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The Persian Gulf War Oil Spill: Reassessing the Law of Environmental Protection and the Law of Armed Conflict

Christopher C. Joyner and James T. Kirkhope***

I. INTRODUCTION

In recent years there has developed within the law of nations a special corpus of legal norms aimed at protecting the earth's environment. The philosophy undergirding this international environmental law seeks to promote a protection ethic to confront situations that put the integrity of the environment at risk. International environmental law has thus become primarily preclusive in nature. It aims to establish norms that prevent and dissuade harmful injury to the environment, rather than those that might restore or react to injuries already done.¹

Perhaps the most destructive among man's many activities that threaten the environment is that of war. Indeed, it remains axiomatic that warfare is detrimental to the environment.² The international community has responded to this challenge by establishing special responsibilities and obligations for governments within the existing international law of armed conflict. The modern law of armed conflict sets forth norms and expectations expressly designed to restrict the ways and means of destruction during war by mandating that belligerents consider what environmental impacts their actions will have.³ The regulatory crossroads between the law of environmental protection and the law of armed conflict became joined during the 1991 Persian Gulf War waged by the United Nations allied coalition against Iraq.

On January 16, 1991, U.N. coalition air forces attacked Iraqi mili-

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¹ See generally Oscar Schachter, *The Emergence of International Environmental Law*, 44 J. INT'L AFF. 457 (1991).

² See generally STOCKHOLM INTERNATIONAL PEACE RESEARCH INSTITUTE (SIPRI), *ECOLOGICAL CONSEQUENCES OF THE SECOND INDOCHINA WAR* (1976); SIPRI, *ENVIRONMENTAL WARFARE: A TECHNICAL, LEGAL AND POLICY APPRAISAL* (Arthur H. Westing ed. 1984); SIPRI, *WEAPONS OF MASS DESTRUCTION AND THE ENVIRONMENT* (1977).

³ See generally FRITS KALSHOVEN, *CONSTRAINTS ON THE WAGING OF WAR* (1987).

tary targets in Kuwait and Iraq.⁴ The attack came more than six months after Iraq's conquest and occupation of Kuwait and Saddam Hussein's persistent refusal to remove Iraqi forces from Kuwait after repeated international efforts to negotiate a peaceful end to the situation.⁵ On January 26, press reports indicated that Iraq had taken retaliatory action by deliberately pumping huge amounts of crude oil from Kuwait's Sea Island Oil Terminal into the Persian Gulf, beginning perhaps as early as January 23.⁶ The oil that gushed forth from the supertanker facility eventually produced a forty mile oil slick along the southern Kuwaiti and northern Saudi coastline.⁷ Initial estimates placed the total volume of petroleum discharged between fifteen and seventeen million gallons, amounting to the largest spill ever in the Persian Gulf.⁸ Later estimates confirmed and even elevated the magnitude of the disaster. By late January, the volume of oil contaminating the Gulf had reached some 460 million gallons, the largest oil spill in history.⁹ Experts predicted the disaster would be twelve times greater than the *Exxon Valdez* oil spill that had occurred in March 1989 off Prince William Sound, Alaska.¹⁰

Suspicion about Iraq's motivations for its deliberate release of oil into the Persian Gulf centered on the slick's potential impact of hindering an amphibious assault by allied forces along the Kuwaiti coast.¹¹ Another motivation may have been the incapacitating effects such oil contamination could wreak on Saudi Arabia's desalinization plants, a circumstance that would have severely deprived allied forces of necessary water supplies.¹² In the end, however, the slick produced neither of those results. What it did produce was unprecedented environmental

⁴ Andrew Rosenthal, *U.S. and Allies Open Air War on Iraq; Bomb Baghdad and Kuwaiti Targets; "No Choice" But Force, Bush Declares*, N.Y. TIMES, Jan. 17, 1991, at A1.

⁵ See generally Christopher C. Joyner, *Sanctions, Compliance and International Law: Reflections on the United Nations' Experience Against Iraq*, 32 VA. J. INT'L L. 1 (1991).

⁶ See R.W. Apple, Jr., *U.S. Says Iraq Pumps Kuwaiti Oil into Gulf; Vast Damage is Feared from Growing Slick*, N.Y. TIMES, Jan. 26, 1991, at A1; Robert D. McFadden, *Oil Threatens Fishing and Water Supply*, N.Y. TIMES, Jan. 26, 1991, at A1. Oil was reported to be spewing from the Sea Island Terminal off the coast of Kuwait, approximately one-half of which was coming from storage facilities, with the remainder being pumped through undersea pipes from 5 tankers berthed at the occupied Kuwaiti port of Mina al Ahmadi. Rick Atkinson & Dan Balz, *Iraq Dumping Flood of Oil Into Gulf; U.S. Says*, WASH. POST, Jan. 26, 1991, at A1.

⁷ R.W. Apple Jr., *Oil Spill, Growing Rapidly, Heads for Vital Saudi Sites; Air War Goals Said to Shift*, N.Y. TIMES, Jan. 27, 1991, at A1.

⁸ Keith Schneider, *Saudis Seek U.S. Help with Oil Spill*, N.Y. TIMES, Jan. 27, 1991, at A12.

⁹ R.W. Apple, Jr., *War in the Gulf: The Overview; 80 of Iraq's Planes Now in Iran; Hosts Intent Called a Puzzle; U.S. Says Flow of Oil is Stemmed*, N.Y. TIMES, Jan. 29, 1991, at A1.

¹⁰ The *Exxon Valdez* lost 11 million gallons of crude oil when it went aground on March 24, 1989. See *Worst U.S. Spill*, N.Y. TIMES, Jan. 26, 1991, at A4.

¹¹ Apple, *supra* note 7. See also Philip Shenon, *Huge Slick Still a Threat to Saudi Water Plants*, N.Y. TIMES, Jan. 28, 1991, at A1.

¹² Apple, *supra* note 7. The spill threatened to close Saudi Arabia's largest desalting plant at Jubail, which produces one-half the potable water for Saudi Arabia. See Schneider, *supra* note 8;

devastation throughout the Persian Gulf. The shrimp industry in the Gulf was practically wiped out, fish and other marine life were ravaged, and the Gulf's rich coral reef was put on the brink of extinction.¹³

Highlighted by recent concern over grave global implications of contemporary environmental abuse, Iraq's resort to oil pollution as a weapon of environmental destruction raises important legal questions that need to be addressed. Accordingly, this study focuses on the international legal ramifications of a government's intentional discharge of petroleum into a local marine environment during wartime.¹⁴ Both environmental protection law and the law of armed conflict are examined, with a special view toward assessing their regulatory interface. The problems of determining lawful intent and policy rationale are then treated. From this analysis, it is hoped that a greater appreciation will emerge of the positive dynamics between environmental law and the laws of war, not only for the case of Iraq during the 1991 Persian Gulf War, but also for the regulation of armed conflict in general.

II. SETTING THE GULF STAGE

On August 2, 1990, Iraq invaded and conquered its neighbor, Ku-

R.W. Apple, Jr., *Relentless Tide of Oil Fouls Shores of Empty Saudi City*, N.Y. TIMES, Jan. 28, 1991, at A1.

¹³ Philip Shenon, *Oil Company Ecologist Fears Slick Will Leave a "Dead Gulf,"* N.Y. TIMES, Feb. 9, 1991, at A7. Sea turtles, shrimp, dolphins, and marine birds were feared grievously affected. *Id.* See also Michael Isikoff, *Saudis Brace for Onslaught of Oil Slick*, WASH. POST., Jan. 27, 1991, at A22; Barbara Rosewicz, *Upping the Ante: Gulf Oil Spill Shows Iraq's Resolve to Wage War on Its Own Terms*, WALL ST. J., Jan. 28, 1991, at A1 & A4. For an insider's perspective of the cleanup operation organized by Saudi Aramco and its Oil Spill Committee, see Tom Pledge, *War Within a War: Fighting the Gulf Oil Spill*, ARAMCO WORLD, May-June 1991, at 35. For treatment of the impacts of ocean pollution, see generally K. A. GOURLAY, POISONERS OF THE SEAS (1988).

¹⁴ It should not be overlooked that Iraqi forces also torched 752 oil wells as they were fleeing Kuwait. Youssef M. Ibrahim, *Kuwaitis Battling Huge Pools of Oil*, N.Y. TIMES, Apr. 21, 1992, at A1. Nearly 100 more wells shooting geysers of oil failed to ignite. The environmental damage has been quantified in a variety of ways. The burning wells released up to 500,000 tons of air pollution a week with levels of airborne particles climbing up to 400 times U.S. EPA standards. The smoke from the fires reached a ceiling of about 12,000 feet above sea level and the pollutants formed a dark haze seen 300 miles away. See generally Michael Weiskopf, *Oil Fire Pollution Assessed*, WASH. POST, Apr. 4, 1991, at A25; Lee Hockstader, *Toxic Gas Deepens Kuwait's Crisis*, WASH. POST, Mar. 23, 1991, at A1. The economic devastation was assessed as a loss of 6 million barrels a day, approximating a daily revenue loss of \$100-\$120 million. Extinguishing the fires was initially projected to take as long as five years, at an estimated cost of \$430 million. That cost did not include the repair of 80 percent of the 1080 wells damaged by Iraq's occupation. See Hockstader, *supra*, at A16; William Booth, *Kuwait Seeks More Help in Combatting "Well Fires,"* WASH. POST, Apr. 14, 1991, at A18. By November 1991, the last of these oil well fires had been extinguished. Ibrahim, *supra*. Restoration of Kuwait's oil industry to its pre-invasion condition could cost \$10 billion, although a new environmental hazard in the form of huge oil lakes forming in the desert could increase the final bill considerably. *Id.*

wait.¹⁵ This military action culminated a longstanding series of disputes between the two states, including contests concerning territorial claims, oil drilling practices, and economic competition over oil pricing practices.¹⁶ Yet the escalation to overt military aggression was not out of character for the government of Saddam Hussein. It is important to recall that a decade earlier, in September 1980, Iraq had invaded another neighbor, Iran, as the latter was recovering from the upheavals of a domestic revolution.¹⁷ The international community, after weighing the respective dangers of supporting an aggressor authoritarian state (Iraq) or a fundamentalist Shiite Islamic state (Iran), leaned in large part toward neutrality. Yet, as one commentator observed, "The Iraqi decision to go to war with Iran, backed by a solid Arab entente, . . . [was aimed at] crippling Iran militarily and eliminating its political dominance of the region once and for all."¹⁸ The international community failed to rebuke Iraq sternly in 1980 for its aggression. In fact, several governments actually opted to support the Iraqi government—politically, militarily, and emotionally.¹⁹

Iraq's precedent for invading its neighbors was established, and arguably, tacit acceptance of that action was given by the international community. Yet waging a war of aggression was not the only international norm breached by Iraq during its nearly eight years of fighting with Iran. In 1984 and 1985, facing overwhelming numbers of enemy troops on the battlefield, Iraq resorted to using chemical weapons against Iranian forces,²⁰ acts clearly in contravention of its obligation under the

¹⁵ Michael R. Gordon, *Iraq Army Invades Capital of Kuwait in Fierce Fighting*, N.Y. TIMES, Aug. 2, 1990, at A1; R.W. Apple, Jr., *Invading Iraqis Seize Kuwait and Its Oil; U.S. Condemns Attack, Urges United Action*, N.Y. TIMES, Aug. 3, 1991, at A1.

¹⁶ Clyde H. Farnsworth, *Bush, In Freezing Assets, Bans \$30 Billion to Hussein*, N.Y. TIMES, Aug. 3, 1990, at A9; *Iraqi Invasion, Step by Step*, N.Y. TIMES, Aug. 3, 1990, at A9. Hussein was plagued by a worsening economic crisis following the cease-fire of the Iran-Iraq war in 1988. Peace brought a reduction of Persian Gulf state subsidies, international credits, and elevated oil production rates keeping prices low for Iraqi exports. By May 1990, Iraq demanded of Kuwait and other states cancellation of its Iran-Iraq war debts, additional economic aid, increased OPEC oil prices, control of two Kuwaiti islands, and reparations for oil taken by Kuwait from the disputed Rumailah oil field. For analysis of these issues, see William B. Quandt, *The Middle East in 1990*, FOREIGN AFF., America and the World 1990/1991, at 49, 51-53.

¹⁷ Werner Wiskari, *Iraq Said to Gain Its Border Aims In Iran Conflict*, N.Y. TIMES, Sept. 20, 1980, at A1.

