is one who "saves life when no property is saved." *Id.*; *see* Peninsular, 553 F.2d at 833. One who "saves both life and property" is a "life-property salvor." Friedell, supra note 10, at 1222. One who "saves life while others save property" is an "independent life salvor." Id. at 1223. On the night Titanic sank, R.M.S. Carpathia saved 712 survivors and would have been a pure life salvor but for the fact that it recovered some of Titanic's lifeboats. Id. at 1218, 1222. Carpathia's owners, however, did not pursue a salvage award. Id. at 1218 n.3.

^{19. 46} U.S.C. app. § 729 (2000). This law was amended in 1991 to implement changes in the law of salvage as required by the 1989 International Salvage Convention. Compare International Convention on Salvage art. 16, Apr. 28, 1989, S. TREATY DOC. No. 102-12 (1991), 1953 U.N.T.S. 193 [hereinafter 1989 Salvage Convention], with § 729; see also Coast Guard Authorization Act of 1991, Pub. L. No. 102-241, § 40(a), 105 Stat. 2208, 2225 (1991); see infra notes 20-21 and accompanying text for discussion of the 1989 Salvage Convention.

^{20. 1989} Salvage Convention, supra note 19, art. 10.

1. No remuneration is due from persons whose lives are saved, but nothing in this article shall affect the provisions of national law

on this subject.

2. A salvor of human life, who has taken part in the services rendered on the occasion of the accident giving rise to salvage, is entitled to a fair share of the payment awarded to the salvor for salving the vessel or other property or preventing or minimizing damage to the environment.²¹

Most of the differences between this language and that of the 1910 Salvage Convention are minor.²² However, when the 1989 Salvage Convention added Article 10(2), it squarely placed the obligation to give effect to the duty to render assistance on the states, rather than on masters.²³

In addition to the two salvage conventions, a variety of multilateral agreements regarding maritime law have included the duty to render assistance. Article 12(1) of the 1958 High Seas Convention (1958 High Seas Convention) states:

1. Every State shall require the master of a ship sailing under its flag, in so far as he can do so without serious danger to the ship, the crew or the passengers,

(a) To render assistance to any person found at sea in dan-

ger of being lost;

^{21.} *Id.* at art. 16. According to the IMO, the 1989 Salvage Convention was negotiated in response to pollution concerns. IMO, International Convention on Salvage, 1989, http://www.imo.org/Conventions/contents.asp?doc_id=687&topic_id=259 (last visited Mar. 9, 2006).

Although this basic philosophy [that masters only earned rewards for saving property] worked well in most cases, it did not take pollution into account. A salvor who prevented a major pollution incident (for example, by towing a damaged tanker away from an environmentally sensitive area) but did not manage to save the ship or the cargo got nothing. There was little incentive to a salvor to undertake an operation which has only a slim chance of success.

The 1989 Convention seeks to remedy this deficiency by making provision for an enhanced salvage award taking into account the skill and efforts of the salvors in preventing or minimizing damage to the environment.

Id. Congress amended 46 U.S.C. app. § 729 to reflect the requirements of the 1989 Salvage Convention in 1991. See supra note 19 and accompanying text.

^{22.} Compare 1910 Salvage Convention, supra note 10, arts. 9, 11, with 1989 Salvage Convention, supra note 19, arts. 8(1), 10. For example, "crew and her passengers" and "the vessel, her cargo, and accessories" in the earlier Convention become "persons" and "the vessel or other property." Id. Article 16 added the language "preventing or minimizing damage to the environment" in response to concerns about pollution. 1989 Salvage Convention, supra note 19, art. 16; see supra note 21.

^{23. 1989} Salvage Convention, *supra* note 19, art. 10(2). *See infra* notes 33-36 and accompanying text for further discussion of whether the duty to render assistance lies with states or masters.

(b) To proceed with all possible speed to the rescue of persons in distress if informed of their need of assistance, in so far as such action may reasonably be expected of him

Article 98(1) of the United Nations Law of the Sea Convention of 1982 (UNCLOS) uses the same language.²⁵ These two agreements reconfirm the 1989 Salvage Convention's stance, imposing the obligation on states, rather than directly on masters. In addition, the 1958 High Seas Convention and UNCLOS begin to differentiate between rendering assistance and rescuing.²⁶ Not only do they call for states to require masters to render assistance, but they also treat rescue as a separate event, calling for a requirement that masters "proceed with all possible speed to the rescue of persons in distress."27

Likewise, Chapter V, Regulation 10 of the Annex of the International Convention for the Safety of Life at Sea (SOLAS) requires that:

(a) The master of a ship at sea, on receiving a signal from any source that a ship or aircraft or survival craft thereof is in distress, is bound to proceed with all speed to the assistance of the persons in distress informing them if possible that he is doing so. If he is unable or, in the special circumstances of the case, considers it unreasonable or unnecessary to proceed to their assistance, he must enter in the logbook the reason for failing to proceed to the assistance of the persons in distress.

(b) The master of a ship in distress, after consultation, so far as may be possible, with the masters of the ships which answer his call for assistance, has the right to requisition such one or more of those ships as he considers best able to render assistance, and it shall be the duty of the master or masters of the ship or ships requisitioned

^{24.} Convention on the High Seas art. 12, Apr. 29, 1958, 13 U.S.T. 2312, 450 U.N.T.S. 82 [hereinafter 1958 High Seas Convention].

^{25.} United Nations Convention on the Law of the Sea art. 98(1), Dec. 10, 1982, 1833 U.N.T.S. 397 [hereinafter UNCLOS]. Regarding the duty to render assistance, UNCLOS provides that:

^{1.} Every State shall require the master of a ship flying its flag, in so far as he can do so without serious danger to the ship, the crew or the passengers:

to render assistance to any person found at sea in danger of being lost; to proceed with all possible speed to the rescue of persons in distress, if informed of their need of assistance, in so far as such action may be reasonably be expected of him;

after a collision, to render assistance to the other ship, its crew and its passengers and, where possible, to inform the other ship of the name of his own ship, its port of registry and the nearest port at which it will

Id.

^{26.} See infra note 57 and accompanying text and Part III for a discussion of the duty to provide search and rescue services.

^{27. 1958} High Seas Convention, supra note 24, art. 12(1)(b); UNCLOS, supra note 25, art. 98(1)(b).

to comply with the requisition by continuing to proceed with all speed to the assistance of persons in distress. ²⁸

The Convention thereby logically extends the duty to render assistance to aircraft in distress at sea.²⁹ It also requires masters to make official log entries of their reasons for denying assistance should they deem assistance unnecessary.³⁰

The other major multilateral agreement that discusses the duty to render assistance is the 1979 International Convention on Maritime Search and Rescue.³¹ Chapter 2, Paragraph 2.1.10 of the 1979 SAR Convention states, "Parties shall ensure that assistance be provided to any person in distress at sea. They shall do so regardless of the nationality or status of such a person or the circumstances in which that person is found."³² Though this language arguably only reconfirms existing state obligations regarding the duty to render assistance, the 1979 SAR Convention has had a profound impact on the rescue of persons in distress on the sea, as discussed below in Part III.

