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Establishing Transboundary Marine Energy Security and Environmental Cooperation Areas as a Method of Resolving Longstanding Political Disagreements and Improving Transboundary Resource Management in the Gulf of Mexico

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Establishing Transboundary Marine Energy Security and Environmental Cooperation Areas as a Method of Resolving Longstanding Political Disagreements and Improving Transboundary Resource Management in the Gulf of Mexico

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Abstract

This article examines the longstanding political and legal obstacles to bilateral cooperation between the United States and Mexico and suggests that bilateral cooperation could be improved without antagonizing long-standing political tensions by creating one or more Transboundary Energy Security and Environmental Cooperation Areas (TESECA) in the GOM's maritime boundary region. Two areas, in particular, that straddle the maritime boundary are especially well suited. The first is known as the Perdido Foldbelt Region, where large quantities of hydrocarbons are known to exist in transboundary reservoirs. The second is the area beyond national jurisdiction known as the Western Gap, which is already governed by an international treaty between the two nations.

Creating a TESECA in these areas will provide a valuable institutional forum for bilateral discussion and development of cooperative management opportunities for transboundary hydrocarbons as well as the protection of the marine environment.

I. Introduction and Need for Transboundary Energy Security and Environmental Cooperation Areas (TESECAs)

In recent years, a number of major offshore hydrocarbon discoveries have occurred in the deepest frontier areas of the Gulf of Mexico (GOM) along the U.S.-Mexico maritime boundary. These discoveries are located on a large geological structure known as the Lower Tertiary Wilcox Trend (hereinafter “Wilcox Trend”). During the past decade more than twelve billion barrels of oil in place have been discovered in this huge 34,000 square mile region that straddles the two nations’ maritime boundary.¹

Commercial production on several Wilcox Trend wells located on the U.S. side of the boundary is scheduled to begin in 2009-2010. The U.S. government has strongly encouraged the development of these fields given the broad-based recognition that the United States is dangerously dependent on energy supplies imported from geopolitically unstable parts of the world and must accelerate efforts to move toward domestic sources of hydrocarbons, alternative fuels and renewable energy supplies.

Mexico is also exploring for new sources of hydrocarbons in its portion of the GOM’s maritime boundary region. Unlike the United States, Mexico currently lacks the technological expertise and financial resources required to exploit resources in the deepest and most remote portions of the Gulf. However, similar to the United States, it is badly in need of additional domestic hydrocarbon supplies to provide revenue for government services and to replace declining supplies from other fields.² For example, the Mexican Government estimates that production at its largest producing area, the Cantarell offshore oil field, is expected to sharply decline from 2.1 million barrels per day to between 1.4 million and 520,000 barrels per day by 2008.³

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¹ Dave Meyer, et al, “Emergence of the Lower Tertiary Wilcox Trend in the Deepwater Gulf of Mexico,” *World Oil*, May 2005 p. 72-77, also online at:

http://www.worldoil.com/magazine/MAGAZINE_DETAIL.asp?ART_ID=2596&MONTH_YEAR=May-2005. For more information on the status of production on the Wilcox Trend see “The Lower Tertiary Trend, Gulf of Mexico’s Emerging Ultra-Deepwater Trend with Potential Resources of 15,000,000,000 Barrels of Oil,” *Minerals Management Service Ocean Science*, November/December 2006 at 4-6.

² David Shields, “Pemex: Problems and Policy Options,” *Center for Latin American Studies University of California, Berkeley Policy Papers*, February 2006 at 2-5 (indicating that the oil industry accounted for 37.6 percent of government revenue in 2005, up from just 30 percent at the beginning of the decade).

³ Robert Collier, “Mexico’s Oil Bonanza Starts to Dry Up,” *San Francisco Chronicle*, June 30, 2006. See also Shields, *ibid.* at 5.

Despite the clear and growing needs of the United States and Mexico to exploit these newly discovered hydrocarbon reservoirs, serious political and legal obstacles impede the two nations from cooperating to develop these resources in an economically and environmentally effective manner. International law prevents either nation from exploring and exploiting transboundary oil and gas resources without the cooperation of the other.⁴ Yet, historical and modern political disagreements make such cooperation exceedingly difficult, if not impossible. For example, strongly held and historically important values in Mexico, symbolized by Article 27 of its Constitution, prevent non-Mexican nationals from owning any natural resources within its sovereign territory.⁵ This constitutional provision has been interpreted as prohibiting foreign interests from engaging even in any type of joint venture or partnership with Mexico's state-run oil company, *Petroleos Mexicanos* (PEMEX) in which actual production or profits are shared.⁶ These legal restrictions coupled with modern political disagreements over immigration, border security, drug enforcement and a host of other bilateral issues make it exceedingly difficult to effectively manage transboundary resources in a cooperative fashion.

Transcending this tangled political relationship are positive signs that both nations are anxious to move forward toward better cooperation in the environmental realm. One example involves establishing a network of marine protected areas (MPAs) in the GOM and elsewhere. In fact, U.S. President Bush, Mexican President Calderon, and Canadian Prime Minister Harper identified work under the North American MPA Network (NAMPAN) as a key accomplishment in their joint statement issued at the end of their 2007 meeting in Montebello, Ontario.⁷ Priorities of this initiative include enhancing collaboration among the countries to address common conservation, ecological, economic, social, and cultural challenges, and to facilitate the strategic design and establishment of a system of MPAs throughout North America. Prior to leaving office in 2009, the Bush Administration is currently reviewing several new MPA designations including one known as the "Islands in the Stream" initiative that seeks to link a network of MPAs in U.S. and Mexican waters of the GOM.⁸

This article examines the longstanding political and legal obstacles to bilateral cooperation between the United States and Mexico, and it suggests that bilateral cooperation could be improved without antagonizing long-standing political tensions by creating one or more Transboundary Energy Security and

⁴ See discussion *infra* notes 26-31 and accompanying text.