¹⁸ Claudia Wright, *Implications of the Iraq War*, 59 FOREIGN AFF. 274, 291 (Winter 1980/1981).

¹⁹ As an irony of history, Iraq received political and financial support during its war with Iran from Kuwait and Saudi Arabia, and even United States policy tilted towards a pro-Saddam Hussein attitude in re-flagging 11 Kuwaiti tankers. For a multidimensional assessment of the Iran-Iraq War see generally THE PERSIAN GULF WAR: LESSONS FOR STRATEGY, LAW AND DIPLOMACY (Christopher C. Joyner ed., 1990).

²⁰ Bernard Gwertzman, *U.S. Says Iraqis Use Poison Gas; Shultz and Baghdad Official Meet*, N.Y. TIMES, Mar. 26, 1985, at I1; *U.S. Makes Direct Charge*, N.Y. TIMES, Mar. 27, 1985, at A8.

1925 Geneva Protocol.²¹ Once the threshold of violating the Geneva Protocol had been surpassed, two chilling consequences occurred. First, the decision and discretion to use chemical weapons on the battlefield was passed by the Iraqi government to field commanders. Second, the use of chemical weapons beyond the traditional inter-state conflict became more practical as Iraq waged chemical warfare against its own defenseless Kurdish citizens in 1988.²²

Iraq also resorted to a campaign of economic dislocation. During the war against Iran, Iraqi forces launched SCUD missiles to strike oil pipelines, storage facilities, refineries, terminals, tankers, wells and offshore platforms.²³ It should not have been wholly unexpected, therefore, that similar tactics might be invoked by Iraq against forces of the allied coalition, especially at targets located in the Persian Gulf states.

Premeditated sabotage of a supertanker terminal to introduce millions of gallons of oil into the Persian Gulf's marine environment grossly violated the spirit and the letter of both the law of environmental protection and the law of armed conflict. Indeed, the heinous nature of Iraq's massive pollution of the Gulf's marine ecosystem provoked widespread condemnation. One commentator exclaimed that "Hussein has shown himself capable of holding the environment as his hostage."²⁴ President Bush branded the policy "a deliberate act of environmental terrorism that will hurt the entire world."²⁵ Such rhetoric prompted coining such legally nebulous terms as "ecoterrorism" and "ecocide" to describe Iraq's act of intentionally polluting the Gulf by oil.

Iraq's deliberate release of massive amounts of oil into the Persian Gulf poses a fundamental question for international law. Does such a tactic of massive marine pollution during wartime breach environmental protection law, or some aspect of the law of armed conflict, or both? Put another way, what real relevance does "the worst environmental disaster in the history of the Persian Gulf region"²⁶ hold for emerging international law?

²¹ Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous, or Other Gases, and of Bacteriological Methods of Warfare, June 17, 1925, 26 U.S.T. 571, 94 L.N.T.S. 65.

²² Elaine Sciolino, *Kurdish Chief Gains Support in U.S. Visit*, N.Y. TIMES, June 22, 1988, at I3; *More Chemical Attacks Reported*, N.Y. TIMES, Aug. 28, 1988, at I15; June Johnson, *U.S. Asserts Iraq Used Poison Gas Against the Kurds*, N.Y. TIMES, Sept. 9, 1988, at A1.

²³ See generally Phebe Marr, *The Iran-Iraq War: The View from Iraq*, in *THE PERSIAN GULF WAR*, *supra* note 19, at 59. Cf. Eric Hooglund, *Strategic and Political Objectives in the Gulf War: Iran's View*, in *id.* at 39.

²⁴ Thomas W. Lippman & William Booth, *Oil Spreading Off Kuwait Poses Ecological Disaster*, WASH. POST, Jan. 26, 1991, at A13.

²⁵ Barton Gellman, *Theories Vary on Motives for Spill*, WASH. POST, Jan. 26, 1991, at A13.

²⁶ Dan Balz, *Gulf Oil Slick Spreads Rapidly*, WASH. POST, Jan. 27, 1991, at A1.

III. EVOLUTION OF THE LAW OF ENVIRONMENTAL PROTECTION

In his 1949 essay "The Land Ethic," Aldo Leopold observed that there is a need for every citizen to realize that the earth is not here for humans to manipulate, but that we exist as part of an interrelated world. As he put it, a "land ethic" "reflects the existence of an ecological conscience and this in turn reflects a conviction of individual responsibility for the health of the land. Health is the capacity of the land for self-renewal. Conservation is our effort to understand and preserve this capacity."²⁷ Belief in this credo supplies the impetus for an ecological ethic that furnishes the very foundation for global environmentalism. No less important, it also represents an ecological ideal toward which humankind is urged to aspire.

Humans are viewed within this modern ecological ethic as an integral, interactive part of the whole global environment. While maintenance of a pristine environment would be ideal, that condition is not realistic. Some degradation is inevitable. But the point is that man's activities should be directed so as to minimize harm done to the environment.

The global ecological perspective, with its emphasis on respect for environmental integrity, has come about only recently. The United Nations in 1972 produced a set of normative guidelines for states that embody fundamental principles of environmental preservation and conservation. These guidelines were set out in the Declaration of the United Nations Conference on the Human Environment (the Stockholm Declaration), articulated on June 16, 1972.²⁸ As proclaimed in the Declaration's second principle, "natural resources of the earth, including the air, water, land, flora, fauna and especially representative samples of natural ecosystems, must be safeguarded."²⁹ There is little doubt that, with respect to the Persian Gulf, this duty to safeguard those natural resources and ecosystems applied to all states.³⁰

The Stockholm Declaration established other general principles that have become more technical as the international community has mobilized to address ever pressing concerns, such as toxic pollutants and dumping. These additional responsibilities are aimed at banning discharge practices that might inject serious or irreversible damage upon the local ecosystem. Especially prohibited in this regard is discharge of toxic

²⁷ ALDO LEOPOLD, *A SAND COUNTY ALMANAC AND SKETCHES HERE AND THERE* 221 (1949).

²⁸ Declaration of the United Nations Conference on the Human Environment, June 16, 1972, U.N. Doc. A/CONF.48/14 and Corr.1 (1972), reprinted in 11 I.L.M. 1416 (1972) [hereinafter Stockholm Declaration].

²⁹ *Id.* principle 2.

³⁰ See Louis B. Sohn, *The Stockholm Declaration on the Human Environment*, 14 HARV. INT'L L.J. 423 (1973) (discussing the applicability of the Stockholm Declaration).

substances and release of heat in such quantities or concentrations that might damage the environment.³¹

The Stockholm Declaration also emphasizes prevention of pollution. States are required to take "all possible steps" to preclude pollution of the seas by any substances that might be hazardous to human health, or harm living marine resources, or damage amenities, or interfere "with other legitimate uses of the sea."³² The unprecedented magnitude of the Gulf oil spill strongly suggests this international ecological norm was severely breached.

The keystone of the Stockholm Declaration's mandate against transnational pollution is found in its Principle 21. This provision at first blush might seem to release a state from environmental protection responsibilities under the cloak of national sovereignty as it provides that states have the "sovereign right to exploit their own resources pursuant to their own environmental policies."³³ Even so, Principle 21 goes on to posit that states have "the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other states or of areas beyond the limits of national jurisdiction."³⁴ This fiat confirms the duty that states are bound not to create environmental conditions or pollution circumstances that might injure the territory or property of other states.³⁵

To facilitate international cooperation, the concept of liability—compensation for wrongs done and damages committed whether intentional or not—has a long tradition in international law.³⁶ This concept of compensation finds expression in Principle 22 of the Stockholm Declaration which indicates that "States shall cooperate to develop further the international law regarding liability and compensation for the victims of pollution and other environmental damage caused by activities within the jurisdiction or control of such states to areas beyond their jurisdic-

³¹ Stockholm Declaration, *supra* note 28, principle 6.

³² *Id.* principle 7. Importantly, this phrase is repeated nearly verbatim in subsequent instruments intended to prevent marine pollution. See *infra* notes 45-61 and accompanying text.

³³ *Id.* principle 21.

³⁴ *Id.*

³⁵ Importantly, this duty and the international legal principle of transfrontier protection had been recognized and articulated in a number of earlier decisions by international tribunals. See, e.g., Trail Smelter Case (U.S. v. Canada), Trail Smelter Arbitral Tribunal, 3 R.I.A.A. 1905 (1941); Corfu Channel Case (U.K. v. Alb.), 1949 I.C.J. 4 (April 9); Lake Lanoux Case (Fr. v. Spain), 62 REVUE GÉNÉRALE DE DROIT INTERNATIONAL PUBLIC 79-119 (1958), reprinted in 53 AM. J. INT'L L. 156 (1959).

³⁶ See generally L.F.E. Goldie, *Liability for Damage and the Progressive Development of International Law*, 14 INT'L & COMP. L.Q. 1189 (1965); Sanford E. Gaines, *International Principles for Transnational Environmental Liability: Can Developments in Municipal Law Help Break the Impasse?*, 30 HARV. INT'L L.J. 311 (1989).

tion."³⁷ Interestingly, the wording "activities within the jurisdiction or control" eliminates the potential dilemma (and subsequent loophole) of determining the precise legal status of the territory from which the causal activities occurred. A state would be responsible for damages, irrespective of whether its government possessed legal jurisdiction over another territory (as Iraq claimed over Kuwait at the time), or was merely a belligerent occupation force, or had been evicted from the area.

It might be noted that the Stockholm Declaration offers a possible caveat by which some state might seek to evade responsibility for its actions. In full, Principle 23 provides that:

Without prejudice to such criteria as may be agreed upon by the international community, or to standards which will have to be determined nationally, it will be essential in all cases to consider the systems of values prevailing in each country, and the extent of the applicability of standards which are valid for the most advanced countries, but which may be inappropriate and of unwarranted social cost for the developing country.³⁸

In this context, a government might argue that its resort to widespread pollution as a weapon reflected either national, ethnic, or religious norms, or represented a "poor-man's" weapon of mass destruction. However, any of these contentions would be difficult to substantiate convincingly. In addition, one can not help but wonder how to square the notion that destruction of the very resources necessary for development could be deemed necessary to preserve a state's cultural integrity and ensure its physical survival.³⁹

The normative pillars of the Stockholm Declaration were built upon a foundation of prior international conventions and regional agreements.⁴⁰ Even so, in support of the normative considerations that flowed

³⁷ Stockholm Declaration, *supra* note 28, principle 22.

³⁸ *Id.* principle 23.

³⁹ In the case of Iraq and the Gulf spill, contemporary normative views of the Islamic world were clearly expressed as most Arab governments overtly condemned Iraq's aggression against Kuwait, a fact evidenced by the prominent cooperation of Egypt, Syria, Saudi Arabia, Kuwait, the United Arab Emirates, Oman, and Qatar in the allied coalition against Iraq. Likewise, it would be profoundly difficult for the Iraqi leadership to charge cultural bias against its national character by a hostile (i.e., pro-Western) value system. A more plausible explanation for Saddam Hussein's actions suggests that Iraq may have been deprived of the economic value of Kuwait's oil by the United Nations' embargo, and thus had few inhibitions about testing the utility of that oil as a weapon.

⁴⁰ One of the earliest modern agreements to deal with environmental protection was the 1959 Antarctic Treaty. This agreement prohibits nuclear explosions, the disposal of radioactive wastes, and military fortification and maneuvers on the continent. The treaty also designated the area south of 60° South Latitude as a region for scientific research, to be used exclusively for peaceful purposes. Antarctic Treaty, Dec. 1, 1959, 12 U.S.T. 794, 402 U.N.T.S. 71.

Second, the 1963 Test Ban Treaty strongly asserted an ethic of environmental protection, in banning all nuclear weapons tests in outer space, the earth's atmosphere and beneath the oceans.

from the Stockholm Declaration, the international community has since devised an extensive body of legal instruments for protecting the earth's environment.⁴¹ Especially pertinent in this regard are those international instruments intended to safeguard against marine pollution.⁴²

Over the past four decades, several agreements dealing with pollution from vessels have been promulgated, largely under the auspices of the International Maritime Organization (IMO) (formerly the Inter-Governmental Maritime Consultative Organization).⁴³ These international agreements set standards and regulations for pollution control, while leaving enforcement in the hands of national governments. Global rules to combat marine pollution have generally evolved from focusing on ship-generated oil pollution, through a more comprehensive approach to pollution, to the regulation of dumping activities, and finally, to the very broad provisions currently found in the law of the sea.⁴⁴ At present, there are no specific global conventions that directly regulate pollution from land-based sources or from offshore drilling platforms, since these activities are more readily amenable to regulation through regional instruments.