These multinational instruments, however, do not directly obligate masters to render assistance.³³ "Although at first sight the treaties refer to the masters of ships and appear to create obligations for them, the binding element is on states parties."³⁴ International law seldom

^{28.} International Convention for the Safety of Life at Sea, Annex, ch. 5 reg. 10, Nov. 1, 1974, 32 U.S.T. 47, 1184 U.N.T.S. 3 [hereinafter SOLAS 1974]. SOLAS 1974 is merely the latest in a series of agreements regarding the safety of life at sea and the earlier 1948 and 1960 versions contain identical language. *Compare id.*, with International Convention for the Safety of Life at Sea, Annex, ch. 5 reg. 10, June 10, 1948, 3 U.S.T. 3450, 164 U.N.T.S. 113 [hereinafter SOLAS 1948] and International Convention for the Safety of Life at Sea, Annex, ch. 5 reg. 10, June 17, 1960, 16 U.S.T. 185, 536 U.N.T.S. 28 [hereinafter SOLAS 1960]. "The first [Safety of Life at Sea Convention] was adopted in 1914, in response to the Titanic disaster. . . " IMO, International Convention for the Safety of Life at Sea (SOLAS), 1974, http://www.imo.org/Conventions/contents.asp?topic_id=257&doc_id=647 (last visited Feb. 8, 2006) [hereinafter IMO, SOLAS].

^{29.} SOLAS 1974, supra note 28, Annex, ch. 5 reg. 10.

^{30.} Id.

^{31.} International Convention on Maritime Search and Rescue, Apr. 27, 1979, T.I.A.S. No. 11,093, 1405 U.N.T.S. 97 [hereinafter 1979 SAR Convention].

^{32.} Id. Annex, ¶ 2.1.10.

^{33.} Pallis, *supra* note 8, at 332 n.13 (citing M. Simonnet, La Convention Sur La Haute Mer ch. 9, § 1 n.12 (1966)).

^{34.} Id. at 332 n.13; see Martin Davies, Obligations and Implications for Ships Encountering Person in Need of Assistance at Sea, 12 PAC. RIM L. & POL'Y J. 109, 112-13, 128 (2003) (discussing the need for implementing legislation to give effect to UNCLOS, art. 98(1), and possibly to give effect to SOLAS 1974, Annex, ch. 5 art. 10(a)).

imposes obligation directly on individuals.³⁵ Instead, these instruments place obligations on the states acceding to them.³⁶

Taken together, these instruments affirm that states need not grant masters the right to a reward unless their national laws provide otherwise.³⁷ They also obligate states to enact legislation that requires masters to render assistance to persons in danger of being lost at sea while simultaneously relieving owners of liability for a master's decision not to render assistance.³⁸ Finally, they obligate states to require masters to either make haste to the scene of vessels in distress or make log entries explaining why they deem action unnecessary.³⁹ As discussed above, although these several instruments all incorporate the duty to render assistance, it has changed little since its inception in the 1910 Salvage Convention.⁴⁰ In the intervening century, the United States and most major maritime states have accepted these agreements⁴¹ and have adopted legislation to require their masters to render assistance.⁴²

^{35.} See 1 OPPENHEIM'S INTERNATIONAL LAW § 375 (Robert Jennings & Arthur Watts eds., 9th ed. 1992).

^{36.} See id. § 374.

^{37.} See UNCLOS, supra note 25, art. 98(1); SOLAS 1974, supra note 28, Annex, ch. 5 reg. 10 (neither convention addresses rewards for masters). "The conventions use different language to describe substantially similar obligations. There is also considerable overlap between the various conventions." Ernst Wilhelm, MV Tampa: The Australian Response, 15 INT'L J. REFUGEE L. 159, 163 (2003).

^{38.} UNCLOS, supra note 25, art. 98(1); compare SOLAS 1974, supra note 28, Annex, ch. 5 reg. 10, with id. art. 1(b).

^{39.} UNCLOS, supra note 25, art. 98(1); see also SOLAS 1974, supra note 28, Annex, ch. 5 reg. 10(a).

^{40.} See William L. Neilson, The 1989 International Convention on Salvage, 24 CONN. L. REV. 1203, 1242-43 (1992) (referring to denial of life salvage awards as "settled law" and a "traditional approach").

^{41.} As of Dec. 31, 2005:

^{• 156} states, including the United States, have acceded to SOLAS 1974, accounting for 98.79% of the world's shipping tonnage. IMO, Summary of Status of Conventions as at 31 December 2005, http://www.imo.org/Conventions/mainframe.asp? topic_id=247 [hereinafter IMO, Summary]; U.S. DEP'T OF STATE, TREATIES IN FORCE: A LIST OF TREATIES AND OTHER INTERNATIONAL AGREEMENTS OF THE United States in Force on January 1, 2004, at 459-60 (2004) [hereinafter TIF].

[•] Eighty-five states, including the United States, have acceded to the 1979 SAR Convention, representing 52% of the word's shipping tonnage. IMO, Summary, supra; TIF, supra, at 461-62.

[•] Fifty-two states, including the United States, have acceded to the 1989 Salvage Convention, representing 38.16% of the world's shipping tonnage. IMO, Summary, supra; TIF, supra, at 464.

[•] Sixty-five states, including the United States, have acceded to the 1958 High Seas Convention. TIF, supra, at 453-54.

^{• 101} states, including the United States, have acceded to SOLAS 1960, though it has since been "[r]eplaced and abrogated by [SOLAS 1974] as between contracting governments." TIF, supra, at 454-55.

[•] As of Jul. 20, 2005:

149 states, though not the United States, have acceded to UNCLOS. U.N. Div. for
Ocean Affairs & the Law of the Sea, Chronological Lists of Ratifications of, Accessions and Successions to the Convention and the Related Agreements as at 20 September 2005, http://www.un.org/Depts/los/reference_files/chronological_lists_mof_ratifications.htm.

Though the United States has not acceded to UNCLOS, it has recognized UNCLOS, except for the provisions relating to deep seabed mining, as customary international law binding upon it through a series of Presidential Proclamations declaring rights created in UNCLOS. See Proclamation No. 5030, 48 Fed. Reg. 10,605 (Mar. 10, 1983) (declaring an exclusive economic zone for the U.S.); Proclamation No. 5928, 54 Fed. Reg. 777 (Dec. 27, 1988) (declaring a 12nm territorial sea for the United States); Proclamation No. 7219, 64 Fed. Reg. 48,701 (Aug. 2, 1999) (declaring a contiguous zone for the United States).

42. See, e.g., Canada Shipping Act, 2001 S.C., § 131-32 [hereinafter Canada Shipping Act]; Handelsgesetzbuch [HGB] [Commercial Code] May 15, 2001, Bundesgesetzblatt [BGBI] 5, §§ 740-753(a) (F.R.G.), available at http://bundesrecht.juris.de/bundesrecht/hgb/htmltree.html [hereinafter German Commercial Code]; The Merchant Shipping (Salvage and Wreck) Act, 1993, §§ 23, 29 (Ir.), available at http://www.irishstatutebook.ie/ZZA34Y1993S23.html (use next page feature to see Section 29); but see Richard Barnes, Refugee Law at Sea, 53 INT'L & COMP. L.Q. 47, 50 n.15 (2004) (finding that Norway does not impose the duty to render assistance on masters of foreign vessels). Barnes states, "[T]he obligation to render assistance has not been universally or satisfactorily implemented into domestic law." Id. at 51.