⁵ Mexican Constitution, Title I, Art. 27.

⁶ *Corpus Christi Caller-Times*, April 10, 2008 at D1.

⁷ For a summary of the meeting and work of NANPAN see http://mpa.gov/helpful_resources/international.html.

⁸ See <http://www.npr.org/templates/story/story.php?storyId=90766237&ps=bb1>

Environmental Cooperation Areas (TESECA) in the GOM's maritime boundary region. Two areas, in particular, that straddle the maritime boundary are especially well suited. The first is known as the Perdido Foldbelt Region, where large quantities of hydrocarbons are known to exist in transboundary reservoirs.⁹ The second is the area beyond national jurisdiction known as the Western Gap, which is already governed by an international treaty between the two nations.¹⁰

Creating a TESECA in these areas will provide a valuable institutional forum for bilateral discussion and development of cooperative management opportunities for transboundary hydrocarbons as well as the protection of the marine environment. In addition to being an important area for oil and gas production, recent scientific studies have shown that the GOM maritime boundary region contains highly productive deep-water chemosynthetic communities as well as a globally important nursery area for blue fin tuna, among other ecologically important attributes.¹¹ A formal bilateral arrangement will improve the ability of both nations to manage, conserve, and monitor the status of the region's marine biodiversity and habitats.

In contrast to some other areas of the world where joint development agreements are commonly negotiated to exploit transboundary hydrocarbon deposits, a new approach is needed in the GOM to overcome the historical barriers to cooperation that exist between the U.S. and Mexico and to protect fragile environmental assets.

To some extent, a TESECA would resemble existing MPAs or Transboundary Peace Parks by serving to conserve natural resources and promote political good will.¹² There are currently 188 transboundary protected areas worldwide.¹³ However, the purpose of the proposed TESECA would differ from these existing models by placing priority on the cooperative development of transboundary hydrocarbon resources while preserving multiple uses and protecting the environmental integrity of the region.

It is not a question of if, but of when and how the U.S. and Mexico will exploit the hydrocarbon resources in the ultra-deepwater GOM. Creating TESECAs will provide a method to share effective conservation approaches, new technologies and management strategies and lay the foundation for the wise use of transboundary resources. Nations, beyond the GOM, that share transboundary

⁹ See discussion *infra* notes 16-19 and accompanying text.

¹⁰ See discussion *infra* notes 20-25 and accompanying text.

¹¹ H. Roberts, et al., "Alvin Explores the Deep Northern Gulf of Mexico Slope," *Eos* 88: no. 35, at 341-342, 28 August, 2007 (describing the chemosynthetic communities in the Perdido Foldbelt area); Barbara Block, et al., "Electronic Tagging and Population Structure of Atlantic Bluefin Tuna," *Nature* 434, at 1121-1127, 28 April 2005 (describing the bluefin tuna nursery in the Gulf of Mexico).

¹² Transboundary Peace Parks are discussed *infra* at notes 57-63 and accompanying text.

¹³ Ali, *infra* note 57 at 1.

hydrocarbon resources but have longstanding political disagreements with neighbors may learn from the GOM experience and create similar areas and arrangements.

II. Status of Ultra-Deepwater Development in the Gulf of Mexico

Technological advances and favorable economic conditions have made the exploitation of hydrocarbon resources in many ultra-deepwater areas (greater than 5,000 foot depth) of the world's oceans commercially feasible. During most of the 1990s ultra-deepwater exploitation could not be economically justified, given the price of a barrel of oil that averaged a little over \$20 in 2004 dollars. (In the wake of the Fall 2008 banking collapse, oil prices fell back again.) By mid-2008, the average price had increased to between \$120-130 per barrel. Despite the technological difficulties and high costs associated with drilling in very deep and remote areas of the ocean, commercial production of huge new hydrocarbon reservoirs in the deepest portions of the GOM, Gulf of Guinea, and Asian-Pacific regions will become an increasingly important source of supply to global energy markets.

One of the most promising sources of ultra-deepwater hydrocarbons in the world is located on the Lower Tertiary Wilcox Trend, which overlies the U.S.-Mexico maritime boundary in the GOM. The Wilcox Trend is a very large geological formation that stretches over 300 miles across the GOM about 150 miles offshore Texas and Louisiana. The Trend is located in some of the deepest waters in the Gulf ranging from 6,000 to 10,000 foot depth and contains a thick hydrocarbon-rich sand section deposited during the Lower Tertiary period (from 66-38 million years ago). Until about ten years ago little was known about these Lower Tertiary deposits because most of the oil produced in the GOM was from later Miocene deposits (24 million years and later).¹⁴ However, in recent years, discoveries in the older and deeper rocks of the Lower Tertiary period are believed to offer even more commercial potential than the Miocene deposits.¹⁵

The twelve major discoveries announced on the Wilcox Trend since 2001 are widely dispersed over the entire geological structure from the Walker Ridge in the eastern portion to the Alaminos Canyon in the far western portion. These

¹⁴ Leanne S. French et al., "Deepwater Gulf of Mexico 2005: Interim Report of 2004 Highlights," U.S. Dept. of Interior, Minerals Management Service, May 2005, *OCS Report MMS 2005-023* at 10 (99 percent of total Gulf of Mexico proved reserves are in reservoirs younger than 24 million years. However this figure does not include the most recent Tertiary discoveries).