The first major international attempt specifically to curb pollution of the seas by oil actually antedated the Stockholm Declaration and came

Treaty Banning Nuclear Weapons Tests in the Atmosphere, in Outer Space, and Underwater, Aug. 5, 1963, 14 U.S.T. 1313, 480 U.N.T.S. 43.

A third prominent international agreement that contributed to developing the concept of international environmental protection was the 1967 Outer Space Treaty. As provided for in its Article IX,

States Parties to the Treaty shall pursue studies of outer space, including the moon and other celestial bodies, and conduct exploration of them so as to avoid their harmful contamination and also adverse changes in the environment of the Earth resulting from the introduction of extraterrestrial matter and, where necessary, shall adopt appropriate measures for this purpose.

Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies, Jan. 27, 1967, art. IX, 18 U.S.T. 2410, 2416-2417, 610 U.N.T.S. 205, 209-210.

Finally, in 1969, the International Convention on Civil Liability for Oil Pollution Damage established a system of international liability for environmental damage caused by oil spills. This international agreement aims to impose penalties on bulk oil carriers which pollute the seas by oil. International Convention on Civil Liability for Oil Pollution Damage, Nov. 29, 1969, 973 U.N.T.S. 3, 9 I.L.M. 45.

⁴¹ See, e.g., Convention on Long Range Transboundary Air Pollution, 1979, 34 U.S.T. 3043, 18 I.L.M. 1442; Vienna Convention for the Protection of the Ozone Layer, Mar. 22, 1985, T.I.A.S. 11,097, 26 I.L.M. 1529; Montreal Protocol on Substances that Deplete the Ozone Layer, Sept. 16, 1987, 26 I.L.M. 1541; and conventions cited *infra* notes 45-75.

⁴² See *infra* notes 45-82.

⁴³ See Lawrence Juda, *IMCO and the Regulation of Ocean Pollution from Ships*, 26 INT'L & COMP. L.Q. 558 (1977).

⁴⁴ See generally Bernhard J. Abrahamsson, *The Marine Environment and Ocean Shipping: Some Implications for a New Law of the Sea*, 31 INT'L ORG. 291 (1977).

with the promulgation in 1954 of the International Convention for the Prevention of Pollution of the Sea by Oil.⁴⁵ This agreement specifically prohibited the "discharge from any tanker . . . of oil [or] any oily mixture the oil in which fouls the surface of the sea"⁴⁶ and set penalties commensurate with those that might be imposed under the law of the territory in question.⁴⁷ Amended in 1962 and 1969, this convention was the first tentative move toward cleansing the oceans from oil pollutants and attaining a balance between responsibilities of flag and port states.⁴⁸

Respective to the process of creating a norm that asserts nonpollution of the marine environment, two of the 1958 Geneva Conventions of the Law of the Sea contain specific anti-pollution provisions. The Convention on the High Seas⁴⁹ obligates contracting parties to prevent pollution of the sea by the discharge of oil from ships or pipelines, or from activities associated with the exploration and exploitation of the seabed and subsoil, and to take measures that prevent pollution from the dumping of radioactive wastes.⁵⁰ The 1958 Convention on the Continental Shelf⁵¹ obligates parties to protect living resources of the sea from "harmful agents" while in the process of offshore drilling.⁵² Taken in tandem, these conventions codified two fundamental principles for international management of ocean pollution: (1) Freedom of the seas must be exercised with reasonable regard to the interests of other states; and (2) There exists the manifest need for states to preserve a reasonable balance between their needs and the ways and means in which they use ocean space.

In the wake of the Stockholm Conference, a more significant step was taken in 1973 with the International Convention for the Prevention of Pollution from Ships (MARPOL),⁵³ later modified by the Protocol of 1978 which introduced certain improvements into the Annex dealing with oil pollution.⁵⁴ Article 1 of MARPOL instructs the parties to "prevent the pollution of the marine environment by the discharge of harmful substances or effluents containing such substances in contravention of the

⁴⁵ International Convention for the Prevention of Pollution of the Sea by Oil, May 12, 1954, 12 U.S.T. 2989, 327 U.N.T.S. 3.

⁴⁶ *Id.* art. 3.

⁴⁷ *Id.* art. 6.

⁴⁸ The Convention goes so far as to establish "prohibited zones" through which tankers should not pass. *Id.* Annex A.

⁴⁹ Convention on the High Seas, Apr. 29, 1958, 13 U.S.T. 2312, 450 U.N.T.S. 82.

⁵⁰ *Id.* arts. 24-25.

⁵¹ Convention on the Continental Shelf, Apr. 29, 1958, 15 U.S.T. 471, 499 U.N.T.S. 312.

⁵² *Id.* art. 5.

⁵³ International Convention for the Prevention of Pollution from Ships, Nov. 2, 1973, 12 I.L.M. 1319 [hereafter MARPOL 1973].

⁵⁴ Protocol of 1978 Relating to MARPOL 1973, Feb. 17, 1978, I.L.M. 546 [hereinafter MARPOL 1978].

Convention.”⁵⁵ The MARPOL 1973/78 Convention has five annexes, numbers I and II of which are mandatory and deal with pollution by oil and noxious substances, respectively.⁵⁶ No question exists that this instrument represents a significant piece of global legislation that enjoys broad authority in combatting pollution of the marine environment.

In 1972, the most important instrument for prohibiting the dumping of harmful substances from vessels at sea was promulgated as the so-called London Dumping Convention.⁵⁷ This agreement builds on earlier conventions by reiterating a pledge among contracting states to “take all practicable steps to prevent the pollution of the sea by the dumping of waste and other matter that is liable to create hazards to human health, to harm living resources and marine life, to damage amenities or to interfere with other legitimate use of the sea.”⁵⁸ The London Dumping Convention in sum strives to control the amount and kinds of wastes dumped into the oceans in order to prevent damage to marine life and human opportunities.

Relatedly, the 1972 Convention for the Prevention of Marine Pollution by Dumping from Ships and Aircraft⁵⁹ reinforced the commitment among states not to pollute the marine environment. Parties pledge “to take all possible steps to prevent the pollution of the sea by substances that are liable to create hazards to human health, to harm living resources and marine life, to damage amenities or to interfere with other legitimate uses of the sea.”⁶⁰

Perhaps the Convention most directly relevant to the act of discharging oil, though not directly applicable to the Gulf area, is the 1974

⁵⁵ MARPOL 1973, *supra* note 53, art. I. “Harmful substances” are defined to include “any substance which, if introduced into the sea, is liable to create hazards to human health, to harm living resources and marine life, to damage amenities or to interfere with other legitimate uses of the sea, and includes any substance subject to control by the present Convention.” *Id.* art. I, para. 2.

⁵⁶ MARPOL 1973, *supra* note 53, Annex I: Regulations for the Prevention of Pollution by Oil, at 1335; Annex II: Regulations for the Control of Pollution by Noxious Liquid Substances in Bulk, at 1386; Annex III: Regulations for the Prevention of Pollution by Harmful Substances Carried by Sea in Packaged Forms, or in Freight Containers, Portable Tanks or Road and Rail Tank Wagons, at 1421; Annex IV: Regulations for the Prevention of Pollution by Sewage from Ships, at 1424; Annex V: Regulations for the Prevention of Pollution by Garbage from Ships, at 1434.

⁵⁷ Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, Dec. 29, 1972, 26 U.S.T. 2403, 1046 U.N.T.S. 120.

⁵⁸ *Id.* art. 1. “Dumping” is defined as “any deliberate disposal at sea of wastes or other matter from vessels, aircraft, platforms or other man-made structures at sea.” *Id.* art. 3, para. 1.

⁵⁹ Convention for the Prevention of Marine Pollution by Dumping from Ships and Aircraft, Feb. 15, 1972, 932 U.N.T.S. 5.

⁶⁰ *Id.* art. 1. As defined in the Convention, “dumping” refers to “any deliberate disposal of substances and materials into the sea by or from ships or aircraft,” other than incidental discharges from the normal operations of ships or for “purposes other than the mere disposal thereof, if not contrary to the aim of this Convention.” *Id.* art. 19, para. 1. “Ships” include fixed or floating platforms. *Id.* art. 19, para. 2.

Convention on the Prevention of Marine Pollution from Land-Based Sources.⁶¹ This agreement specifically forbids the act of deliberately discharging oil into the marine environment. Under this convention the parties pledge that they will

take all possible steps to prevent pollution of the sea, by which is meant the introduction by man, directly or indirectly, of substances or energy into the marine environment (including estuaries) resulting in such deleterious effects as hazards to human health, harm to living resources and to marine eco-systems, damage to amenities or interference with other legitimate uses of the sea.⁶²

The convention also would obligate parties to assist each other to prevent incidents that might result in pollution from land-based sources, as well as to minimize and eliminate the consequences of such incidents and to exchange information to facilitate that goal.⁶³

International agreements designed to prevent accidents at sea undoubtedly strengthen the global regime of marine environmental protection law against pollution by oil. Five principal instruments, all drafted under the auspices of IMO, are presently in force: the 1966 Convention on Load Lines;⁶⁴ the 1972 Convention on Safe Containers;⁶⁵ the 1972 Convention on the International Regulations for Preventing Collisions at Sea;⁶⁶ the 1974 Convention for the Safety of Life at Sea;⁶⁷ and the 1978 Convention on Standards of Training, Certification and Watchkeeping for Seafarers.⁶⁸

Especially important as environmental protection law for the Persian Gulf region is the 1978 Kuwait Regional Convention for Co-Operation on the Protection of the Marine Environment from Pollution.⁶⁹ This instrument was designed to develop an integrated management approach to the marine environment of the Persian Gulf region. The purpose of the convention specifically obligates contracting parties to take "all appropriate measures" to "prevent, abate, and combat pollution in

⁶¹ Convention for the Prevention of Marine Pollution from Land-Based Sources, June 4, 1974, 13 I.L.M. 352.

⁶² *Id.* art. 1.

⁶³ *Id.* art. 13.

⁶⁴ Apr. 5, 1966, 18 U.S.T. 1857, 640 U.N.T.S. 133.

⁶⁵ Dec. 2, 1972, 29 U.S.T. 3707, 1064 U.N.T.S. 3.

⁶⁶ Oct. 20, 1972, 28 U.S.T. 3459, 1050 U.N.T.S. 16.

⁶⁷ Nov. 1, 1974, 32 U.S.T. 47, 14 I.L.M. 963.

⁶⁸ July 7, 1978, reprinted in 6A BENEDICT ON ADMIRALTY, Doc. No. 9-38 (7th ed. 1987).

⁶⁹ Kuwait Regional Convention for Co-operation on the Protection of the Marine From Pollution, Apr. 24, 1978, 1140 U.N.T.S. 133, 17 I.L.M. 511 [hereinafter Kuwait Convention] (entered into force June 1, 1979), reprinted in PETER H. SAND, MARINE ENVIRONMENT LAW IN THE UNITED NATIONS ENVIRONMENTAL LAW PROGRAMME 58 (1988). The following states are parties to the Kuwait Convention: Bahrain, Iran, Iraq, Kuwait, Oman, Qatar, Saudi Arabia and the United Arab Emirates. *Id.* at 256.

the Sea Area"⁷⁰ caused by "intentional or accidental discharges from ships."⁷¹ Furthermore, the convention obligates parties to

take all appropriate measures to prevent, abate and combat pollution in the Sea Area caused by dumping of wastes and other matter from ship and aircraft, and . . . ensures effective compliance in the Sea Area with applicable rules relating to the control of this type of pollution as provided for in relevant international conventions.⁷²

Given the heavy tanker traffic sailing through the Persian Gulf, the main intent of the 1978 Kuwait Convention aims at curbing pollution of the sea by oil. Highlighting this point is a special protocol for combating pollution by oil and other harmful substances in cases of emergency.⁷³ Dumping is not defined in the convention, nor were annexes appended to identify what harmful or noxious substances might present particular threats to marine life, fisheries, or human health in the region. Even so, the fact remains that, regarding dumping, the Kuwait Convention intends to ensure effective compliance with existing international conventions relating to this type of pollution.⁷⁴ At the very least, then, the legally binding obligations in the London Dumping Convention and MARPOL 73/78 would be pertinent to the dumping or discharging of any substances into the gulf by ships or littoral states. Accordingly, the deliberate release of toxic petroleum into the Persian Gulf marine ecosystem would be expressly forbidden.