The Canada Shipping Act, section 131 states:

(1) . . . the master of a vessel in Canadian waters and every qualified person who is the master of a vessel in any waters, on receiving a signal from any source that a person, a vessel or an aircraft is in distress, shall proceed with all speed to render assistance and shall, if possible, inform the persons in distress or the sender of the signal.

(2) If the master is unable or, in the special circumstance of the case, considers it unreasonable or unnecessary to proceed to the assistance of a person, a vessel or an aircraft in distress, the master is not required to proceed to their assistance and

is to enter the reason in the official log book of the vessel.

(3) The master of any vessel in distress may requisition one or more of any vessels that answer the distress call to render assistance. The master of a requisitioned vessel in Canadian waters and every qualified person who is the master of a requisitioned vessel in any waters shall continue to proceed with all speed to render assistance to the vessel in distress.

Canada Shipping Act, *supra*, § 131. Section 132 further enshrines the duty to render assistance as it originally appeared in the 1910 Salvage Convention, "The master of a vessel in Canadian waters and every qualified person who is the master of a vessel in any waters shall render assistance to every person who is found at sea and in danger of being lost." *Id.* § 132. Violations of the duty to render assistance carry a penalty of \$1,000,000 Canadian or a term of imprisonment of up to eighteen months. *Id.* § 137(2).

The Irish Merchant Shipping (Salvage and Wreck) Act, section 23 provides:

(1) The master of a vessel shall, so far as can be done without serious danger to the vessel and persons thereon, render assistance to any person in danger of being lost at sea and, where there is a failure to so render assistance, the master shall be guilty of an offence.

(2) The owner of the vessel shall incur no liability for a failure by the master

under subsection (1) to render assistance.

Merchant Shipping (Salvage and Wreck) Act, *supra*, § 23. Section 29, which concerns rewards for life salvage, is very similar to the law of the United States in that there is no reward for pure life salvors. *Id.* § 29. However, under Irish law independent life salvors and life-property salvors not only can collect rewards as they can under U.S. law, but their claims also have priority over all other salvage claims. *Id.* § 29.

Despite the fact that the duty to render assistance has been widely accepted and implemented, it remains virtually unenforced against masters.⁴³ Masters are not held accountable for failing to render assistance for a variety of reasons. First, such failures are rarely reported. as a survivor of a disaster at sea would have to be able to somehow identify a vessel whose master had failed to render assistance.44 In addition, any action against a master requires that the master be subiect to the enforcing state's jurisdiction.⁴⁵ Furthermore, many states are either unable or unwilling to enforce the duty. "[O]ne-third of all ocean-going vessels are registered under flags of convenience in States that are unlikely to be vigilant in enforcing the obligation."46 Even otherwise responsible flag states are unwilling to enforce the duty. For example, U.S. courts are so reluctant to enforce the duty that one author has opined, "[T]he Ninth Circuit makes clear in Korpi, [U.S.] law is the same as it was in 1908."47 Furthermore, even if all of these barriers could be overcome, the master is only required to render assistance when reasonable, making it necessary to analyze each instance of failing to render assistance on a case-by-case basis.⁴⁸ Finally, in civil cases, even if a survivor could find a court willing to en-

German law, in contrast to the national laws we have examined so far, requires no separate legislation to give effect to the duty to render assistance. Deutscher Bundestag, supra note 8, at 25. German law already contains a general duty to render assistance that extends to peril at sea. Id. However, German law does contain specific provisions regarding salvage that implement Germany's other international obligations regarding salvage. See German Commercial Code, supra, §§ 740-753(a). As in U.S., Canadian, and Irish law, German law does not provide a reward for a pure life salvor. Id. § 740, ¶ 1 ("Menschen, denen das Leben gerettet worden ist, haben weder einen Bergelohn noch eine Sondervergutung zu entrichten." This passage may be translated as follows: "Persons whose lives are saved are not required to provide either a salvage award or special compensation.").

^{43.} E.g., Long, supra note 8, at 627.

^{44.} Id. at 610 ("Dead men tell no tales."); Davies, supra note 34, at 115.

^{45.} Davies, supra note 34, at 115; see~2 D.P. O'CONNELL, THE INTERNATIONAL LAW OF THE SEA 907 (1984).

^{46.} Barnes, *supra* note 42, at 51; Davies, *supra* note 34, at 125-26 (flags of convenience generally lack the resources and the will to enforce the duty to render assistance).

^{47.} Long, supra note 8, at 624-25 (referring to Korpi v. United States, 961 F. Supp. 1335 (N.D. Cal. 1997), aff'd 145 F.3d 1338 (9th Cir. 1998) (unpublished opinion)). In Kopri, the district court held that as a matter of law "[a] private party has no affirmative duty to rescue a vessel or person in distress." Korpi, 961 F. Supp. at 1346. Long submits that the reason for the reluctance to enforce the duty to render assistance lies in its "lack of an historical tradition." Long, supra note 8, at 625. In fact, no prosecution has ever been brought for failing to render assistance. Pallis, supra note 8, at 341 (citing J. Pugash, The Dilemma of the Sea Refugee: Rescue Without Refuge, 18 HARV. INT'L L.J. 577, 580 n.23 (1977)). Furthermore, Article 2 of the 1989 Salvage Convention provides that states must bring judicial and arbitral proceedings regarding a breach of the duty to render assistance. Davies, supra note 34, at 114 (citing 1989 Salvage Convention, supra note 19, art. 2).

^{48.} See Pallis, supra note 8, at 340.

force the duty, it would be difficult to collect any sizeable judgment, as owners and their deeper pockets are immune from liability for a master's failure to fulfill the duty.⁴⁹ The net effect of these factors is that a master can probably ignore the call of a vessel in distress on the high seas without suffering any legal consequences.⁵⁰

Beyond these legal impediments, there are enormous financial disincentives toward performing the duty to render assistance.⁵¹ For example, at least in the United States, masters are unable to collect salvage awards as pure life salvors.⁵² More importantly, rendering assistance necessarily means deviation from the ship's schedule. Owners order their masters not to stop to render assistance "because of the additional costs and administrative headaches" involved.⁵³ In the case of M/V Tampa, which retrieved 438 refugees from a sinking ferry in the Indian Ocean, "do[ing] the right thing" cost the shipowner "hundreds of thousands of dollars."⁵⁴ Currently, there is no clear point at which the duty to render assistance ends, so masters like the master of the M/V Tampa might find themselves diverting for weeks while states work out refugee issues.⁵⁵ Considering the potential for sub-

^{49.} E.g., 1910 Salvage Convention, supra note 10, art. 11.

^{50.} Davies, *supra* note 34, at 111 ("the legal duty to assist can be ignored with relative impunity"); *see* Barnes, *supra* note 42, at 51.

^{51.} Barnes, supra note 42, at 51; Davies, supra note 34, at 109; see Pallis, supra note 8, at 340.

^{52.} See Friedell, supra note 10, at 1222-23.