¹⁵ Russell Gold, "In Gulf of Mexico, Industry Closes in on New Oil Source," *Wall Street Journal*, September 5, 2006, p. A1, also available at: <http://online.wsj.com/article/SB115742365939953524.html>.

initial efforts indicate that in coming years there will likely be many more discoveries throughout the region along both sides of the international boundary.

Although existing Wilcox Trend discoveries are widely distributed, two transboundary areas in the GOM present immediate international legal and policy implications. The first area is known as the Perdido Foldbelt and the second is the area known as the “Western Gap.”

The Perdido Foldbelt is a series of northeast-southwest trending anticlines straddling the U.S.-Mexico maritime boundary about 125 miles east of Brownsville, Texas.¹⁶ On the U.S. side of the boundary, six major discoveries containing more than one billion barrels of hydrocarbons have been located in the Alaminos Canyon region of the Perdido Foldbelt.¹⁷ Extending south more than 100 miles beyond the boundary, Mexico has approved the drilling of eleven exploratory wells near the boundary opposite the prolific Alaminos Canyon group of discoveries on the U.S. side.¹⁸

Shell Offshore plans to begin production on the Great White, Tobago and Silvertip discoveries in 2010 using a regional processing hub capable of handling 130,000 barrels of oil equivalent per day that is designed to gather, process, and export production within a thirty mile radius of the hub. Oil will be transported from the hub to shore via 184 miles of subsea pipelines.¹⁹ Any future production by Mexico, if any, will be significantly hindered by the lack of supporting infrastructure in this remote area. Consequently, utilizing pipelines and other infrastructure located in U.S. waters will likely be essential.

The Western Gap is a second transboundary region lying on the Wilcox Trend that is garnering attention from the international oil and gas industry.²⁰

¹⁶ Larry Zarra, “Wilcox Depositional Systems: Shelf to Deep Basin,” *New Orleans Geological Society Log*, April 2006, at 7 and 26.

¹⁷ These discoveries include: Unocal’s *Trident* and *Tobago*; Shell’s *Baha* and *Great White*; Chevron’s *Tiger* and *Silvertip*; and Total’s *Gotcha*. Don Lyle, “Discoveries Wait for Infrastructure,” E&PNet.Com, April 4, 2004. Found at <http://www.eandpnet.com/articles/everyMonth/2527.htm>. See also “Total Boosts Alaminos Canyon Find,” Offshore 247.Com, July 13, 2006.

¹⁸ Don Lyle, “Mexico Zeroes in on Deep Water: Pemex Hooks Big Pay in Deepwater Gulf of Mexico,” E&PNet.Com, July 4, 2006 at 2. Found at www.eandpnet.com/articles/everyMonth/5927.htm. See also, Vinicio Suro-Perez, Acting Planning and Evaluation Vice President Pemex, *Mexico GOM: Offshore E&P Activities and Objectives for the Years Ahead*, Powerpoint presentation to the International Oil and Gas Business Days, Oslo, Norway, August 2005; www.intsok.no/PHP/index.php?id=3821.

¹⁹ Ray Tyson, “Shell Group Chooses Subsea Pipelines Over FPSO for Offshore Perdido Development,” *Petroleum News*, August 12, 2007. Found at: <http://www.petroleumnews.com/pntruncate/328822294.shtml>.

²⁰ See generally, R.Q. Foote, R.G. Martin, and R.B. Powers, “Oil and Gas Potential of the Maritime Boundary Region in the Central Gulf of Mexico,” *The American Association of Petroleum Geologists Bulletin* v. 67, No. 7 (July 1983) 1047-1065, 1063. Estimates of in-place resources (not of recoverable amounts) in the U.S./Mexico maritime boundary region of the Gulf

Slightly smaller in size than the State of New Jersey, it is located approximately halfway between the Yucatan Peninsula and the coast of Texas outside the 200 mile exclusive economic zones of the United States and Mexico. Because of its unique location outside of the national jurisdictions of either nation, it presents complex legal and political problems.

Until 2000, neither the U.S. nor Mexico could attempt to explore or exploit hydrocarbon resources in the Western Gap. International law prohibits nations from claiming the natural resources in areas beyond the 200 mile exclusive economic zone unless scientific studies provide evidence that the area qualifies as an extension of the continental shelf under article 76 of the 1982 United Nations Convention on the Law of the Sea (UNCLOS).²¹ After several scientific studies confirmed that the criteria in Article 76 had been met, the two nations finalized negotiations on a Delimitation Treaty that claimed the region as an extension of each nation's continental shelf and delimited the maritime boundary.²²

The Delimitation Treaty, signed on June 9, 2000, divided the Western Gap and gave the U.S. about 38 percent and Mexico about 62 percent.²³ Importantly, at Mexico's insistence, the treaty also established a 2.8 nautical mile buffer zone along the new boundary where both nations are prohibited from exploiting hydrocarbon resources for a period of ten years.²⁴ During the ten year moratorium the two nations "shall meet periodically for the purpose of identifying, locating and determining the geological and geophysical characteristics of such reserves."²⁵ However, to the author's knowledge, no such meeting has ever been held. It is unclear what will happen when the moratorium expires in 2010.