Finally, not to be overlooked is the broad anti-pollution mandate articulated in the 1982 Convention on the Law of the Sea.⁷⁵ The relevant environmental protection provisions comprise Part XII of this agreement, providing for the "protection and preservation of the marine environment."⁷⁶ In a real sense, these provisions are not merely a restatement of existing conventional law or state practice. Rather, they create a new public international legal framework to deal with degradation of and threats to the marine environment. Article 192 unequivocally fixes the principal duty of states relative to the marine environment: "States have the obligation to protect and preserve the marine environment."⁷⁷ The obligatory language is unshakable. States that violate this fiat to protect and preserve the marine environment thus violate interna-

⁷⁰ Kuwait Convention, *supra* note 69, art. III, para. A.

⁷¹ *Id.* art. IV.

⁷² *Id.* art. V.

⁷³ *Id.* Protocol concerning Regional Cooperation in Combatting Pollution by Oil and Other Harmful Substances in Cases of Emergency.

⁷⁴ *Id.* Preamble.

⁷⁵ United Nations Convention on the Law and the Sea, Dec. 10, 1982, 21 I.L.M. 1261 [hereinafter 1982 LOS CONVENTION].

⁷⁶ *Id.* arts. 192-237.

⁷⁷ *Id.* art. 192.

tional law. Indeed, Article 235 substantiates this conclusion as it affirms that "States are responsible for the fulfillment of their international obligations concerning the protection and preservation of the marine environment. They shall be liable in accordance with international law."⁷⁸

Article 194 further strengthens these provisions by imposing an affirmative duty on states not to pollute. This article indicates that the Convention is concerned with "all sources of pollution of the marine environment, and states are mandated to take all measures necessary to prevent, reduce and control pollution of the marine environment from any source."⁷⁹ With respect to land-based pollution, the 1982 Law of the Sea Convention directs states to take legislative action "to prevent, reduce and control pollution of the marine environment from land-based sources . . . taking into account internationally agreed rules, standards and recommended practices and procedures."⁸⁰ Moreover, states are directed to adopt laws and take measures necessary "to prevent, reduce and control pollution" from dumping.⁸¹ To this end, governments are obliged to "endeavor to establish global and regional rules," with national anti-pollution legislation being "no less effective . . . than the global rules and standards."⁸²

The 1982 Law of the Sea Convention underscores the principal premise of the law of environmental protection, namely that the component parts of the global ecosystem are interrelated, and sensitive to alteration elsewhere in the system. Furthermore, the entire environmental system, though self-renewing, is threatened by burgeoning population growth, rising expectations for socio-economic development and the resultant output of greater amounts of pollution.⁸³ Unfortunately, the oceans have become the repository of much of this manmade waste.

As regards ocean space, the principles of the law of environmental protection clearly assert that states are responsible for controlling pollution of the sea that might cause damage to another state's territory.⁸⁴ The principle of good neighborliness requires that states not permit acts

⁷⁸ *Id.* art. 235, para. 1.

⁷⁹ *Id.* art. 194, para. 1.

⁸⁰ *Id.* art. 207, para. 1.

⁸¹ *Id.* art. 210, paras. 1 & 2.

⁸² *Id.* art. 210, paras. 4 & 6. For a thoughtful assessment of the 1982 LOS CONVENTION'S contribution to the law of pollution prevention see Moira L. McConnell & Edgal Gold, *The Modern Law of the Sea: Framework for the Protection and Preservation of the Marine Environment?*, 23 CASE W. RES. J. INT'L L. 83 (1991).

⁸³ See generally the assessment made by the WORLD COMMISSION ON ENVIRONMENT AND DEVELOPMENT, *OUR COMMON FUTURE* (1987).

⁸⁴ See generally G. Handl, *Liability as an Obligation Established by a Primary Rule of International Law: Some Basic Reflections on the International Law Commission's Work*, 16 NETH. Y.B. INT'L L. 49 (1985); Pierre-Marie Dupoy, *The International Law of State Responsibility: Revolution or Evolution?*, 11 MICH. J. INT'L L. 105 (1989).

within their territory or jurisdictional competence to be done when they might negatively impact on the rights of neighbors.⁸⁵ Put tersely, states do not have the right to contaminate international common space areas such as the high seas for their own national expediency or convenience.⁸⁶ They are obligated to preserve and protect those regions, not only in their own interests, but for the interests of all mankind.⁸⁷

There is little question that this partial enumeration of pertinent international and regional agreements affirms the normative rule that states are not permitted to pollute the oceans either at will or with impunity. Each agreement alone constitutes an element of international law binding upon its signatories. Taken together, these agreements have acquired the quality and force of an international norm that mandates that governments have a duty not to pollute international ocean space.⁸⁸

In addition to the treaties and conventions which supply useful evidence of international law, a second principal source of the law of environmental protection is found in the normal practice and custom of states.⁸⁹ Indeed, a combination of both the actual behavior of states and the opinions of legal scholars and practitioners in the form of *opinion juris* furnishes the foundation for international customary law.⁹⁰ What has become evident from the multitude of documents and treaties, traditional practices, and professional opinions is that an international consensus has emerged, recognizing the need for states to have an obligation to protect the environment.⁹¹ According to this conclusion, Iraq breached the emerging international norm of environmental protection.

IV. EVOLUTION OF THE LAW OF ARMED CONFLICT

Acknowledging that humanity constitutes but a part of the global ecology, the struggle to regulate social conflict reveals a growing under-

⁸⁵ See, e.g., *Trial Smelter Case*, 3 R.I.A.A. at 1911.

⁸⁶ See generally KARI HAKAPÄÄ, *MARINE POLLUTION IN INTERNATIONAL LAW* (1981).

⁸⁷ See generally JAN SCHNEIDER, *WORLD PUBLIC ORDER OF THE ENVIRONMENT: TOWARDS AN INTERNATIONAL ECOLOGICAL LAW AND ORGANIZATION* (1979); Schachter, *supra* note 1.

⁸⁸ See RESTATEMENT (THIRD) OF THE LAW: THE FOREIGN RELATIONS OF THE UNITED STATES § 601 (1987).

⁸⁹ Sources for international environmental law conform to sources of general international law, as expressed in Article 38 of the Statute of the International Court of Justice. These include respectively, "[treaties and] international conventions," "international custom," "the general principles of law recognized by civilized nations," and "judicial decisions and the teachings of the most qualified publicists." U.N. CHARTER, Stat. I.C.J., art. 38.

⁹⁰ See generally H.W.A. THIRLWAY, *INTERNATIONAL CUSTOMARY LAW AND CODIFICATION: AN EXAMINATION OF THE CONTINUING ROLE OF CUSTOM IN THE PRESENT PERIOD OF CODIFICATION OF INTERNATIONAL LAW* (1972).

⁹¹ This obligation has become highlighted in recent years by the emergence of global warming and ozone depletion as serious international concerns. See Ved P. Nanda, *Trends in International Environmental Law*, 20 CAL. W. INT'L L.J. 187 (1989-1990).

standing of the impact that war exacts upon the environment. There is little question that war occurs as an all too regular activity of man's existence. Moreover, despite all attempts to limit and outlaw it, war seems driven by natural impulse and may occur as an inevitable consequence of international competition. This conclusion does not bode well for the environment, particularly since the ultimate product of war is the destruction of life and property.

The conduct of warfare, however, has not gone unregulated.⁹² Since antiquity, religious and philosophical systems have sought to institutionalize war and to subject it to the rule of legal principles. Philosophers and writers including Thucydides,⁹³ Aristotle,⁹⁴ Plato,⁹⁵ Augustine,⁹⁶ and Thomas Aquinas⁹⁷ explored the general rationale that leaders of the empire or the church possessed the discretion to choose the *justification* for war, but the *means*, including laws, should be developed through customary practice among equals (i.e. sovereigns).⁹⁸ It is only in modern times, however, that the impacts of war on the environment have assumed such salience as to be elevated to international legal concern.

By the time of Grotius during the 16th century, the two conceptual threads of the evolving laws of war—namely, the *justification* for war and the *conduct* of war—began to unravel.⁹⁹ A rift between the two doctrines developed. Nearly two centuries later, the “positivist” element

⁹² See generally THE LAWS OF ARMED CONFLICTS: A COLLECTION OF CONVENTIONS, RESOLUTIONS AND OTHER DOCUMENTS (Dietrich Schindler & Jiri Toman eds., 3d ed. 1988); THE LAW OF WAR: A DOCUMENTARY HISTORY (Leon Friedman ed., 1972).

⁹³ THUCYDIDES, THE HISTORY OF THE PELOPONNESIAN WAR, bk. VII, para. 68 (Richard Livingstone ed., Richard Crawley & Richard Feetham trans., 1954).

⁹⁴ ARISTOTLE, THE POLITICS, bk. I, para. 8, at 11 & bk. VII, para. 14, at 178-179 (Stephen Everson ed., 1988).

⁹⁵ PLATO, THE REPUBLIC, bk. II, at 51 (Allan Bloom trans., 1968) (Platonic pagination reference 373d-374d).

⁹⁶ SAINT AUGUSTINE, THE CITY OF GOD, bk. III, at 103-106, bk. XXI, at 786 (Marcus Dods trans., 1950).

⁹⁷ See THE “SUMMA THEOLOGIA” OF ST. THOMAS AQUINAS, PART II (SECOND PART), Question XL (On War), at 500 (Fathers of the English Dominican Province trans., Burns Oates & Washbourne Ltd., 1916).

⁹⁸ During the decline of the empires, the institution of the emperor as sovereign lost credibility and power. Joachin von Elbe describes what remained of this antiquated system at the onset of the Middle Ages:

The *ius commune* of the Empire continued to exercise a “supra-national power” for the maintenance of justice and peace in the world. The limitation and regulation of wars between the members of the Empire thus becomes a matter of positive law; it is treated by secular lawyers of the Middle Ages in the familiar terms of the *Corpus Iuris*.

Joachim von Elbe, *The Evolution of the Concept of the Just War in International Law*, 33 AM. J. INT'L L. 665, 670-71 (1939).

⁹⁹ Von Elbe posited that in 1582, Ayala (a major influence on Grotius) was the first to make the actual distinction between the two concepts. This provocative departure from traditional thought notes that “the justice of the cause, though still considered as a necessary prerequisite for

matured in the work of Emmerich de Vattel, who distinguished between the "necessary law of nature" and the "voluntary law of nations."¹⁰⁰ Whereas the former concerned natural law and the conscience of sovereigns, the latter addressed the law that nations applied voluntarily in their relations with one another.¹⁰¹

The elevated status of positivist law suggested that only in regard to the necessary law of nature may the question of a war's just cause be raised. The voluntary law of nations, i.e., positivist international law, sought not to venture into the intrinsic justice of wars.¹⁰² In sum, the continued development of the positivist school came about at the expense of the law-of-nature focus.¹⁰³ By the late 19th century, positivist legal theorists had largely rejected the distinction between "just" and "unjust" wars, and had relegated war to an act entirely driven by the uncontrolled sovereign will of each individual state.¹⁰⁴ Justification for war had been downgraded to only a secondary consideration, a trend perhaps attributed to the exponential increase in the destructive capability of modern warfare.¹⁰⁵ The righteousness of a sovereign's cause proved little solace to combatants, innocent civilians, and the maimed as they were increasingly drawn into belligerent situations.¹⁰⁶ Hence, international law was turned away from considerations of moral purpose or ethical transgression and was redirected to more pragmatic concerns of damage limitation.¹⁰⁷

The occasion ripened for codification of these positivist norms and customs.¹⁰⁸ As a result, the laws of armed conflict were born out of the

going to war in accordance with the prevailing doctrine, has no legal effect whatever upon the conduct of the war; it relates to politics and equity rather than to law." Id., at 676 (emphasis added).

¹⁰⁰ MONSIEUR DE VATTEL, *THE LAW OF NATIONS; OR, PRINCIPLES OF THE LAW OF NATURE, APPLIED TO THE CONDUCT AND AFFAIRS OF NATIONS AND SOVEREIGNS* 381-382 (Joseph Chitty trans., 1852).

¹⁰¹ See J.L. BRIERLY, *THE LAW OF NATIONS: AN INTRODUCTION TO THE INTERNATIONAL LAW OF PEACE* 37-40 (Sir Humphrey Waldock ed., 6th ed. 1963).