^{53.} Long, *supra* note 8, at 626. Davies succinctly explains the costs involved in diverting to render assistance:

A ship's delay imposes costs in two ways. First, there are extra out-of-pocket expenses, such as the cost of fuel to run the ship and provisions for those on board during the idle days. If a ship that has picked up refugees at sea has to divert to an unscheduled port of call, it will also have to pay extra port charges. Secondly, and more significantly in commercial terms, there is the implicit cost of the lost time itself. The old cliche is very true in relation to ships: time is money. The daily time charter hire for a large container ship such as the Tampa is about USD 20,000 per day, depending on market conditions. Someone must bear the loss for every day the ship is delayed. Although insurance will cover direct expenses such as fuel and provisions, it will not cover the indirect costs from the lost time. Exactly who bears that loss depends on the nature of the contractual arrangements with the ship's operators.

Davies, supra note 34, at 133-34.

^{54.} Frederick J. Kenney, Jr. & Vasilios Tasikas, *The Tampa Incident: IMO Perspectives and Responses on the Treatment of Persons Rescued at Sea*, 12 PAC. RIM L. & POL'Y J. 143, 146, 177 n.162 (2003) (quoting David Cockroft, the General Secretary of the International Transport Workers' Federation).

^{55.} Barnes, supra note 42, at 51-52; see Wilhelm, supra note 37, at 167-68 ("Neither the state of registration of the rescuing vessel, nor the state of the next scheduled port of call wished to accept responsibility for [the Tampa refugees]."). The International Maritime Organization made some progress on addressing this issue in 2004 by establishing guidelines to aid states and masters in determining what to do with persons in distress at sea once they have been rescued. See generally IMO, supra note 9.

stantial costs and delays, "ships may . . . ignore[] distress calls, leading to a significant loss of life." 56

The duty to render assistance may be poorly enforced, but its influence is felt nonetheless. The duty's profound effect on international law, international institutions, and technology has significantly improved the fates of mariners in distress at sea. As the international community has created and developed the legal duty to render assistance, it has concurrently held parallel discussions on another, closely related and nascent duty, the duty to provide search and rescue services to persons and vessels in distress at sea.⁵⁷

The COMMENTARY addresses the issue of dual duties as follows:

Article 98 contains two obligations addressed to States. The first involves a flag State obligation by which the master of a ship flying the flag of a State is required to provide assistance to individuals or ships in distress. The second obligation is directed to all coastal States, and requires every coastal State to "promote the establishment, operation and maintenance of an adequate and effective search and rescue service."

3 COMMENTARY, supra, ¶ 98.11(a) (quoting UNCLOS, supra note 25, art. 98(2)). Kenney and Tasikas very clearly differentiate between these duties:

The creation of a definition of 'rescue' which applies only to governments also appears to have created a legal distinction between the duty governments have to rescue and the 'assistance' required of shipmasters. Nowhere in the SAR, SOLAS, and Salvage Conventions is the term 'rescue' associated with a merchant ship.

Kenney & Tasikas, *supra* note 54, at 157. *But see* Tauman, *supra* note 9, at 473-74 (referring to the ancient duty to render assistance and its successive international legal obligation as the "Duty to Rescue"). Even the IMO conflates the two duties in its literature. *See* IMO, International Convention on Maritime Search and Rescue, 1979, http://www.imo.org/Conventions/contents.asp?doc_id=653&topic_id=257 (last visited Feb. 23, 2006) [hereinafter IMO 1979 SAR].

Although the obligation of ships to go to the assistance of vessels in distress was enshrined in both tradition and international treaties (such as [SOLAS]), there was, until the adoption of the SAR Convention, no international system covering search and rescue operations. In some areas there was a well-established organization able to provide assistance promptly and efficiently, in others there was nothing at all.

Id.

^{56.} Wilhelm, supra note 37, at 168.

^{57.} Legal scholars have only recently begun to discuss this duty as distinct from the duty to render assistance. See 3 UNITED NATIONS CONVENTION ON THE LAW OF THE SEA 1982: A COMMENTARY ¶ 98.11(a) (Myron H. Nordquist et al. eds., 1995) [hereinafter 3 COMMENTARY] (differentiating between two state obligations, one regarding the duty to render assistance, the other regarding the duty to provide search and rescue services); Kenney & Tasikas, supra note 54, at 151, 156-57 (differentiating between a master's duty to render assistance and the duty to rescue); Pallis, supra note 8, at 330, 332 (differentiating between a state's general duty to render assistance and the more specific "obligation (for coastal states) relating to search and rescue facilities"); Tauman, supra note 9, at 471 (discussing "the duty for coastal states to perform search and rescue operations").

III. THE DUTY TO PROVIDE SEARCH AND RESCUE SERVICES

Similar to the duty to render assistance, the duty to provide search and rescue services has traditional roots. Governments have been offering such services regarding land-based disasters for centuries. Start like the duty to render assistance, the international legal force of the duty to provide search and rescue services at sea has its origins in international salvage agreements. Though the 1910 Salvage Convention mentions public salvage only to say that the Convention does not apply to public salvage or ships exclusively in public service, start thereby implies the existence of public salvage efforts. It was not until the drafting of the 1948 SOLAS Convention, however, that the international community suggested that states have an obligation to provide search and rescue services at sea. The 1948 SOLAS Convention, Annex, Chapter V, Regulation 15(a) provides:

Id. arts. 5(1)-(3).

^{58.} See, e.g., Paul Hashagen, Firefighting in Colonial America, FIREHOUSE, Sept. 1998, http://www.firehouse.com/magazine/american/colonial.html (stating that the first organized fire company in the American colonies was organized in New Amsterdam in 1648 by Peter Stuyvesant). "[T]he United States Coast Guard and its predecessor agencies [have] been providing search and rescue services since the 1800s." Kenney & Tasikas, supra note 54, at 154 n.45 (citation omitted).

^{59. 1910} Salvage Convention, supra note 10, arts. 13-14.

^{60.} Public salvage efforts were subsequently the sole subject of the 1967 Protocol to the Convention. Protocol to Amend the Convention for the Unification of Certain Rules of Law Relating to Assistance and Salvage at Sea of 23 September 1910 art. 1, May 27, 1967, 18 U.S.T. 410, 591 U.N.T.S. 265. Article 1 of the 1967 Protocol, which amends Article 14 of the 1910 Salvage Convention, states: "The provisions of this Convention shall also apply to assistance or salvage services rendered by or to a ship of war or any other ship owned, operated or chartered by a State or Public Authority." *Id.* The 1967 Protocol thereby extended the right to collect salvage awards to public salvors.

The 1989 Salvage Convention further refined the concept of public salvage. In Articles 4 and 5 of the 1989 Salvage Convention, the states clarified that public salvors were entitled to salvage rewards and remedies just like private salvors, but the rest of the Convention did not affect vessels that could claim sovereign immunity. 1989 Salvage Convention, *supra* note 19, arts. 4-5. Article 4(1) states:

^{1.} Without prejudice to article 5, this Convention shall not apply to warships or other non-commercial vessels owned or operated by a State and entitled, at the time of salvage operations, to sovereign immunity under generally recognized principles of international law unless that State decides otherwise.

Id. art. 4(1). Articles 5(1), 5(2), and 5(3) provide:

^{1.} This Convention shall not affect any provision of national law or any international convention relating to salvage operations by or under the control of public authorities.

^{2.} Nevertheless, salvors carrying out such salvage operations shall be entitled to avail themselves of the rights and remedies provided for in this Convention in respect of salvage operations.