Just as in the Perdido Foldbelt, significant legal and policy uncertainties confront the commercial production of hydrocarbons in the Western Gap.

range from 2.24 to 21.99 billion barrels of oil and 5.48 to 44.40 trillion cubic feet of natural gas. *Ibid.*

²¹ United Nations Convention on the Law of the Sea, opened for signature Dec. 10 1982, U.N. Doc. A/CONF.62/122 (1982), 1833 U.N.T.S. 397 [hereinafter UNCLOS]. Reprinted in *Official Text of the United Nations Convention on the Law of the Sea with Annexes and Index*, U.N. sales No. E.97.V.10 (1997). On November 16, 1993, Guyana became the 60th state to deposit its ratification or accession with the United Nations. The Convention entered into force one year after the date of this 60th deposit.

²² Letter of Submittal, U.S. Dept. of State, Washington D.C., July 5th 2000, Sen. Treaty Doc. No. 106-39; reproduced in Ted L. McDorman, et al. *International Ocean Law: Materials and Commentaries* (Carolina Academic Press 2005) 139-146, 140.

²³ Treaty Between the Government of the United States of America and the Government of the United Mexican States on the Delimitation of the Continental Shelf in the Western Gulf of Mexico Beyond 200 Nautical Miles, June 9, 2000, *U.S.-Mex., S. Treaty Doc. No. 106-39 (2000)*.

²⁴ *Ibid.* article 4.

²⁵ *Ibid.* article 5(1)(a).

Resolving these concerns will only be possible through the collaborative efforts of both nations. In fact, customary international law requires cooperation between nations that seek to explore and exploit transboundary hydrocarbons. These international legal principles are the focus of the next section.

III. International Law and Transboundary Marine Hydrocarbons

Heightened forms of cooperation are required under customary international law when transboundary resources like liquid or gaseous hydrocarbons, international watercourses, or migratory wildlife are exploited. This is due to the potentially destabilizing and unpredictable changes in ownership that may occur should the resources move across boundaries.²⁶ For example, in the absence of cooperation, one nation could pump transboundary oil from a straddling pool and thereby deprive the co-owning nation of its fair share of the resource.

Dozens of nations that share offshore transboundary hydrocarbons have adopted some form of agreement to cooperatively manage and exploit these resources.²⁷ However, it is still too early in the progressive development of the law to define exactly what type of cooperative mechanism such as field unitization, joint development or some other arrangement may satisfy the evolving customary legal requirement to cooperate.

Despite the absence of international consensus regarding the affirmative mechanisms that need to be employed in order to exploit offshore transboundary hydrocarbons, some established customary rules have been accepted. According to David Ong, in his comprehensive treatment of the subject, the following rules have emerged:

- 1) There is an established obligation to cooperate in reaching agreement on the exploration and exploitation of transboundary deposits.
- 2) In the absence of such an agreement, there is an obligation to exercise mutual restraint with respect to unilateral exploitation of the resources.²⁸

²⁶ See Richard J. McLaughlin, "Foreign Access to Shared Marine Genetic Materials: Management Options for a Quasi-Fugacious Resource," *Ocean Development and International Law* 34:297 (2003) at pp. 319-322.

²⁷ Alberto Szekely, "The International Law of Submarine Transboundary Hydrocarbon Resources: Limits to Behavior and Experiences for the Gulf of Mexico," *26 Natural Resources Journal* 733 at p. 766 (1986).

²⁸ David M. Ong, "Joint Development of Common Offshore Oil and Gas Deposits: 'Mere State Practice or Customary Law?'" *93 American Journal of International Law*, 771, p. 802 (1999). See also Rodríguez-Rivera, "Joint Development Zones and other Cooperative Management Efforts related to Transboundary Maritime Resources," in *Issues in Legal Scholarship*, this volume.

This doctrine of mutual restraint goes beyond strictly prohibiting unilateral exploitation. It also provides that exploration is subject to a good faith general obligation to notify, inform, and consult the other co-owning nations. Consequently, a co-owning nation has the legal right to veto the joint development of any transboundary deposit. However, it has been suggested that the co-owning state may choose to place its potential share of the common deposit at the disposal of the adjacent state or states in exchange for some form of adequate compensation.²⁹

The purpose of the mutual restraint doctrine under customary and conventional international law is to preserve the “unity of deposit”. This recognizes the fact that hydrocarbon deposits are located in geological formations characterized by equilibrium of rock pressure, gas pressure and water pressure. Extraction from one point unavoidably affects conditions in the whole deposit and may result in other sharing parties not being able to extract the resources from their part of the deposit.³⁰

Because of the importance attached to preserving the unity of deposit, especially if it potentially straddles a political boundary, precise determinations of size and volume of a particular hydrocarbon deposit is essential. However, seismic studies alone only provide rough estimates. Precise estimates of a reservoir to determine whether there is unity of deposit requires very expensive exploratory drilling on both sides of the boundary coupled with the ability to share and compare resulting well data. Further uncertainty arises because the value of deposits is not uniform or equal throughout.³¹

It is currently unclear how much of the GOM maritime boundary region contains transboundary hydrocarbon reservoirs that may be considered unity of deposit. In the Western Gap the two nations have arbitrarily determined that any reservoir within 2.8 nautical miles of the boundary should be treated as unity of deposit (at least until that portion of the Treaty expires in 2010.) It should be noted that this buffer zone was not determined by detailed seismic surveys or exploratory drilling. Whether the U.S and Mexico will continue to accept the 2.8 nautical mile figure after more appraisal and development work is conducted is unknown.