¹⁰² As Werner Levi has observed:

The rise of positivism and the simultaneous decline of the naturalist theory of law—or, in other words, the ostensible elimination of value judgments about legal norms so as to facilitate the growth of law in a multicultural world—legitimized the conduct of wars for the enforcement of political demands even without a legal basis or "just cause."

WERNER LEVI, *CONTEMPORARY INTERNATIONAL LAW* 12 (2d ed. 1991).

¹⁰³ BRIERLY, *supra* note 101, at 37-38.

¹⁰⁴ GERHARD VON GLAHN, *LAW AMONG NATIONS: AN INTRODUCTION TO PUBLIC INTERNATIONAL LAW* 33 (6th ed. 1992).

¹⁰⁵ *Id.* at 670 & 699.

¹⁰⁶ See generally J. DAVID SINGER & MELVIN SMALL, *THE WAGES OF WAR, 1816-1965, A STATISTICAL HANDBOOK* (1972).

¹⁰⁷ VON GLAHN, *supra* note 104, at 33 & 670.

¹⁰⁸ KALSHOVEN, *supra* note 3, at 7-18.

Hague Conferences in 1899 and 1907 through a series of conventions.¹⁰⁹ These documents, while addressing some issues of justification, focused mainly on the conduct of war. With a codified regime for warfare in place, the onset of conflict would produce legal consequences for belligerents and third parties alike, irrespective of the possibility that its outbreak may or may not have involved the abrogation of a specific international normative obligation.¹¹⁰

Bolstered by the two Hague Conferences, positivists clearly gained the ascendance and asserted that justice, righteousness and rectitude had little role to play in a world regulated by conventions and arms control agreements. The sobering experience of massive death and destruction wrought by World War I, however, brought about a reconsideration of these attitudes.¹¹¹ International legal opinion came to accept the belief that states are culpable for initiating a policy of warfare.¹¹² This revival of accountability, coupled with the associated sense of righteousness in the Versailles Treaty, rekindled international legal efforts to distinguish between just and unjust wars, a responsibility that had largely been ignored since the late 1700s.¹¹³

Regrettably, neither philosophically highlighting war's ethical status, nor the Kellogg-Briand pact outlawing aggressive war as an instrument of national policy,¹¹⁴ nor even the availability of the League of Nations were able to prevent World War II. Damage to society and the environment outstripped attempts to control international conflict. At the conclusion of World War II, however, the international community moved quickly on both philosophical fronts. The positivist doctrine was bolstered by the Nuremberg Tribunal as it held that principles in the Hague Conventions on Land Warfare of 1899/1907 conveyed the force of customary law that would be binding even upon non-signatory states. Those adhering to the "necessary law of nature" school were won over

¹⁰⁹ See International Convention with Respect to the Laws and Customs of War by Land, July 29, 1899, 32 Stat. 1803, [hereinafter Hague II]; Convention Respecting the Laws and Customs of War on Land, Oct. 18, 1907, 36 Stat. 2277, 1 Bevans 631 [hereinafter Hague IV].

¹¹⁰ See VON GLAHN, *supra* note 104, at 834-869 (discussing the concept of neutrality); Patrick M. Norton, *Between the Ideology and the Reality: The Shadow of the Law of Neutrality*, 17 HARV. INT'L L.J. 249 (1976).

¹¹¹ See VON GLAHN, *supra* note 104, at 33 & 670-674.

¹¹² *Id.* at 670.

¹¹³ See generally WILLIAM V. O'BRIEN, *THE CONDUCT OF JUST AND LIMITED WAR* (1981); MICHAEL WALZER, *JUST AND UNJUST WARS* (1977).

¹¹⁴ Treaty Providing for the Renunciation of War as an Instrument of National Policy. Aug. 27, 1928, 46 Stat. 2343, 94 L.N.T.S. 57. As provided for in this agreement, the contracting parties "condemn[ed] recourse to war for the solution of international controversies, and renounced it as an instrument of national policy in their relations with one another." *Id.* art. 1. Moreover, parties agreed that "the settlement or solution of all disputes or conflicts of whatever nature or of whatever origin they may be, which may arise among them, shall never be sought except by pacific means." *Id.* art. 2.

by the creation of both crimes against peace and crimes against humanity as evinced in the Nuremberg experience¹¹⁵ and subsequently codified in the 1949 Geneva Conventions.¹¹⁶

Again, war did not end with the entry into force of new international legal constraints. The experience of the Korean and Vietnam wars sparked negotiations in 1977 of two Additional Protocols to the 1949 Geneva Conventions.¹¹⁷ The emphasis of international law shifted back to positivism as Protocol I, dealing with the protection of victims of international conflict, refocused attention on the means and methods of warfare.¹¹⁸ Importantly, it is within this positivist approach of stressing methods and means for waging war that environmental issues have come to be forthrightly addressed. It is apparent that the "just" or "unjust" nature of a conflict in modern times hardly affects the means of waging contemporary warfare. It is thus within the positivist school of the law of armed conflict that the link has been made to the law protecting the environment.¹¹⁹

V. ASSESSMENT

The law of armed conflict generally is a civilized international attempt to control the social phenomenon of war.¹²⁰ Through international consensus, states have been lawfully deprived of unlimited choice

¹¹⁵ See Egon Schwelb, *Crimes Against Humanity*, 23 BRIT. Y.B. INT'L L. 178 (1946); VON GLAHN, *supra* note 104, at 885-886.

¹¹⁶ See generally Convention for the Amelioration of the Condition of the Wounded and Sick in Armed Forces in the Field, Aug. 12, 1949, 6 U.S.T. 3114, 75 U.N.T.S. 31 [hereinafter Geneva Convention I]; Convention for the Amelioration of the Condition of Wounded, Sick and Shipwrecked Members of Armed Forces at Sea, Aug. 12, 1949, 6 U.S.T. 3217, 75 U.N.T.S. 85 [hereinafter Geneva Convention II]; Convention Relative to the Treatment of Prisoners of War, Aug. 12, 1949, 6 U.S.T. 3316, 75 U.N.T.S. 135 [hereinafter Geneva Convention III]; Convention Relative to the Protection of Civilian Persons in Time of War, Aug. 12, 1949, 6 U.S.T. 3516, 75 U.N.T.S. 287 [hereinafter Geneva Convention IV].

¹¹⁷ Protocol Additional to the Geneva Conventions of August 12, 1949, and Relating to the Protection of Victims of International Armed Conflicts, June 8, 1977, 16 I.L.M. 1391 [hereinafter Protocol I]; Protocol Additional to the Geneva Conventions of August 12, 1949, and Relating to the Protection of Victims of Non-International Armed Conflicts, June 8, 1977, 16 I.L.M. 1442 [hereinafter Protocol II].

¹¹⁸ See generally HOWARD S. LEVIE, PROTECTION OF WAR VICTIMS: PROTOCOL I TO THE 1949 GENEVA CONVENTIONS (1981).

¹¹⁹ This point is demonstrated by restrictions in Protocol I of 1977 on methods and means of warfare that are intended or expected to have long-term or severe damage on the environment. See *infra* notes 143-145 and accompanying text. Interestingly enough, these violations are not considered to be grave breaches under Protocol I. KALSHOVEN, *supra* note 3, at 133.

¹²⁰ See generally BARRIE PASKINS & MICHAEL DOCKRILL, THE ETHICS OF WAR (1979); HOWARD S. LEVIE, THE CODE OF INTERNATIONAL ARMED CONFLICT (1986); Geoffrey Best, *The Restraint of War in Historical and Philosophical Perspective*, in HUMANITARIAN LAW OF ARMED CONFLICT: CHALLENGES AHEAD 3 (Astrid J.M. Delissen & Gerard J. Tanga eds., 1991).

in their means of inflicting damage upon an enemy.¹²¹ As warfare has moved from the battlefield to affect population centers, the law of armed conflict has placed increased emphasis on special protection of civilians and property, such that today, through convention and custom, wanton destruction of property clearly violates the law of armed conflict.¹²²

The law of armed conflict is governed by two fundamental principles, necessity and proportionality.¹²³ Respective to necessity, if it can be convincingly demonstrated that the use of armed force is necessary to preserve public order, that determination may legally justify the use of armed force.¹²⁴ A threat must be real and imminent, however, not imagined or hypothetical.¹²⁵

Under the same concept, necessity allows a military commander to use only that degree and kind of force required to accomplish the mission's objective.¹²⁶ This brings forth the notion of proportionality as a criteria for use of force.¹²⁷ In this respect, the limitation of proportionality restricts the options available to a commander in gauging the military necessity of a given action in two ways: (1) the principle of humanitarian concern; and (2) the doctrine of economy of forces.¹²⁸

Humanitarian issues reflect not only custom and respect for the combatants, but also represent both good will and good faith. It is reasonable to treat the defeated enemy's army well. Fair treatment encour-

¹²¹ See generally GEOFFREY BEST, HUMANITY IN WARFARE: THE MODERN HISTORY OF INTERNATIONAL LAW OF ARMED CONFLICTS (1980); THE HUMANITARIAN LAW OF ARMED CONFLICT (Antonio Cassese ed., 1979).

¹²² While custom and intent had stressed protection of noncombatants, such trends were not codified until the 20th century. At the close of World War II, "the Principles of International Law Recognized in the Charter of the Nuremberg Tribunal ma[d]e it a war crime to plunder public or private property, wantonly destroy cities, towns or villages, or perform devastation not justified by military necessity." The Charter and Judgment of the Nurmberg Tribunal: History and Analysis, U.N. Doc. A/CN.4/5, citing Agreement for the Prosecution and Punishment of the Major War Criminals of the European Axis, Charter of the International Military Tribunal, art. 6(b), Aug. 8, 1945, 59 Stat. 1544, 82 U.N.T.S. 279.

¹²³ See ANNOTATED SUPPLEMENT TO THE COMMANDER'S HANDBOOK ON THE LAW OF NAVAL OPERATIONS, NWP 9 (REV.A)/FMFM 1-10 (1989), at 5-4 to 5-7 [hereinafter LAW OF NAVAL OPERATIONS].

¹²⁴ See generally Weiden, *Necessity in International Law*, in 24 TRANSACTIONS OF THE GROTIUS SOCIETY 105 (1939); William Gerard Downey, Jr., *The Law of War and Military Necessity*, 47 AM. J. INT'L L. 251 (1953).

¹²⁵ See generally N.C.H. Dunbar, *The Significance of Military Necessity in the Law of War*, 67 JURID. REV. 201 (1955).

¹²⁶ This principle is known as "economy of force." See *infra* notes 131-133 and accompanying text.

¹²⁷ The rule of proportionality is codified in Protocol I, *supra* note 117, arts. 51(5)(b) & 57(2)(a)(ii)-(iii). See generally William J. Fenrick, *The Rule of Proportionality and Protocol I in Conventional Warfare*, 98 MIL. L. REV. 91 (1982). See also LAW OF NAVAL OPERATIONS, *supra* note 123, at 5-6 to 5-7 n.6.

¹²⁸ LAW OF NAVAL OPERATIONS, *supra* note 123, at 5-7.

ages reciprocity and reduces ill will.¹²⁹ The unwarranted destruction of life, land and property runs contrary to the norms and expectations of humanity, as well as the need for world public order.¹³⁰

In addition to the humanitarian concern, which strikes a strong responsive moral chord in the jurist, it is the highly pragmatic military doctrine of "economy of force" that plays an even more salient role in influencing military decisions.¹³¹ Economy of force is the minimum force needed to accomplish the military objective.¹³² As noted officially by the U.S. Department of the Navy, military necessity "permits a belligerent to apply only that degree and kind of regulated force, not otherwise prohibited by the laws of war, required for the partial or complete submission of the enemy with the least possible expenditure of time, life, and physical resources."¹³³

¹²⁹ As well put in an authoritative military supplement on international law:

As long as war is not abolished, the law of armed conflict remains essential. During such conflicts the law of armed conflict provides common ground of rationality between enemies. This body of law corresponds to their mutual interests during conflict and constitutes a bridge for a new understanding after the end of the conflict. The law of armed conflict is intended to preclude purposeless, unnecessary destruction of life and property and to ensure that violence is used only to defeat the enemy's military forces. If followed by all participants, the law of armed conflict will inhibit warfare from needlessly affecting persons or things of little military value. By preventing needless cruelty, the bitterness and hatred arising from armed conflict is lessened, and thus it is easier to restore an enduring peace.

Id. at n.7.