^{3.} The extent to which a public authority under a duty to perform salvage operations may avail itself of the rights and remedies provided for in this Convention shall be determined by the law of the State where such authority is situated.

Each Contracting Government undertakes to ensure that any necessary arrangements are made for coast watching and for the rescue of persons in distress at sea round its coasts. These arrangements should include the establishment, operation and maintenance of such maritime safety facilities as are deemed practicable and necessary having regard to the density of the seagoing traffic and the navigational dangers and should, so far as possible, afford adequate means of locating and rescuing such persons.⁶¹

This language has remained unchanged through the SOLAS Convention of 1960 to the current version, the SOLAS Convention of 1974.62

This obligation only became an absolute duty binding on state parties with the adoption of the 1979 SAR Convention. Similar to the SOLAS Conventions, the 1979 SAR Convention calls for states to provide search and rescue services.⁶³ However, in the 1979 SAR Convention the relevant language is stronger and compulsory: "Parties shall ensure that necessary arrangements are made for the provision of adequate search and rescue services for persons in distress at sea round their coasts."64 The duty to provide search and rescue services thereby went from being a suggestion to a binding duty.

The 1979 SAR Convention not only made the duty to provide search and rescue services binding, it also required states to cooperate to give effect to this duty. Paragraph 2.1.4 required the states to reach agreements delimiting the geographic areas for which they would provide search and rescue services. 65 Paragraph 3.1.1 required states to "co-ordinate their search and rescue organizations and . . . operations with those of neighboring states."66 Once the Convention was adopted, the Maritime Safety Committee of the IMO created thirteen search and rescue regions.⁶⁷ The ensuing series of conferences that

^{61.} SOLAS 1948, supra note 28, Annex, ch. 5 reg. 15(a) (emphasis added).

^{62.} Compare id., with SOLAS 1960, supra note 28, Annex, ch. 5 reg. 15(a) and SOLAS 1974, supra note 28, Annex, ch. 5 reg. 15(a).

^{63. 1979} SAR Convention, *supra* note 31, Annex, ¶ 2.1.1.

^{64.} Id. (emphasis added). The 1979 SAR Convention uses compulsory language throughout. Article 1 obligates states to adopt legislation to effect to all of the Convention's provisions, including the Annex. Id. art. 1. Even in defining the term shall, the Convention reminds states of the necessity of complying with the Convention's provisions. "'Shall' is used in the Annex to indicate a provision, the uniform application of which by all Parties is required in the interest of safety of life at sea." Id. Annex, ¶ 1.1.

^{65.} Id. Annex, ¶ 2.1.4. The Convention recognized that different states would be able to shoulder different responsibilities. See id. at Annex, ¶ 2.1.7. Paragraph 2.1.7 implies that search and rescue boundaries need not conform to national boundaries by stating that the search and rescue boundaries would not prejudice the national ones. Id.

^{66.} Id. Annex, ¶ 3.1.1.

^{67.} IMO 1979 SAR Website, supra note 57. The IMO provides a map depicting these search and rescue regions on their webpage. Global Maritime Search and Rescue Areas, http://www.oceansatlas.com/unatlas/issues/emergencies/gmdss_sar/SARMAP.PDF (last visited Feb. 23, 2006).

drew up provisional search and rescue plans for these areas concluded in 1998.⁶⁸ At the same time, states negotiated bilateral agreements with the other states in their search and rescue regions in compliance with the Convention's requirements.⁶⁹ Although previous international agreements included the duty to provide search and rescue services, the 1979 SAR Convention called forth the international system to coordinate and standardize its implementation.⁷⁰

The United Nations Convention on the Law of the Sea of 1982 (UNCLOS) also includes a provision regarding the duty to provide search and rescue services.⁷¹ Article 98(2) provides, "Every coastal State shall promote the establishment, operation and maintenance of an adequate and effective search and rescue service regarding safety on and over the sea and, where circumstances so require, by way of mutual regional arrangements cooperate with neighboring States for this purpose."⁷² This provision echoes the 1974 SOLAS Convention,

^{68.} IMO 1979 SAR, supra note 57.

^{69.} See 2 CUMULATIVE DIGEST OF UNITED STATES PRACTICE IN INTERNATIONAL LAW 2142-43 (Marian Nash ed., 1988). The United States has negotiated several of these agreements to date. Search and Rescue Agreement, U.S.-Dom. Rep., May 21, 2003, State Dept. No. 03-65 [hereinafter Dom. Rep. SAR Agreement]; Agreement on Maritime Search and Rescue, U.S.-Mex., Aug. 7, 1989, T.I.A.S. No. 11,700 [hereinafter Mexican SAR Agreement]; Agreement on Maritime Search and Rescue, U.S.-Indon., July 5, 1988, T.I.A.S. No. 11,655 [hereinafter Indonesian SAR Agreement]; Maritime Search and Rescue Agreement, U.S.-Micr., June 10, 1988, State Dept. No. 88-345 [hereinafter Micronesian SAR Agreement]; Agreement on Maritime Search and Rescue, U.S.-U.S.S.R., May 31, 1988, T.I.A.S. No. 11,440 [hereinafter U.S.S.R. SAR Agreement]; Agreement Concerning Maritime Search and Rescue Cooperation, U.S.-P.R.C., Jan. 20, 1987, T.I.A.S. No. 12,013 [hereinafter Chinese SAR Agreement]; Agreement on Maritime Search and Rescue, U.S.-Japan, Dec. 12, 1986, T.I.A.S. No. 11,413 [hereinafter Japanese SAR Agreement].

Several of these agreements delimit the areas of search and rescue responsibility between the states as required by the 1979 SAR Convention. See 1979 SAR Convention, supra note 31, Annex, ¶ 2.1.4; Dom. Rep. SAR Agreement, supra, art. 5(4)(a); Mexican SAR Agreement, supra, art. 4(c); Indonesian SAR Agreement, supra, art. 3(1); U.S.S.R. SAR Agreement, supra, art. 1(1); Japanese SAR Agreement, supra, art. 1(1). These agreements are very similar to one another and most provide for joint search and rescue exercises, an exchange of SAR personnel, and joint search and rescue standards. Compare, e.g., Micronesian SAR Agreement, supra, art. 3, with Chinese SAR Agreement, supra, arts. 2(B)-(C). Interestingly, two of these agreements create a right for the parties to enter each other's territorial seas on urgent search and rescue missions provided that they notify one another "as soon as is practicable." Dom. Rep. SAR Agreement, supra, art. 5(8); Micronesian SAR Agreement, supra, art. 1(5).

^{70.} Tauman, supra note 9, at 471. "Prior to the development of the SAR Convention in 1979, the obligations to establish maritime search and rescue facilities . . . lacked coordination, links of communication, and standardization between individual implementing states. As a result, national maritime services advanced in different directions causing operational difficulties." Kenney & Tasikas, supra note 54, at 155 (citations omitted). The 1979 Search and Rescue Convention resolved this problem by providing the details that SOLAS 1974 lacked. Id.

^{71.} UNCLOS, *supra* note 25, art. 98(2).