²⁹ Masahiro Miyoshi, *The Joint Development of Offshore Oil and Gas in Relation to Maritime Boundary Delimitation* (International Boundaries Research Unit, Maritime Briefing No. 5 1999) at p. 5.

³⁰ Rainier Lagoni, “Oil and Gas Deposits across National Frontiers,” *73 American Journal of International Law* 215 at 217 (1979).

³¹ For example, variables that can only be determined by drilling are the thickness of the hydrocarbon-bearing reservoir and well pressures. See, Kendall Freeman Law Firm, *Oil and Gas Deposits at International Boundaries: New Ways for Governments and the Oil and Gas Companies to Handle an Increasingly Urgent Problem*, Guidance Note, at 9 (March 2006), at <www.kendallfreeman.com>.

The question of the precise nature of the unity of deposit in the Perdido Foldbelt, Western Gap and other maritime border regions presents additional problems. Given the geological and geographical continuity of the Wilcox Trend deposits, additional geo-seismic studies and exploratory wells will be necessary in coming years. Greater political, economic and legal urgency will be placed on the two nations to work cooperatively as exploration continues closer to the boundary. Yet, cooperation will always be affected by unique historical circumstances that still influence events today.

IV. Longstanding Historical and Political Impediments to Cooperation

For over 150 years, Mexico has been influenced by two interacting attitudes or positions: anti-Americanism and economic nationalism³² Having its roots in the 1846 war in which Mexico was invaded and lost nearly half its territory to the U.S, Mexican bitterness toward the United States, on some level, has become part of the Mexican heritage. The anti-Americanism exhibited in Mexico is a very complex and multi-layered phenomenon due to the geographical proximity and close cultural relationships of the two nation's populations over a long historical period. While seldom manifesting itself openly and overtly, U.S. hegemony in the region and ongoing resistance to it by Mexico continues to exacerbate current bilateral political relations.

Mexico's relationship with the U.S. has been influenced by many of the same economic, political, and cultural forces of Western colonialism and non-Western resistance to colonialism that have shaped much of the world as it exists today.³³ In this regard, the U.S. relationship with Mexico can be defined as imperialist rather than colonialist in nature. Unlike the British and French empires which engaged in the actual physical conquest, occupation and administration of another country's territory, the U.S. exercised power in Mexico primarily through the control of powerful economic and political institutions supplemented by the threat of military intervention.

U.S. attitudes toward Mexico in the nineteenth and early twentieth centuries were influenced to a great extent by their own historical roots developed through a century of continental expansion.³⁴ Notions of racial superiority, in which non-white and non-Europeans were viewed as ignorant and incapable of self-government, were the dominant view of the day. An example of these

³² Richard B. Mancke, *Mexican Oil and Natural Gas: Political, Strategic, and Economic Implications* (New York, 1979) at p. 18.

³³ Anshuman Prasad, ed., *Postcolonial Theory and Organizational Analysis: A Critical Engagement* (New York, 2003) at 3-43.

³⁴ Efrén Rivera Ramos, "The Legal Construction of American Colonialism: The Insular Cases (1901-1922)," 65 *Revista Juridica Universidad de Puerto Rico* 225 (1996) at 285.

prevailing views is illustrated in the lectures of John W. Burgess, a professor at Columbia University and mentor to President Theodore Roosevelt, who wrote the following:

The North is learning every day by valuable experiences that there are vast differences in political capacity between the races, that it is the white man's mission, his duty, and his right to hold the reins of political power in his own hands for the civilization of the world and the welfare of mankind.³⁵

Coupled with this view of racial superiority was the unquestioned belief in "free enterprise" and the assumption that promotion of investment in foreign lands such as Mexico was beneficial for the host country as well as the investor. The expansion of U.S. and European investment and political influence in Mexico reached its peak during the early years of the twentieth century.

Foreign investment in Mexico prior to the Mexican revolution (1910-20) provides stark evidence of this imperialist role. During this period, two thirds of all investment in Mexico came from foreign sources. In fact, foreign investors controlled 76 percent of all major corporations in Mexico including 100 percent of the oil, 98 percent of the mining, 96 percent of agriculture, and 89 percent of other major industries. Moreover, American interests owned more than 40 percent of all of Mexico's agricultural land.³⁶ Between 1910-1929, U.S. investment increased 50 percent and accounted for about 65 percent of total foreign investment.³⁷

North American economic influence has had a profound impact on Mexican society. The full contours of this influence are complex and contradictory and are still hotly debated by historians.³⁸ While linked to local and regional conditions, there is little doubt that U.S. domination of the Mexican economy antagonized anti-American and nationalistic perceptions. These perceptions were further enflamed by the differential privileges accorded foreigners and the native-born workers. As one British diplomat observed in the 1930s, "[t]he one respect in which I have found Mexicans of all classes completely unanimous is their conviction that it is a fixed principle of American

³⁵ Quoted in Rubin F. Weston, *Racism in U.S. Imperialism: The Influence of Racial Assumption on American Foreign Policy 1893-1946* (Columbia, S.C., 1972) at p. 16.

³⁶ Judith Gentleman, *Mexican Oil and Dependent Development* (American University Studies Series, Vol. 2), (Bern, Switzerland, 1984).

³⁷ Alan Knight, "The United States and the Mexican Peasantry", in Daniel Nugent, ed., *Rural Revolt in Mexico: U.S. Intervention and the Domain of Subaltern Politics* (Durham and London, 1998), at p. 40.