¹³⁰ See JEAN PICET, *HUMANITARIAN LAW AND THE PROTECTION OF WAR VICTIMS* 28-29 (1975); Respective to the legal relationship between the doctrine of military necessity and the principle of humanitarian concern, the Nuremberg Trial case of *United States v. List* made these relevant observations:

[Military necessity] permits the destruction of life of armed enemies and other persons whose destruction is incidentally unavoidable by the armed conflicts of war; it allows the capturing of armed enemies and others of peculiar danger, but it does not permit the killing of innocent inhabitants for purposes of revenge or the satisfaction of a lust to kill. The destruction of property to be lawful must be imperatively demanded by the necessities of war. Destruction as an end in itself is a violation of international law. There must be some reasonable connection between the destruction of property and the overcoming of enemy forces.

United States v. List, 11 Trials of War Criminals Before the Nuremberg Military Tribunals Under Control Council Law No. 10, 1230, 1253 (1948).

¹³¹ "Economy of force" is one of the cardinal "principles of war" adopted by the U.S. armed forces as service doctrine. See *LAW OF NAVAL OPERATIONS*, *supra* note 123, table ST5-1, at 5-9; *ARMED FORCES STAFF COLLEGE, JOINT STAFF OFFICER'S GUIDE*, Pub. 1, para. 102, at 1-4 and fig. 1-1, at 1-5 (1986).

¹³² "Economy of force" means that "no more — or less — effort should be devoted to a task than is necessary to achieve the objective." *LAW OF NAVAL OPERATIONS*, *supra* note 123, at 5-8 n.8.

¹³³ U.S. DEPARTMENT OF THE NAVY, *LAW OF NAVAL WARFARE* § 220(a) (1955). The Fourth Geneva Convention of 1949 concerning the protection of civilian persons during war was constructed upon this principled foundation. Article 53 in the Convention provides that:

Yet the twin pillars of military necessity are not mutually exclusive. Use of the "economy of forces" principle can also be elevated to the humanitarian appeal contained in the law of armed conflict. Application of economy of force during the implementation of a military campaign contributes to military efficacy. Indeed, to destroy objects of ecological value that are not deemed necessary military objectives is not an economical use of force; it expends military capability without returning any net gain in military advantage. By the same token, pragmatic utilitarians will defend such conservation practices as well.¹³⁴

To summarize, the use of force in international law is delicately balanced between the precepts of military necessity and proportionality as articulated within the following context: (a) force must be regulated; (b) force must be necessary; (c) a commander must use the minimum force necessary; and (d) force must not otherwise be forbidden by legally binding law of armed conflict, orders from a superior, non-binding rules of engagement, or any other legal fiat.¹³⁵

This same principle can be extrapolated to environmental considerations as well. Wanton destruction of the environment diverts limited military resources away from the penultimate military purpose of terminating the war once favorable military objectives have been achieved.

Philosophically, both laws for environmental protection and armed conflict share the fundamental concept of conservation.¹³⁶ This driving principle of conservation undergirds the normative quality as well as practical utility of both bodies of international law. Importantly, the legal implications of the Gulf War oil spill supply a confluence for the law of environmental protection and the law of armed conflict—a confluence that magnifies the unlawfulness of Iraq's aggression against Kuwait. The intuitive normative wrongs consequently find form and substance in

Any destruction by the Occupying Power of real or personal property belonging individually or collectively to private persons, or to the State, or to other public authorities, or to social or cooperative organizations, is prohibited, excepted where such destruction is rendered absolutely necessary by military operations.

Geneva Convention IV, *supra* note 116, art. 53.

¹³⁴ As R. B. Brandt has observed,

The measure of permissible devastation is found in the strict necessities of war. Devastation as an end in itself or as a separate measure of war is not sanctioned by the law of war. There must be some reasonably close connection between the destruction of property and the overcoming of the enemy's army.

R.B. Brandt, *Utilitarianism and the Rules of War*, in *WAR AND MORAL RESPONSIBILITY* 25, 38-39 (Marshall Cohen et al. eds., 1975).

¹³⁵ See generally *LAW OF NAVAL OPERATIONS*, *supra* note 123; William H. Parks, *Command Responsibility for War Crimes*, 62 *MIL. L. REV.* 1 (1973).

¹³⁶ In this sense, "conservation" embodies the notion that the law preserves, guards, and protects society from excessive loss, injury, or decay resulting from armed conflict or environmental degradation.

violations of the codified international laws for both environmental protection and regulation of armed conflict.

VI. THE LEGAL NEXUS BETWEEN ENVIRONMENTAL PROTECTION AND ARMED CONFLICT

Viewed within the dual contexts of environmental law and the laws of war, it is not difficult to conclude that by unleashing the massive oil spill the Iraqi leadership abrogated certain regional and international legal responsibilities. But which set of laws might furnish the most effective or most appropriate means for lodging claims against Iraq? The prevailing opinion suggests that protection of the environment must fall within recognized principles in the law of armed conflict.¹³⁷ This point rings especially true given that Iraq released the oil spill as a deliberate policy during a situation of belligerency.

Drawing upon the doctrine of military necessity and the common theme of conservation, the law of environmental protection would hold a special place in developing charges and shaping arguments against the Iraqi government. It is because of this system of shared ethics that the law of environmental protection can be employed to bolster facets of the law of armed conflict that relate to limiting environmental damage during war. Furthermore, it serves to prohibit manipulation or degradation of the environment for belligerent purposes.

Preeminence of the law of armed conflict may be explained by its long tradition in both international custom and state practice.¹³⁸ As previously noted, humanitarian and environmental philosophies, principles and practices during war have been contemplated and codified for centuries.¹³⁹ The law of the environment, on the other hand, has only recently attracted the attention of the international community.¹⁴⁰

The 1954 Oil Spill Convention marked the first major attempt to address worldwide environmental concerns.¹⁴¹ The 1972 Stockholm Declaration and progressive development of ocean law culminating in

¹³⁷ To support this assertion, one need only realize that more than 160 states in the international community have ratified the four 1949 Geneva Conventions on the Law of War. Theodor Meron, *The Geneva Conventions as Customary Law*, 81 AM. J. INT'L L. 348, 348 n.2. (1987). In contrast, laws for the protection of the environment still await the inception, let alone widespread ratification, of such a quasi-universal convention.

¹³⁸ See *supra* notes 92-98.

¹³⁹ See *supra* notes 99-119.

¹⁴⁰ The law of armed conflict has been evolving since before the time of Grotius, in the sixteenth century. However, it was only in 1972 that the Stockholm Conference on the Human Environment set the modern beginning of environmental concerns in international law. See Christopher C. Joyner & Nancy D. Joyner, *Global Eco-Management and International Organizations: The Stockholm Conference and Problems of Cooperation*, 14 NAT. RESOURCES J. 533 (1974).

¹⁴¹ See *supra* note 45 and accompanying text.

the Third United Nations Law of the Sea Convention over the subsequent decade reflected truly bold and global thinking pertaining to environmental issues.¹⁴² Yet, as codified international law, the law of environmental protection has evolved only since World War II. Though obviously possessing considerable importance, the law of environmental protection does not yet command the same degree of broad-based historical familiarity or global acceptance as does the law of armed conflict.

No less important is that the international community, drawing upon the heightened awareness and sensitivities of environmental issues, is working to integrate such concerns into the body of armed conflict law. Protocol I, promulgated in 1977, incorporates the fundamental consensus regarding environmental protection against military activities.¹⁴³ Article 35 of that instrument sets the following as basic rules in international law for the methods and means of warfare:

1. In any armed conflict, the right of the parties to the conflict to choose methods of warfare is not unlimited.
2. It is prohibited to employ weapons, projectiles and material and methods of warfare of a nature to cause superfluous injury or unnecessary suffering.
3. It is prohibited to employ methods or means of warfare which are intended, or may be expected, to cause widespread, long-term and severe damage to the natural environment.¹⁴⁴

Importantly, Protocol I reaffirms the international community's humanitarian concerns during the course of conflict. To this end there exists a convergence of ideals in Protocol I. In particular, the intention is that the "Law of the Hague," developed mainly with interstate rules governing the use of force, and the "Law of Geneva," developed to ensure protection of persons from the effects of armed conflicts, should dovetail in substantial degree.¹⁴⁵ Such a convergence not only supplies greater coincidence in the law regulating the use of force; it also serves to reinforce the nature and normative quality of that law.

The broad foundation of the law of armed conflict, rich in both detail and history, prompts the conclusion that it will retain greater consequence and heavier legal weight than the more recently emergent

¹⁴² See *supra* notes 75-82 and accompanying text.

¹⁴³ See KALSHOVEN, *supra* note 3, at 81 (noting that the proponents of this "new basic rule" were probably motivated in this environmental prohibition by the "large-scale deforestations carried out by the Americans in the course of the war in Vietnam.").

¹⁴⁴ Protocol I, *supra* note 117, art. 35.

¹⁴⁵ Paragraphs 1 and 2 of Article 35 of Protocol I reaffirm the two classical principles of the "Law of the Hague." *Id.* paras. 1-2. These principles are then supplemented by the modernized paragraph 3. *Id.* para. 3; KALSHOVEN, *supra* note 3, at 80-81. Importantly, the general principles of the "Law of the Hague" have in large part passed into customary international law. Meron, *supra* note 137.

environmental law. Perpetration of "widespread, long-term and severe damage"¹⁴⁶ to the environment is specifically violative of Protocol I of the law of armed conflict;¹⁴⁷ it has not, however, been made a specific norm formally expressed in widely recognized tenets of environmental international law as such.

Ideally, the law of environmental protection should produce a record of acceptance equally impressive to that for armed conflict. More likely, however, environmental law's greatest impact will be relegated to setting out necessary limitations on the means, methods and objects of war. Thus, pertaining to the Gulf War oil spill, the international course of reaction most likely will turn to violations of the law of armed conflict. The interface between the two complimentary bodies of international law thus becomes apparent. A critical need arises to consider ecological principles and experiences of environmental protection law when interpreting the environmental aspects of the law of armed conflict. This recommendation underpins evaluation of the Gulf War oil spill under international law as well as considering conceivable explanations for Iraq's action.

VII. INTENT AND APPROPRIATE INTERNATIONAL LEGAL RESPONSES

The Persian Gulf is a narrow, shallow body of water that is virtually landlocked. No rivers flow into it from the Saudi side, and the only significant water exchange is with the Indian Ocean, through the Strait of Hormuz. As such, dispersal of massive oil spills in the Persian Gulf is difficult and protracted.¹⁴⁸

The devastating oil spill released into the Persian Gulf shortly after hostilities broke out between the allied coalition and Iraq deeply disturbed the international community.¹⁴⁹ Almost immediately, rationales were put forward to understand Saddam Hussein's pursuit of such a noxious strategy. Three theories surfaced to explain Iraq's motivation:

- (1) the oil spill had a military purpose, i.e., it would create a defensive

¹⁴⁶ Protocol I, *supra* note 117, art. 35, para. 3.

¹⁴⁷ While this may be so, the undefined extent and vague scope of such "widespread, long-term and severe damage" leaves substantial room for vagaries in interpretation and application.

¹⁴⁸ For a discussion of the relevant geography of the Persian Gulf, see Christopher C. Joyner, *Introduction: The Geography and Geopolitics of the Persian Gulf*, in *THE PERSIAN GULF WAR*, *supra* note 19, at 1, 2-4.

¹⁴⁹ See Schneider, *supra* note 8; Shenon, *supra* note 13. In the wake of Iraq's oil spill, the U.S. Senate passed a resolution urging the administration to pursue an international tribunal for war crimes committed by Iraq during its occupation war. David Hoffman, *U.S.: No Plans to Try Saddam in Absentia*, WASH. POST, Apr. 24, 1991, at A24. The European Community asked the United Nations to explore charges against Iraq during the Gulf War as well. *Id.* In addition, the U.N. Security Council voted to hold Iraq responsible for violations of international law. *Id.*

barrier of gooey beaches to impede against an amphibious assault by the allied coalition;

(2) it was a terror tactic, as averred by President Bush's description of the incident as an act of "environmental terrorism" to befoul desalination plants in Saudi Arabia. (Though open to conjecture, a related theory suggested that Iraq aimed to dispirit public opinion or perhaps even outrage the coalition into premature assault); and/or

(3) there was actually no strategy, release of the oil slick was merely one in a series of tactical probes by Iraq that sought to test allied forces and possibly disrupt them.¹⁵⁰

Determination of intent remains an important step towards identifying specific violations of the law of armed conflict, as well as appropriate international responses.