^{72.} Id.

but goes further in that it requires that states actually operate search and rescue services.⁷³ UNCLOS, like the 1979 SAR Convention, also requires international cooperation to give effect to the duty to provide search and rescue services.⁷⁴

In this area, the duty to provide search and rescue services has been overwhelmingly successful. Beyond the IMO conferences to establish provisional search and rescue plans and the negotiation of the related bilateral agreements mentioned previously, a whole host of international instruments and intergovernmental agencies now address the duty to provide search and rescue services.⁷⁵ The most dramatic and successful result of these has involved the creation of the Global Maritime Distress Safety System (GMDSS).

IV. THE GLOBAL MARITIME DISTRESS AND SAFETY SYSTEM

The GMDSS is "the biggest improvement in marine safety since the first maritime regulations were enacted in 1912 following the sinking of *Titanic*." This remarkable system for fulfilling the duty to provide search and rescue services has been implemented through a series of international agreements. These agreements have combined the efforts of "the International Telecommunications Union (ITU), the World Meteorological Organization (WMO), the International Maritime Satellite Organization (INMARSAT), the International Hydrographic Organization (IHO), . . . the International Civil Aviation Organization (ICAO)," the International Maritime Organization, and COSPAS-SARSAT.⁷⁷ Since the 1970s, the GMDSS has made use of

^{73. 3} COMMENTARY, *supra* note 57, ¶ 98.11 n.10.

^{74.} Compare UNCLOS, supra note 25, art. 98(2), with 1979 SAR Convention, supra note 31, Annex, ¶ 3.1.1.

^{75.} E.g., 3 COMMENTARY, supra note 48, \P 98.11(e), n.11. "Certainly, significant intergovernmental arrangements concerning assistance exist, designed to standardize procedures for search and rescue operations and to facilitate cooperation between States in undertaking such operations." Id. \P 98.11(e).

^{76.} Fed. Commc'n Comm'n, FCC Docket Summaries, 1 COMMLAW CONSPECTUS 157, 165 (1993) (reprinting FCC PR Docket No. 90-480). The IMO refers to the GMDSS as "the biggest change to maritime communications since the invention of radio." IMO, SOLAS, supra note 28.

^{77. 3} COMMENTARY, supra note 57, ¶ 98.11(e) n.11; IMO, SOLAS, supra note 28; IMO, Global Maritime Distress and Safety System (GMDSS), http://www.imo.org/Safety/mainframe.asp?topic_id=389 (last visited Feb. 24, 2006). International cooperation and intergovernmental work has not only skyrocketed in the area of search and rescue services at sea. For example, the Charter on Cooperation to Achieve the Coordinated Use of Space Facilities in the Event of Natural or Technological Disasters (the Charter) is a cooperative effort between the European Space Agency (ESA), the French space agency (Centre National d'Etudes Spatiales, CNES), the Canadian Space Agency (CSA), the U.S. National Oceanic and Atmospheric Administration (NOAA), the Indian Space Research Organization (ISRO),

advances in telecommunications to enable coastal states to meet their duty to provide search and rescue services under the instruments discussed in Part III.⁷⁸ The GMDSS provides a means of relaying distress signals from vessels anywhere in the world to the responsible coastal state search and rescue authorities and to alert nearby vessels that their assistance may be required.⁷⁹

Paragon I's activation of the GMDSS was typical for a GMDSS event.⁸⁰ First, the forty-seven-foot catamaran capsized in ten to twelve foot seas two miles off the coast of Hawaii.⁸¹ Immediately, albeit unbeknownst to those aboard, the boat's search and rescue transponder, the EPIRB, automatically activated when it was immersed in seawater at 2:15 p.m.⁸² The 406 MHz signal was relayed by a COSPAS/SARSAT satellite⁸³ to a local user terminal, which, in turn,

the Argentine Space Agency (CONAE), and the Japan Aerospace Exploration Agency (JAXA), which was founded in 2000 to provide immediate satellite data when natural disasters strike. Int'l Charter, Space and Major Disasters, http://www.disasterscharter.org/main_e.html (last visited Feb. 24, 2006). The Charter operates in much the same way as the GDMSS in that a local alert (called in by an authorized Charter user) passes to a central dispatch command, which then relays the alert to the applicable space agency. See id. In addition, the Charter "address[es] a variety of legal issues . . . including governing definitions, cooperative procedures, availability of facilities, accession to the agreement, entry into force, expiration, withdrawal, and agreement implementation." Joanne Irene Gabrynowicz, Space Law: Its Cold War Origins and Challenges in the New Era of Globalization, 37 SUFFOLK U. L. REV. 1041, 1064 (2004).

^{78.} See generally Tauman, supra note 9, at 470 (explaining the "basic precept" of the GMDSS). In fact, the IMO also directed the development of the GMDSS. U.S. Coast Guard Navigation Ctr., GMDSS Overview, http://www.navcen.uscg.gov/marcomms/gmdss/default.htm (last visited Feb. 24, 2006).

^{79.} U.S. Coast Guard Navigation Ctr., *supra* note 78. This duty capability directly implements what one author stated is the entire purpose of the 1979 SAR Convention, "to create a framework to coordinate rescue efforts through a comprehensive maritime search and rescue system that could reach any maritime emergency no matter where it occurred globally." Kenney & Tasikas, *supra* note 54, at 155-56 (citations omitted).

^{80.} See U.S. Coast Guard Navigation Ctr., GMDSS Systems, http://www.navcen.uscg.gov/marcomms/gmdss/gmdss_systems.htm (last visited Feb. 24, 2006). NOAA has a picture of a typical EPIRB at its website. NOAA, NOAA Reminds Fishermen: Safety Comes First, NOAA News, http://www.noaanews.noaa.gov/stories/s451.htm (last visited Feb. 24, 2006). Though this note concerns distress at sea, it is important to note that the GMDSS operates on land as well as at sea. Aircraft carry Electronic Locator Transponders (ELTs) and individuals can carry Personal Locator Beacons (PLBs). COSPAS-SARSAT, System Concept, http://www.cospas-sarsat.org/Description/concept.htm (last visited Feb. 24, 2006). The U.S. Coast Guard has a good illustration of the different elements of the GDMSS system on its website. U.S. Coast Guard, Federal Regulations and Safety Tips for Recreational Boats, http://www.uscgboating.org/safety/fedreqs/ves_comm.htm (last visited Feb. 24, 2006).

^{81.} NOAA, supra note 2; Wilson, supra note 2.

^{82.} NOAA, supra note 2; Wilson, supra note 2.

^{83.} NOAA, supra note 2; see COSPAS-SARSAT, supra note 80. Two different satellite constellations, LEOSAR and GEOSAR, offer virtually worldwide coverage. COSPAS-SARSAT, supra note 80; see also Educnet, Principe Physiques de la Localisation, http://www.educnet.education.fr/localisation/phys/default.htm (last visited Mar. 8, 2006) (of-

routed the signal to the U.S. Mission Control Center (MCC) in Maryland. Officials at the MCC then pinpointed the distress and relayed the information to a U.S. Coast Guard rescue coordination center (RCC). The RCC contacted several search and rescue points of contact (SPOC) in Hawaii, including the local fire department, whose helicopter located the capsized vessel at 4:20 p.m. The helicopter then contacted *Kekai*, a chartered fishing boat approximately four miles from *Paragon I*. The master of *Kekai* proceeded to render assistance, pulling all ten people from the sea within three hours of beacon activation. Telecommunications technology, including satellite links, enables masters and states to fulfill their duties to assist and to provide rescue services, respectively.