³⁸ See generally the collection of essays in Daniel Nugent, ed., *Rural Revolt in Mexico: U.S. Intervention and the Domain of Subaltern Politics* (Durham and London, 1998).

policy to prevent the economic development and political consolidation of their country.”³⁹

Direct official pressure from the U.S. government including several threatened and actual military interventions during the first half of the 20th century also triggered increased anti-American sentiment. These military interventions included the seizure of the port of Veracruz in 1914, the invasion of Northern Mexico by 10,000 U.S. troops in 1916-17, and a threatened U.S. invasion of Mexico’s oil fields in 1927 that never materialized.

V. Reasserting Sovereignty over Mexico’s Hydrocarbons

Mexico’s desire to control its economic destiny and to prevent exploitation by foreign enterprises has its own deep-seated historical roots. Nowhere was this economic nationalism more evident than in Mexico’s emerging policies to eliminate foreign domination of its oil industry. In Mexico, as was true elsewhere in the world, oil production was dominated by a handful of giant firms. During the tumultuous years of the Mexican Revolution most foreign investments were discouraged by widespread civil disturbances and the growing nationalistic climate.⁴⁰ Oil production was the lone exception to this trend. Three factors tended to insulate the oil industry from the dislocations of the Mexican economy during the revolution. First, most production came from large deposits on the Gulf coast, which allowed quick and easy export to foreign markets. Second, there was strong global demand, especially during World War I. Finally, very little oil entered Mexico’s domestic market given the nation’s early stage of development. In fact, production of oil peaked in Mexico in 1921 and slowly decreased thereafter through the remainder of the 1920s-30s.

Over ninety percent of the known oil reserves in the nation were owned by foreign corporations by 1917.⁴¹ Moreover, because oil was an exported commodity, the industry’s only relationship with the domestic economy was in the form of taxes, salaries, and lease rents. Because of its domination by foreign interests and lack of integration into the domestic economy, the oil industry took on symbolic importance to the Mexican people. It came to symbolize the nation’s perceived subservient position to more developed nations, most notably, its powerful neighbor the United States.

As a result of the extraordinary events and turmoil of the Mexican revolution, the Mexican government came under intense domestic political

³⁹ Daniel Yergin, *The Prize: The Epic Quest for Oil, Money, and Power* (New York, 1991) at p. 275.

⁴⁰ Lorenzo Meyer, *Mexico and the United States in the Oil Controversy, 1917-1942* (Austin and London, 1977) at p. 5.

⁴¹ *Ibid.* article 41 at p. 57.

pressures to reestablish sovereign control over the nation's natural resources. It accomplished this by enacting Article 27 of the Mexican Constitution of 1917.

Article 27 declared that dominion (direct ownership) of all hydrocarbons along with waters and the beds and banks of inlets, bays, lakes, and rivers was vested in the nation. All lands containing subsoil hydrocarbons and minerals could be granted to private parties or corporations as concessions, but could not be owned as private property. Most importantly, Paragraph 4 of Article 27 provided that, "[o]nly Mexicans by birth or naturalization and Mexican companies shall have the right to acquire ownership of lands, waters and their appurtenances or to obtain concessions to develop mines, water or mineral fuels in the Republic of Mexico."⁴² Aliens could only develop hydrocarbons if they pledged to become subjects of Mexico and forfeited any protection from their own government.

Due to pressure from the U.S. and other foreign governments, the radical changes called for by Article 27 were not immediately implemented. In 1923, Mexico agreed to refrain from applying Article 27 retroactively in exchange for U.S. recognition of the new revolutionary government. Although tense and volatile, relations between the two nations remained relatively stable until March 18, 1938 when President Lazaro Cardenas nationalized the Mexican oil industry and sought to expropriate all of the assets of U.S. and European oil companies. According to Hall, the twenty-one year struggle prior to expropriation, "spawned vicious invective and actual violence, and led to a continuing bitterness that gives the issue of control over oil resources powerful currency in Mexican politics today."⁴³

When faced with the national takeover of U.S. oil and gas interests, President Roosevelt chose not to sacrifice inter-American unity at a time of growing international military conflict. Instead of adopting past U.S. policies of imposing harsh economic and diplomatic pressure or military intervention on Mexico, Roosevelt pursued a negotiated settlement that recognized Mexico's sovereign right over its mineral resources in exchange for reasonable compensation to affected companies.⁴⁴ Shortly after a final agreement was reached in 1941, Roosevelt acknowledged the legitimacy of the new oil and gas regime in Mexico in a speech at Monterrey, when he said, "We know that the day of exploitation of the resources and people of one country for the benefit of any group in another country is definitely over."⁴⁵

⁴² Government of Mexico, *The True Facts About The Expropriation of the Oil Companies' Properties in Mexico* (Mexico City, 1940) at p. 26.

⁴³ Linda Biesele Hall, *Oil, Banks, and Politics: The United States and Postrevolutionary Mexico, 1917-1924* (Austin, Texas, 1995).

⁴⁴ For a discussion of these negotiations see Meyer, *supra* note 40 at 220-27.

⁴⁵ *Ibid.* at 226.

U.S. – Mexico relations during the post World War II cold war period were diplomatically correct, but frequently strained due to disagreements over U.S. foreign policy initiatives in the region. For example, when the U.S. took steps to enforce an economic embargo against Cuba after Fidel Castro's communist regime came to power, only Mexico, among the Latin American countries, refused to break relations and adopt economic sanctions against Cuba. Similarly, in the 1980s, Mexico refused to support U.S. policies relating to the armed insurrections taking place in Central America. Most recently, Mexico declined to be part of the "coalition of the willing" and publicly criticized the U.S. military intervention in Iraq. As a leading member of the group of non-aligned nations, Mexico has traditionally taken great pride in its independent-minded foreign policy.