Regarding the possibility of a military purpose, attacks upon the environment as a means of waging war are not new. History is replete with episodes in which belligerents have attempted to defeat the enemy by attacking the environment.¹⁵¹ Within the framework of military purpose, Iraq's oil pollution may be explained as a defensive act aimed at slowing, diverting, or deterring an impending amphibious assault.¹⁵² The Iraqi leadership might have reasoned that a "scorched-earth"—or put more aptly, a "spoiled-sea" policy—was both required and lawful, given its situation of desperation. Indeed, the law of armed conflict does acknowledge that a scorched-earth policy of belligerents may at times be rendered a proper action of military necessity.¹⁵³ Such a sentiment is

¹⁵⁰ Gellman, *supra* note 25.

¹⁵¹ See SIPRI, *WARFARE IN A FRAGILE WORLD: MILITARY IMPACT ON THE HUMAN ENVIRONMENT* 14-19 (Rajesh Kumar ed., 1980). Examples of ravaging the environment as part of a belligerent's military strategy are legion. In 1980, SIPRI catalogued 26 major "ecologically disruptive wars" in history, which included among them the following: The Peloponnesian War (431-404 B.C.), Third Punic War (149-146 B.C.), Thirty Years' War (1618-1648), Napoleonic Wars (1796-1815), U.S. Civil War (1861-1865), World War I (1914-1918), World War II (1939-1945), Korean War (1950-1953), Second Indochina War (1961-1975), and the Kampuchean Insurrections (1975-1977). *Id.*

¹⁵² See Apple, *supra* note 7; Shenon, *supra* note 13.

¹⁵³ As provided for in the Hague Regulations, "military necessity" does not convey a license to destroy. It permits destruction of life and property by an occupant when it is "necessary to protect the safety of his forces and to facilitate the success of his operation." *LAW OF NAVAL OPERATIONS*, *supra* note 123, at 5-5 n.5. However, the principle of military necessity

does not permit the killing of innocent inhabitants for purposes of revenge or the satisfaction of a lust to kill. The destruction of property to be lawful must be imperatively demanded by the necessities of war. Destruction as an end in itself is a violation of international law. There must be some reasonable connection between the destruction of property and the overcoming of the enemy forces. It is lawful to destroy railways, lines of communication, or any other property that might be utilized by the enemy. Private homes and churches even may be destroyed if necessary for military operations. It does not admit the wanton devastation of a district or the willful infliction of suffering upon its inhabitants for the sake of suffering alone.

alluded to in Protocol I, Article 54 which would permit a scorched-earth policy by a state defending its territory from invasion when the state has such territory under its control.¹⁵⁴

Two salient questions, one of theory and one of practice, surface if this argument is pursued in detail. First, for an argument based on a scorched-earth (or spoiled-sea) policy to be acceptable, some credible expectation must exist for the belligerent to prove that such actions had a reasonable chance for success. The unlawful occupation of Kuwait exposed the Iraqi military to attack and invasion from land, sea and air. The overwhelming numbers and firepower of allied coalition forces should have indicated to Iraq that any barrier to sea-borne invasion would, at best, only hamper invasion efforts, with no real prospect of thwarting an impending attack indefinitely.

Secondly, the Mina al Ahmadi pipeline and Sea Island Tanker Terminal lay ten miles off the Kuwaiti shore and about forty miles north of the Saudi border.¹⁵⁵ Perhaps the Iraqi government believed that through its action it could turn the Persian Gulf into a sea of oil, or possibly even a blazing inferno; that scenario, however must have appeared at best fanciful. A more reasonable expectation should have reckoned that the resultant oil slick might have covered only one-third of the approximately 120 miles of open shoreline available for an amphibious invasion. As a consequence, the spill could only deny an invasion force one-third of its potentially available amphibious landing sites. Further, it would obviously have no deterrent effect on the prospect of invasion by land or air.

To attach military purpose to the oil spill appears to be less than of "imperative" necessity and would therefore fail to fulfill the requirements for permissible environmental destruction set out in Protocol I.¹⁵⁶ Iraq remained legally constrained by principles in the law of armed conflict

Id.

¹⁵⁴ Regarding the protection of objects that are "indispensable to the survival of the civilian population" of a belligerent state, Article 54 of Protocol I provides that:

1. Starvation of civilians as a method of warfare is prohibited.
2. It is prohibited to attack, destroy, remove or render useless objects indispensable to the survival of the civilian population, such as foodstuffs, agricultural areas for the production of food-stuffs, crops, live stock, *drinking water installations* and supplies and irrigation works, for the specific purpose of denying them for their sustenance value to the civilian population or to the adverse Party, whatever the motive, whether in order to starve out civilians, to cause them to move away, or for any other motive.

* * * *

5. In recognition of the vital requirements of any Party to the conflict in the defence of its national territory against invasion, *derogation from the prohibitions contained in paragraph 2 may be made by a Party to the conflict within such territory under its own control where required by imperative military necessity.*

Protocol I, *supra* note 117, art. 54 (emphasis added).

¹⁵⁵ See Apple, *supra* note 6, at A6.

¹⁵⁶ Protocol I, *supra* note 117, art. 54.

which assert that the right of the defender to adopt means of repulsing an attacker is not unbounded.¹⁵⁷

That Iraq failed to honor those principles is an important comment on the lackluster character of that government as a law-abiding member of the international community.¹⁵⁸

As noted earlier, destruction of the environment as a premeditated policy during war is not new. Frequently associated with scorched-earth campaigns, General William T. Sherman once remarked in 1863 that "the only possible way to end this unhappy and dreadful conflict [the American Civil War] . . . is to make it *terrible beyond endurance*."¹⁵⁹ This concept of massive coercive warfare utilizes terror to subjugate the enemy.

Certain legal problems arise in assessing the terror tactic as an explanation for Iraq's action. First, the term "environmental terrorism" may be catchy, but it simply is not useful in international law. No consensus has developed on a definition of terrorism, either within the United Nations, among the policy analysts, or by international legal scholars.¹⁶⁰ Resort to the term "terrorism" merely muddles the relevant issues and confuses international opinion over the legal questions motivating a violent act.¹⁶¹

Use of terror tactics against civilians in warfare is generally condemned.¹⁶² The issue was discussed during the drafting of Protocol I in the Diplomatic Conference on the Reaffirmation and Development of International Humanitarian Law Applicable in Armed Conflicts.¹⁶³ Indeed, Article 51 of the adopted Protocol I asserts that "the civilian population as such, as well as individual civilians, shall not be made the object of attack. Acts or threats of violence, the primary purpose of

¹⁵⁷ SIPRI, *THE LAW OF WAR AND DUBIOUS WEAPONS* 1 (1976).

¹⁵⁸ The tendency by the Iraqi government during late 1991 to resort to unlawful activities is clearly reflected in the 16 various resolutions adopted unanimously or near-unanimously by the U.N. Security Council condemning Iraq for its various actions. Not only did Iraq aggressively invade Kuwait, it also violated norms of international law against hostage-taking by its seizure of foreigners as "human shields," committed acts of violence against diplomatic premises and personnel in Kuwait, attempted to alter the demographic composition of Kuwait, and committed numerous and substantial violations of human rights against local Kuwaitis. See Joyner, *supra* note 5, at 8-12. For fuller discussion of Iraqi violations see Christopher C. Joyner, *The Persian Gulf War and International Law: Reasons or Excuses?*, *WORLD OUTLOOK: J. WORLD AFF.* 130 (1992).

¹⁵⁹ Henry Hitchcock, *MARCHING WITH SHERMAN: LETTERS AND DIARIES OF HENRY HITCHCOCK* 35 (M.A. DeWolfe Howe ed., 1927).

¹⁶⁰ Compare John F. Murphy, *Defining International Terrorism: A Way Out of the Quagmire*, 19 *ISRAEL Y.B. HUM. RTS.* 13 (1989) with Krzysztof Skubiszewski, *Definition of Terrorism*, 19 *ISRAEL Y.B. HUM. RTS.* 39 (1989).

¹⁶¹ See Geoffrey Levitt, *Is "Terrorism" Worth Defining?*, 13 *OHIO N.U. L. REV.* 97 (1986).

¹⁶² SIPRI, *supra* note 157, at 24.

¹⁶³ See Torsten Stein, *How Much Humanity Do Terrorists Deserve?*, in *HUMANITARIAN LAW OF ARMED CONFLICT* *supra* note 120, at 567, 573-574.

which is to spread terror among the civilian population, are prohibited."¹⁶⁴ Use of terror violence against a civilian population is thus forbidden during international conflict.

In addition to semantic and legal problems of identifying the oil spill as a terror tactic, a philosophical case against "eco-terrorism" may be posited as well. The Stockholm International Peace Research Institute (SIPRI) expressed the point aptly when it observed, "Capitulation cannot be achieved by terror if there is still military hope left. If there is no hope left, terror is unnecessary."¹⁶⁵ SIPRI's analysis is deductively instructive: "In view of this, the conclusion can be drawn that military necessity in the form of coercive warfare is no argument for the thesis that the rule forbidding attack on civilian populations as such should no longer be considered valid."¹⁶⁶ In principle, use of terror as a policy instrument by states is rejected as unlawful by the international community in times of war.¹⁶⁷ This trend hopefully will continue through the codification of crimes of terror in times of peace, including destruction of the environment to instill political fear in a population.

A third school of thought postulated that Iraq's polluting action lacked any strategic purpose per se; the oil spill was the act of a despot probing the will of the enemy, or perhaps even that of the whole international community. Release of the oil slick might have reflected an attempt by Iraq to disrupt or strain the bounds of international norms.¹⁶⁸ Expressed tersely, through its policy of intentional environmental degradation, Iraq acted as a mean-spirited international bully in the Persian Gulf.

The contention that Iraq released a massive oil spill in the gulf out of sheer vileness is especially disturbing when viewed in light of recent international legal developments. The 1982 Law of the Sea Convention introduced the notion of ocean space beyond the limits of national jurisdiction being legally considered as the "common heritage of mankind."¹⁶⁹ Within the context of the 1982 Convention on the Law of the Sea, the high seas are to be used for the benefit of mankind and no claims

¹⁶⁴ Protocol I, *supra* note 117, art. 51, para. 2.

¹⁶⁵ SIPRI, *supra* note 157, at 24.

¹⁶⁶ *Id.*

¹⁶⁷ *Id.*

¹⁶⁸ While the actual reasons or motivations for release of the oil slick have yet to be, and may never be revealed, actions by the Iraqi government and its army during its occupation of Kuwait strongly suggest that sheer meanness and perfidity might be the real considerations for the cause. See Andrew Rosenthal, *Bush Calls Gulf Oil Spill a 'Sick' Act by Hussein*, N.Y. TIMES, Jan. 26, 1991, at A5. For additional testimony on the brutality of Iraq's occupation of Kuwait, see AMNESTY INTERNATIONAL, IRAQ/OCCUPIED KUWAIT: HUMAN RIGHTS VIOLATIONS SINCE AUGUST 2, 1990, MDE 14/16/90 (Dec. 1990).

¹⁶⁹ See Christopher C. Joyner, *Legal Implications of the Concept of the Common Heritage of Mankind*, 35 INT'L & COMP. L. Q. 191 (1986).

of sovereignty or appropriation are to be recognized.¹⁷⁰ Such a positivist philosophy describes open ocean space as *res communis*, belonging to no state in particular and to the world community in general.¹⁷¹ Unfortunately, this philosophy leaves the marine environment exposed and vulnerable to exploitation. As John Kindt has opined, "According to the concept known as the 'tragedy of the commons,' property which is part of Mankind's common heritage does not belong to anyone in particular, and therefore, there is no individual incentive to preserve it."¹⁷² Simply put, since each state is sovereign, each government theoretically could despoil the environment in any manner it deemed necessary. Iraq clearly desired to seize the advantage of such a rationale.

As a sovereign state, however, Iraq still remains subject to certain limits and rules of international law. The oil slick originated some ten miles off the coast of occupied Kuwait—fully within the territorial sea delimitations claimed by both Kuwait and Iraq.¹⁷³ Moreover, the issue of state responsibility must be weighed in the balance. It should be realized that an international crime may result from seriously abrogating an obligation of environmental protection law, particularly by the intentional discharge of massive pollution into high seas regions.¹⁷⁴ Such international community environmental norms were articulated as early as 1938 in the Trail Smelter Case.¹⁷⁵ Though Iraq is a sovereign state, it nonetheless is bound to abide by international law, if for no other reason than to safeguard its own long-term interests in international affairs.¹⁷⁶ The failure by the Iraqi government to fulfill its international obligations

¹⁷⁰ 1982 LOS CONVENTION, *supra* note 75, art. 89. As provided in part by Article 87, "The high seas are open to all States, whether coastal or land-locked." *Id.* art. 87. Article 88 provides in full that "[t]he high seas shall be reserved for peaceful purposes." *Id.* art. 88.