GMDSS technology employs automated satellite communications to augment traditional and modern lifesaving techniques. The COSPAS-SARSAT satellite constellation, operated by the United States and Russia, 90 routes 121.5 and 406 MHz signals from search and rescue transponders on vessels in distress to mission control centers worldwide. 91 COSPAS-SARSAT began in 1981 with a series of Memoranda of Understanding between the United States, France, Norway, Canada, the United Kingdom, and the Soviet Union. 92 Since

fers an illustration of COSPAS and SARSAT satellites); Kinetic Technology Int'l Pty., Satellite Coverage: How the COSPAS-SARSAT Satellite System Works, http://www.kti.com.au/Satellite Coverage.htm (last visited Feb. 24, 2006) [hereinafter KTI] (offers an illustration of COSPAS/SARSAT satellite coverage); COPSAS-SARSAT, LEOSAR Coverage, http://www.cospas-sarsat.org/Status/leoCov.htm (last visited Feb. 24, 2006) (offers an illustration of LEOSAR satellite coverage).

^{84.} NOAA, supra note 2; Wilson, supra note 2, at 1; see COSPAS-SARSAT, supra note 80.

^{85.} NOAA, supra note 2; Wilson, supra note 2, at 1; see COSPAS-SARSAT, supra note 80.

^{86.} NOAA, supra note 2; Wilson, supra note 2; see COSPAS-SARSAT, supra note 80.

^{87.} NOAA, *supra* note 2; Wilson, *supra* note 2. The U. S. Coast Guard coordinates search and rescue operations for the United States. NOAA, *supra* note 2. 14 U.S.C. section 88 provides, "In order to render aid to distressed persons, vessels, and aircraft on and under the high seas and on and under the waters over which the United States has jurisdiction . . . the Coast Guard may . . . perform any and all acts necessary to rescue and aid person and protect and save property . . . " 14 U.S.C. § 88(a) (2000).

^{88.} Wilson, supra note 2.

^{89.} See Tauman, supra note 9, at 470.

^{90.} NOAA, Hikers and Outdoor Adventurers to Have Same Satellite Protection as Pilots and Mariners; Noaa and Its Partners Celebrate 20th Anniversary of International Search and Rescue Satellite Aided Tracking Program, NOAA MAG., Oct. 16, 2002, http://www.noaanews.noaa.gov/stories/s1055.htm.

^{91.} COSPAS-SARSAT, supra note 80.

^{92.} Understanding in an Investigation of the Demonstration and Evaluation of an Experimental Satellite-Aided Search and Rescue System, Nov. 13, 1981, T.I.A.S. No. 12,378; Memorandum of Understanding Relating to a Satellite-Aided Maritime Distress Alert System,

then, it has served as the primary means of alerting search and rescue services in the saving of over 18,000 lives worldwide.⁹³

The success of COSPAS-SARSAT would not be possible, however, without the implementing provisions of multilateral instruments. Two examples of such instruments include the 1979 International Convention on Standards of Training, Certification, and Watchkeeping (STCW)⁹⁴ and the 1974 SOLAS Convention. The STCW was amended in 1991 to include provisions regarding GDMSS,⁹⁵ and the 1974 SOLAS Convention was amended in 1988 to require all cargo and passenger vessels over 300 gross tons on international voyages to carry EPIRBs⁹⁶ and again in 1995 and 2000 to require certain ships to designate helicopter landing pads to facilitate rescues.⁹⁷ In these instruments, state parties agree to adopt legislation and regulations that bind their shipbuilders, shipowners, and seafarers to implement maritime safety measures and life-saving technology such as the GMDSS.⁹⁸

States continue to strive to meet their duty to provide search and rescue services through international agreements and technology. One example of these continuing efforts is the June 2004 Maritime Safety

U.S.-U.K., Jul. 23, 1981, 33 U.S.T. 3303; Memorandum of Agreement Concerning the Sarsat Space Segment, U.S.-Ca.-Fr., Nov. 10, 1995, T.I.A.S. No. 12,690. Currently 37 countries participate in COSPAS-SARSAT. COSPAS-SARAT, List of Cospas-Sarsat Participants, http://www.cospas-sarsat.org/Management/listOfParticipants.htm (last visited Feb. 24, 2006).

^{93.} NOAA, SARSAT Overview, http://www.sarsat.noaa.gov/sarsat.html (last visited Feb. 24, 2006).

^{94.} International Convention on Standard of Training, Certification, and Watchkeeping for Seafarers, 1978, Apr. 28, 1984, S. TREATY DOC. No. 96-1, 1361 U.N.T.S. 190 [hereinafter STCW 1978].

^{95. 1991} Amendments to the International Convention on Standards of Training, Certification, and Watchkeeping for Seafarers, 1978 reg. IV/2, May 22, 1991, State Dept. No. 93-100, 1702 U.N.T.S. 361; Sean Poltrack, *The Maritime Industry and Our Environment: The Delicate Balance of Economic and Environmental Concerns, Globally, Nationally, and Within the Port of Baltimore*, 8 U. Balt. J. Envtl. L. 51, 75 (2000); IMO, International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978, http://www.imo.org/Conventions/contents.asp?doc_id=651&topic_id=257 (last visited Feb. 24, 2006).

^{96.} Amendment to the International Convention for the Safety of Life at Sea, 1974 Concerning Radiocommunications for the Global Maritime Distress and Safety System, Nov. 9, 1988, DEP'T STATE No. 92-72, 1674 U.N.T.S. 121.

^{97.} IMO, SOLAS, supra note 28; IMO, Adoption of Amendments to the International Convention for the Safety of Life at Sea, 1974, as Amended, MSC Res. 91(72), MSC Doc. 72/23/Add.1 Annex 2 (May 26, 2000) (amending SOLAS, 1974, supra note 28, Annex, ch. 3 reg. 28, to reduce helicopter pick-up area requirements); Amendments to the Annex to the International Convention for the Safety of Life at Sea of 1 November 1974, Nov. 29, 1995 (amending SOLAS 1974, supra note 28, Annex, ch. 3 reg. 24-3 to require certain ships to have helicopter pick-up areas).

^{98.} STCW 1978, supra note 94, art. 1(2); SOLAS 1974, supra note 28, art. 1(b).

Committee (MSC) decision, which recognized that search and rescue services are an enormous financial burden on developing African coastal states.⁹⁹ In order to encourage these states to provide search and rescue services and to employ GMDSS technology, the MSC recommended that the IMO's Search and Rescue Council establish an "International SAR Fund" to offset their costs. 100 In addition, the IMO has established a program of technical cooperation with Kenya, the Seychelles, and Tanzania to establish the GMDSS operations necessary to improve search and rescue services along the African coast of the Indian Ocean. 101

Nearly all of the international cooperation and implementation since the 1979 SAR Convention has focused on the duty of states to offer search and rescue services. 102 Certainly, seafarers worldwide are safer for these efforts. However, the original duty to render assistance has not seen parallel technological or legal development. cussed, masters are no more likely to be held to task for failing to render assistance today than they were in 1910.103 Now that the world has adopted and implemented satellite technology to make search and rescue services more widely available, the underlying technical and legal cooperation must be applied to the states' duty to require masters to render assistance.