Within this political context, it is understandable that the expropriation of foreign oil interests in 1938 and the sanctity of Article 27 have taken on great symbolic importance to the people of Mexico. On the day that Cardenas issued his expropriation decree, 100,000 Mexicans celebrated in the streets of Mexico City. Many donated jewelry and other valuables to help pay for the state takeover.⁴⁶ Today, the people continue to celebrate *Expropiación Petrolera* (Nationalization of Petroleum Industry) and mark March 18th as a day of national commemoration. According to one observer, "In a history plagued by invasions, foreign intervention and presidents that have sold off national assets to the highest bidder – including chunks of the national territory – Cardenas' oil expropriation stands out as an episode of particular righteousness and heroism, and one in which, for a change, Mexicans won."⁴⁷

Previous attempts by Mexican Presidents to reform PEMEX or weaken sovereignty over the nation's mineral patrimony have been met with a political firestorm. The Fox Administration and his National Action Party (PAN) tried to promote energy reform in 2004 with little success.⁴⁸ Most recently, in 2008, President Calderon introduced a Senate Bill which would ease some bureaucratic barriers, and allow PEMEX to pay outside contractors a bonus (not a percentage cut) for any oil they locate in Mexico, loosen constraints on foreign operated refineries and allow Mexican citizens to buy bonds to provide funds for PEMEX.⁴⁹ Opponents of the bill stormed Congress to prevent a vote on the measure and tens of thousands of protesters gathered in Mexico City's main

⁴⁶ Lisa Adams, "Mexico's 69-Year-Old State Oil Firm Facing Threats to Its Stability," *Washington Post*, March 17, 2007 at A10.

⁴⁷ Ana Compoy, "PEMEX: Myth or Modernization?" *The U.S.-Mexico Futures Forum: A Dialogue*, Center for Latin American Studies, University of California, Berkeley, Special Issue 2003.

⁴⁸ Shields, *supra* note 2 at 5.

⁴⁹ *Corpus Christi Caller-Times*, April 10, 2008 at D1.

square to condemn what they see as the “creeping privatization” of the nation’s oil sector.⁵⁰ After tabling the Bill for further debate, most commentators fear that it has little chance of being approved.⁵¹

VI. Establishing Transboundary Energy Security and Environmental Cooperation Areas (TESECA)

Given the extraordinary political sensitivity associated with any attempt to open up Mexico’s energy sector to foreign participation, it is unlikely that a formal joint development agreement between Mexico and the U.S. to exploit transboundary hydrocarbons in the Perdido Foldbelt or Western Gap Regions is possible in anything resembling the near term. Longstanding historical and political disagreements will significantly hinder any negotiations. Moreover, submitting the issue to third party mediation or adjudication will be either politically infeasible or non-judiciable. Mutual accommodation is especially difficult when the disagreement, as is the case in the GOM, is based primarily on domestic political and legal concerns rather than being limited to the foreign policy arena.

A more realistic approach may be for the two nations to establish TESECAs to provide a framework for cooperation and to address common challenges inherent in managing adjoining deepwater areas in the GOM. In many parts of the world, transboundary protected areas serve to improve regional ecological management, increase economic opportunities, foster peace, and provide a foundation for further collaboration in other, more politically charged areas.⁵² TESECAs in the GOM could similarly provide an institutional forum to resolve specific bilateral problems.

For example, Mexican officials have publicly expressed concern that commercial production on the U.S. side of the maritime boundary in the Perdido Foldbelt area scheduled to begin by 2010 may deplete transboundary reservoirs within Mexico’s territory.⁵³ The validity of this assertion is currently unknown

⁵⁰Catherine Bremmer, “Mexico Protests Snag Government’s Oil Reform Plans,” SignOnSanDiego.Com, April 15, 2008. Found at <http://www.signonsandiego.com/news/mexico/20080415-1007-mexico-energy-left.html>.

⁵¹ Adam Thomson, “Calderón Pleads for Energy Reform,” FT.com, May 26, 2008. Found at http://www.ft.com/cms/s/0/4a244106-2b45-11dd-a7fc-000077b07658.html?nclick_check=1.

⁵² John G. Griffin, Jr., “Transboundary Natural Resources Management (TBNRM): Conservationists’ Dreams or Solid Means to Achieve Real Benefits for Real People,” *Journal of Sustainable Forestry* (2003) 17 (1-2): 223-224. For a complete list of benefits of transboundary protected area cooperation see Sandwith, *infra* note 57 at 8.

⁵³ Peter Millard, “Pemex Says Two U.S. Deepwater Fields May Leech Mexican Oil,” MarketWatch.Com, October 26, 2007. Found at <http://www.marketwatch.com/news/story/pemex-says-two-us-deepwater/story.aspx?guid=%7BE835753D-72E7-460C-A544-9E1EED885426%7D>

because no detailed surveys have been conducted to determine the “unity of deposit” along the maritime boundary.⁵⁴ One of the principle functions of the TESECA could be to facilitate a detailed bi-national survey of the precise location and potential size of transboundary reservoirs. A well-planned bi-national survey of this kind would reduce the mistrust between the parties and legitimize any future decisions regarding commercialization of transboundary reservoirs.