¹⁷¹ See Bradley Larschan & Bonnie C. Brennan, *The Common Heritage of Mankind: Principle in International Law*, 21 COLUM. J. TRANSNAT'L L. 305 (1983). See also EDITH BROWN WEISS, IN FAIRNESS TO FUTURE GENERATIONS: INTERNATIONAL LAW, COMMON PATRIMONY, AND INTERGENERATIONAL EQUITY 232-247 (1989).

¹⁷² 2 JOHN WARREN KINDT, MARINE POLLUTION AND THE LAW OF THE SEA 1105 (1986).

¹⁷³ Both Kuwait and Iraq claim a twelve mile territorial sea, as also does Saudi Arabia. See J. FENWICK & D.A. ROSS, INTERNATIONAL PROFILES ON MARINE SCIENCE RESEARCH JURISDICTION AND BOUNDARIES: NATURAL MARITIME CLAIMS, MSR JURISDICTION, & U.S. RESEARCH CLEARANCE HISTORIES FOR THE WORLD'S COASTAL COUNTRIES (1992).

¹⁷⁴ As Oscar Schachter has rightly posited, "there is no doubt that in principle, a state that violates a rule of international law by an activity involving transborder injury is liable to make reparation and to compensate the injured state." Schachter, *supra* note 1, at 482. See also Gaines, *supra* note 36.

¹⁷⁵ Trail Smelter Case (U.S. v. Can.), 3 R.I.A.A. 1905. The tribunal decision against Canada for its transfrontier air pollution concluded that "no State has the right to use or permit the use of its territory in such a manner as to cause injury . . . to the territory of another or the properties or persons therein, when the case is of serious consequence and the injury is established by clear and convincing evidence." *Id.* at 1965.

¹⁷⁶ Gerhard von Glahn cites the following among the reasons why states obey international law: "enlightened self-interest"; "necessity"; "credibility"; "habit"; "world opinion"; "social ap-

under both the law of environmental protection and the law of armed conflict could lead to various unilateral, regional and international actions designed to discourage similar acts in the future.¹⁷⁷

Although excessive exploitation of the common heritage of mankind might one day drift towards the "tragedy of the commons" on the high seas, Iraq's deliberate discharge of oil occurred well within the territory under its unlawful occupation.¹⁷⁸ While comprehensive, precisely defined norms for the protection of the global environment may not currently be codified, international legal opinion remains heavily weighed against deliberate acts of environmental destruction, especially those which have potentially far-reaching destructive impacts on neighboring states.¹⁷⁹ That this act of degradation occurred as part of a larger unlawful act of aggression highlights its impermissible character.

Although enthusiasm for establishing an international tribunal to try Iraqi officials for war crimes—including acts which destroyed Kuwaiti national property—appears to be waning,¹⁸⁰ important precedents for such trials do exist. Both the Nuremberg and Tokyo war crimes trials after World War II focused on system criminality; that is, the proceedings were not concerned with violations of the laws of combat. Rather, the trials tended to focus more on official violations of the laws of occupation, especially gross violations of the rights of civilian populations.¹⁸¹

Were a case to be marshalled against the Iraqi leadership in the Gulf War, concentration should fall on violations of belligerent occupation.¹⁸²

proval and costs"; and "disadvantages of expediency." VON GLAHN, *supra* note 104, at 6-7. With respect to legal obligation, Briery observed:

The ultimate explanation of the binding force of all law is that man, whether he is a single individual or whether he is associated with other men in a state, is constrained, in so far as he is a reasonable human being, to believe that order and not chaos is the governing principle of the world in which he has to live.

BRIERY, *supra* note 101, at 56.

¹⁷⁷ That is, such violations of these eco-conflict legal obligations could result in international punitive sanctions to serve as deterrence for other would-be miscreants in the international community.

¹⁷⁸ The Sea Island Tanker Terminal was located ten miles offshore Kuwait. See Apple, *supra* note 6 and accompanying text. Additionally, Kuwait claims a twelve mile territorial sea. See FENWICK & ROSS, *supra* note 173.

¹⁷⁹ See generally SIPRI, ENVIRONMENTAL WARFARE, *supra* note 2; SIPRI, WARFARE IN A FRAGILE WORLD, *supra* note 151.

¹⁸⁰ Although a U.N. Security Council Resolution would hold Iraq responsible for violations of international law, no international tribunal has yet been established to try the war crimes nor has the United States demonstrated enthusiasm for forcibly apprehending Saddam Hussein in order to try him for the alleged crimes. See Hoffman, *supra* note 149.

¹⁸¹ See generally William V. O'Brien, *The Nuremberg Precedent and the Gulf War*, 31 VA. J. INT'L L. 391 (1991); John Norton Moore, *War Crimes and the Rule of Law in the Gulf Crisis*, 31 VA. J. INT'L L. 403 (1991).

¹⁸² See Jordan J. Paust, *Suing Saddam: Private Remedies for War Crimes and Hostage-Taking*,

Such laws are well developed, internationally codified, and draw heavily from the customary practice of states.¹⁸³ Indeed, rules affecting belligerent occupation are codified in Section III of the Hague Regulations respecting the Laws and Customs of War on Land, and are entitled "On Military Authority over the Territory of the Hostile State."¹⁸⁴ In setting out its mandate, the Nuremberg court in fact determined that the Hague Conventions of 1899 and 1907 had already become customary law and were therefore binding on all states.¹⁸⁵ Just as the Nuremberg and Tokyo War Crimes trials and the 1949 Geneva Conventions advanced the laws of war towards a more humanitarian ideal, Protocol I also makes a contribution in damage limitation. Should Protocol I be invoked in the absence of a "military necessity defense," that instrument would hold a commander criminally liable when actions ordered by the commander cause extensive damage.¹⁸⁶ Damage, of course, is not merely consigned to obliteration of a military target. Excessive damage also pertains to collateral damage of civilian areas and to destruction of the physical environment.¹⁸⁷ Military doctrine has purposefully attempted to limit in law and policy such extraordinary destruction.¹⁸⁸

International law has substantially broadened its humanitarian emphasis during the past century to encompass environmental protection during war.¹⁸⁹ Interestingly enough, the Nuremberg Trials actually supplied a significant source of customary law against devastation of the environment. Several defendants were tried for what amounted to the massive devastation of the environment.¹⁹⁰ Though acquitted, the willingness of the tribunal to subject the accused to trial, and the finding by the tribunal that "devastation prohibited by the Hague Rules and the usages of war is not warranted by military necessity"¹⁹¹ affirmed that the

31 VA. J. INT'L L. 351 (1991); Louis Rene Beres, *The United States Should Take the Lead in Preparing International Legal Machinery for Prosecution of Iraqi Crimes*, 31 VA. J. INT'L L. 381 (1991).

¹⁸³ See generally GERHARD VON GLAHN, *THE OCCUPATION OF ENEMY TERRITORY: A COMMENTARY ON THE LAW AND PRACTICE OF BELLIGERENT OCCUPATION* (1957).

¹⁸⁴ Annex to the Convention, Regulations Respecting the Laws and Customs of War on Land, Convention (No. IV) Respecting the Laws and Customs of War on Land, Oct. 18, 1907, 36 Stat. 2277, 1 Bevans 631; ERNST H. FEILCHENFELD, *THE INTERNATIONAL ECONOMIC LAW OF BELLIGERENT OCCUPATION* 5 (1942).

¹⁸⁵ O'Brien, *supra* note 81, at 395.

¹⁸⁶ LAW OF NAVAL OPERATIONS, *supra* note 123, at 6-5.

¹⁸⁷ *Id.* at 8-5.

¹⁸⁸ *Id.*

¹⁸⁹ See generally W. PAUL GORMLEY, *HUMAN RIGHTS AND ENVIRONMENT: THE NEED FOR INTERNATIONAL CO-OPERATION* (1976).

¹⁹⁰ The German policy of environmental destruction during the retreat from Norway, the Soviet Union and the Balkans fell under the jurisdiction of the trials. See AUGUST VON KNIERIEM, *THE NUREMBERG TRIALS* 398-400 (1959).

¹⁹¹ *Id.* at 399.

premeditated destruction of the environment during war is not tolerated under the customary law of armed conflict.

In 1977, a special international agreement was negotiated that outlawed ecological warfare. Developed within the United Nations, the Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Technique (ENMOD)¹⁹² asserts that parties undertake "not to engage in military or any other hostile use of environmental modification techniques having widespread, long-lasting or severe effects as a means of destruction, damage or injury to any other State party."¹⁹³

The ENMOD Convention deals with environmental changes produced by deliberate manipulation of natural processes. Though the ban under the ENMOD Convention applies to the conduct of military operations during armed conflict, its prohibitions are intended to be distinct from conventional warfare that might result in adverse impacts on the environment. In short, this agreement prohibits manipulation of natural processes (including the biota, lithosphere, hydrosphere, or atmosphere of the latter) as an instrument of war if their effects are "widespread, long-lasting or severe."¹⁹⁴ While still important, it remains regrettable that this agreement specifies the level of damage to be prohibited. Outright proscription of any environmental modification for hostile purposes would have supplied a stronger injunction against environmental warfare.

VIII. CONCLUSION

A real nexus exists between the law of environmental protection and the law of armed conflict that has evolved over several decades. The

¹⁹² Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques, May 18, 1977, 31 U.S.T. 333, 16 I.L.M. 90 [hereinafter ENMOD Convention].

¹⁹³ *Id.* art. 1.

¹⁹⁴ *Id.* Perhaps most relevant for this study, Articles 1, 2 and 4 of the ENMOD Convention stipulate the obligatory mandate not to use environmental modification techniques in warfare:

Art. 1: Each state party to this convention undertakes not to engage in military or any other hostile use of environmental modification techniques having widespread, long-lasting or severe effects as the means of destruction, damage or injury to any other state.

Art. 2: As used in article 1, the term "environmental modification techniques" refers to any technique for changing—through the deliberate manipulation of natural processes—the dynamics, composition or structure of the earth, including its biota, lithosphere, hydrosphere and atmosphere or of outer space.

Art. 4: Each State Party to this Convention undertakes to take any measure it considers necessary in accordance with its constitutional process to prohibit and prevent any activity in violation of the provisions of the convention anywhere under its jurisdiction or control.

Id. arts. 1, 2 & 4.

general, over-arching principle of conservation remains the primary link in the development in these two important bodies of contemporary international law.

The law of environmental protection is a comparably newer body of law that only recently has emerged from under the shadow of broader humanitarian law. Its relative novelty admittedly poses certain difficulties for international law. In fact, requirements of state responsibility for environmental protection and preservation, as well as attendant questions of liability and compensation for environmental injury currently remain in relative flux and legal limbo. Even so, as these environmental protection laws mature outside the war-time scenario, environmental priorities must be given additional consideration by government decision-makers and military planners. This prerequisite has become firmly fixed in both the laws of environmental protection and armed conflict. And the urgency for this development in international law was boldly underscored by the Iraqi oil spill.

Although both the law of environmental protection and that of regulation of the conduct of war share humanitarian, environmental and conservation objectives and ideals, the law of armed conflict appears bound to assume greater relevance in situations like the 1991 Gulf War oil spill. That conclusion mirrors more the acceptability of environmental considerations in the laws of war than the acceptability of war in environmental protection law. Yet, perhaps closer union of the two bodies of law might strengthen the deterrent value of international law such that tempted purveyors of environmental harm will change tactics and resort to less destructive measures.

The notion of "ecocide" perpetrated as a crime against the environment may well become more fully recognized and legally relevant as a result of the 1991 Persian Gulf War. Governments will be more reluctant to resort to wholesale policies of wanton environmental waste and destruction, or to view such strategies as cost-effective, necessary tools of war. Still, establishing "ecocide" as a specific crime under international law would serve twin purposes, namely, to deter future environmental abuse and to strengthen the moral foundations of ecological conservation and protection. Making environmental destruction an international crime would firmly fix Leopold's "land ethic" as a relevant construct within the laws of war. Importantly, then, consideration of environmental preservation will have emerged as an integral component of the established tradition of the laws of armed conflict. No less important, this would also reaffirm the vital place held by the law of environmental protection during times of peace.