V. APPLYING THE GMDSS TO THE DUTY TO RENDER ASSISTANCE

As discussed in Part II above, the duty to render assistance is virtually unenforceable against masters. 104 Since technology and international agreements have already proven to be effective in implementing the duty to provide search and rescue services, the same technology and agreements may also provide solutions that lead to effective enforcement of the duty to render assistance. The fundamental problems behind enforcement identified earlier in this comment are that (1) fail-

^{99.} IMO, REPORT OF THE MARITIME SAFETY COMMITTEE ON ITS SEVENTY-EIGHTH SESSION ¶¶ 16.31-16.42, MSC 78/26 (May 28, 2004), available at http://www.sname.org/ committees/tech_ops/O44/imo/msc/78-26.pdf [hereinafter MSC 78/26]; IMO, IMO Recom-Africa, Fund for Ports 2004. http://ports.co.za/news/article_2004_06_2_1708.html [hereinafter IMO, Fund].

^{100.} IMO, Fund, supra note 99; see MSC 78/26, supra note 99, ¶ 16.42.2.

^{101.} MSC 78/26, supra note 99, ¶¶ 16.34, 16.42.3; IMO, Fund, supra note 99.

^{102.} But see IMO, supra note 9 (enumerating guidelines for the treatment of persons rescued at sea once they have been rescued).

^{103.} See supra notes 43-56 and accompanying text for a discussion of why the duty to render assistance is virtually unenforced.

^{104.} Id.

ure to render assistance is rarely reported, (2) states are unwilling to enforce the duty for financial and legal reasons, (3) masters exercise discretion over whether they must render assistance, (4) shipowners are immune from liability for a failure to render assistance, and (5) rendering assistance may incur substantial costs through delays. However, all of these problems essentially relate to the first problem, that incidents are rarely reported.

If an effective mechanism existed for recording incidents in which masters were alerted about nearby vessels in distress but failed to render assistance, masters and states could be held accountable by the international community, both in the courts and in the press, for such failures. The mere knowledge that a failure to respond might be recorded and revealed to insurers, flag state law enforcement officials, and the media would provide incentive for masters, shipowners, and states to ensure that the duty to render assistance is diligently fulfilled. Recording technology is already employed to assist in the enforcement of the law regarding land transportation, such as cameras used to photograph the license plates of cars that fail to stop at red lights and recording devices used by the trucking industry to record the speed at which truckers drive. Technology could also be employed to assist in the enforcement of the duty to render assistance.

The technology is already in place to make such recording possible. The GMDSS, as we have seen, involves beacons sending automated signals when a ship is in distress. Another aspect of the GMDSS system is the installation of search and rescue radar transponders on ships to facilitate the location of vessels in distress. ¹⁰⁷ These transponders are generally capable of detecting EPIRB signals at a distance of eight nautical miles and displaying the signals on a vessel's radar screen. ¹⁰⁸ If a recording device were employed with these transponders, it could record distress signals as they are received from a vessel in distress. Flag state law enforcement, shipowners, and insurers could subsequently compare transponder recordings with the ship's log, inquire into discrepancies between the recording and the log, and hold masters to task for failing to respond.

^{105.} Id.

^{106.} See Sean C. Stevens, Benefits from Camera Technology Outweigh Privacy Issues, GEO. Sci. Tech. & Int'l Aff., http://www.georgetown.edu/sfs/programs/stia/students/vol.02/stevens.htm (last visited Feb. 24, 2006); see also Les Dole, On-Board Recorders: The "Black Boxes" of the Trucking Industry, Nat'l Transp. Safety Board (May 1999), http://www.ntsb.gov/events/symp_rec/proceedings/authors/dole.htm. (presented as part of the International Symposium on Transportation Recorders).

^{107.} U.S. Coast Guard Navigation Ctr., supra note 80.

^{108.} Id.

In fact, the recording technology is already in place as well. The 1974 SOLAS Convention already requires cargo ships over 3,000 gross tons and all passenger ships to carry voyage data recorders (VDRs), the shipboard equivalent of the famous "black box" flight data recorders used in the airline industry, to assist in accident investigation. As VDRs already collect radar data from vessels involved in accidents, adapting them to take and record input from search and rescue transponders should not present a significant technical hurdle. Requiring ships to carry search and rescue transponders linked to the next generation of VDRs would only be a simple matter of making a routine amendment to the 1974 SOLAS Convention. States would thereby take a significant step toward fulfilling their obligation to require masters to render assistance.

VI. CONCLUSION

Though states have made great progress in fulfilling their duty to provide search and rescue services by creating the GMDSS, at the same time they have allowed their duty to obligate masters to render assistance to go unenforced. However, the same technology and multilateral instruments that made the GMDSS possible can also be used to correct this oversight with minimal effort. The Maritime Safety Committee of the International Maritime Organization should adopt an amendment to the 1974 SOLAS Convention to require ships to carry search and rescue transponders linked to the next generation of VDRs. The resulting potential for a master's failure to render assistance to become public will pressure masters, shipowners, and states into fulfilling their obligations under existing multilateral instruments and national law. Consequently, seafarers in peril will be assured that when their EPIRBs trigger, not only public search and rescue services, but also any nearby master will be informed of the distress immedi-Whereas state action was required to inform the captain of Kekai that disaster had struck Paragon I, and that notification came

^{109.} IMO, Adoption of Amendments to the International Convention for the Safety of Life at Sea, 1974, as Amended, MSC Res.99(73), MSC Doc. 73/21/Add.2 Annex 7 (Dec. 5, 2000) (creating a VDR requirement at Chapter 5, Regulation 20 of SOLAS 1974); IMO, Adoption of Amendments to the International Convention for the Safety of Life at Sea, 1974, as Amended, MSC Res. 170(79), MSC Doc. 79/23/Add.1 Annex 3 (Dec. 9, 2004) (amending SOLAS 1974, supra note 28, Annex, ch. 5 reg. 20).

^{110.} E.g., Rutter, Voyage Data Recorder—VDR—100, http://www.ruttertech.com/ (follow "VDR-100" hyperlink) (last visited Feb. 24, 2006); see IMO, SOLAS, supra note 28.

^{111.} See generally SOLAS 1974, supra note 28, art. 8 (explaining the procedure for amending SOLAS 1974).

over two hours after the EPIRB was triggered, 112 VDR-linked search and rescue transponders would directly inform captains and masters of their duty to render assistance. The masters could then respond much more rapidly, and states, insurers, shipowners, and the public could verify that they do.

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^{112.} See Wilson, supra note 2.

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My own interest in the issues discussed here was sparked when I served as an enlisted naval communications technician on board *U.S.S. Taylor* FFG-50. It was the my task to perform the maintenance on the Emergency Position Indicating Radio Beacons (EPIRBs) by pressing the test button and inspecting the casing for signs of deterioration each time before the ship left port.

While I was on board, the *U.S.S. Taylor* twice rendered assistance to vessels in distress—once to a boater who had a heart attack while sailing on the Atlantic off the coast of Florida and once to a dhow adrift on the Arabian Gulf. On a third occasion, also in the Arabian Gulf, the *Taylor* came across a few pieces of wreckage, including a life ring, but we were unable to locate the vessel or any crew. Copyright © Arthur Alan Severance.