Similarly, joint scientific expeditions to understand, manage, conserve, and monitor critical marine habitats within designated TESECAs would be highly beneficial. Once again, the TESECA structure could be used as an institutional framework to stimulate and organize bilateral scientific collaboration between the nations. This scientific effort could provide very useful baseline data and guide future decisions to commercialize transboundary resources with as little damage to the marine environment as possible.

The TESECA framework may also provide a valuable forum for bi-national scholarly exchange on legal and policy issues. For instance, it is currently unsettled how these co-owned transboundary hydrocarbon deposits should be treated under Mexican domestic law generally and within the meaning of Article 27 of the Mexican Constitution more specifically.⁵⁵ It could be persuasively argued that fungible resources such as transboundary hydrocarbons do not fall within the ambit of Article 27. Shared transboundary resources have always been given unique legal status under international law and perhaps the same approach would apply under Mexico’s domestic law. Answers to these unsettled legal questions could profoundly change the political dynamics that currently exist in the region.

U.S. domestic law and regulations are potentially equally problematic. Because the U.S. has never engaged in joint development of offshore hydrocarbons with other nations, significant reforms would be needed in existing hydrocarbon leasing policies as well as environmental statutes and regulations.⁵⁶ Resolving a whole host of legal and policy questions relevant to developing the transboundary hydrocarbon resources in the maritime boundary region of the GOM will be required. Using TESCAs as an organizing framework to engage legal scholars, industry representatives, interested NGOs and government officials in a continuing dialogue to address these important policy and legal questions would be extremely helpful in setting the stage for future hydrocarbon commercialization.

⁵⁴ See discussion on unity of deposit *supra* at notes 30-31 and accompanying text.

⁵⁵ Richard J. McLaughlin, “Hydrocarbon Development in the Ultra-Deepwater Boundary Region of the Gulf of Mexico: Time to Reexamine a Comprehensive U.S.-Mexico Cooperation Agreement,” *Ocean Development and International Law* 39:1-31, (2008) at p. 21.

⁵⁶ *Ibid.* at pp. 21-22.

There is a growing body of scientific literature suggesting that transboundary peace parks and environmental conservation zones can serve as a catalyst to broader political reconciliation beyond the environmental sphere.⁵⁷ Using game theoretic models, Lejano found that transboundary peace parks provide symbolically important regimes for relationship-building and create a context in which parties can more actively cooperate.⁵⁸ Moreover, by requiring the cooperative, joint action of the parties, transboundary parks allow them to see themselves as a functioning group and to better envision methods of agreement.⁵⁹

In the context of transboundary water issues, it has been found that joint water management projects funded by the Global Environment Facility (GEF) dramatically speed up the process of gaining agreement on priorities and firm commitments to action compared to water projects where there is no institutionalized collaborative process.⁶⁰ Achieving a shared vision and commitment by focusing on a few strategic projects allows broader political and legal disagreements to be broken down into manageable priorities. TESECAs could serve this function by providing a vehicle for the two nations to engage in joint fact finding and sharing of information to address sensitive legal, political, and scientific issues in a non-confrontational setting.

A number of these transboundary parks are located in the marine environment. Several, most notably the Israel/Jordan Red Sea Marine Peace Park (RSMPP), have been very successful in not only improving communications and partnerships among scientists and managers, but also in furthering broader foreign policy goals.⁶¹ As a result of this collaborative program, communication and coordination have been improved between the Jordanian and Israeli management and scientific communities at a transboundary scale. According to senior park managers:

⁵⁷ See generally Trevor Sandwith, Claire Shine, Lawrence Hamilton & David Sheppard, *Transboundary Protected Areas for Peace and Cooperation* (IUCN, Gland, Switzerland and Cambridge, England 2001) (describing the benefits and best practices of transboundary peace parks); Saleem H. Ali, ed., *Peace Parks: Conservation and Conflict Resolution* (The MIT Press, Cambridge, MA and London 2007) (provides case studies from several continents) and Raul P. Lejano, "Theorizing Peace Parks: Two Models of Collective Action," *Journal of Peace Research* 43 (2006): 563-581.

⁵⁸ Lejano, *ibid.* at 574.

⁵⁹ *Ibid.* at 575.

⁶⁰ Juha I. Uitto and Alfred M. Duda, "Management of Transboundary Water Resources: Lessons from International Cooperation for Conflict Prevention," *The Geographical Journal* 168 (2002): 376.

⁶¹ Michael Crosby, Bilal Al-Bashir, Mohammad Badran, Samir Dweiri, Reuven Ortal, Michael Ottolenghi, Avi Pervolotsky, "The Red Sea Marine Peace Park: Early Lessons Learned from a Unique Trans-boundary Cooperative Research, Monitoring and Management Program," *Proceedings of IUCN/NWCPA-EA-4 Taipei Conference*, March 18-23, 2002 at pp. 233-248.

The lessons learned through the RSMPP Program and its new paradigm approach for interactions between and amongst scientists, resource managers, policy makers and the public are transferable and have applicability for promoting similar trans-boundary partnerships around the world.⁶²

A similar effort between the nations of Indonesia, Malaysia, and the Philippines, to establish a common marine eco-region has been described as creating an era of relationship-building that transcends the park itself. In fact, at the signing ceremony, the Malaysian delegate interpreted the event as the beginning of *adikberadik*, a Malay word for kinship.⁶³

While all transboundary parks are established to meet their own unique goals and stakeholder interests, they all share the common aspirations of finding integrated solutions across borders and creating a framework for conflict resolution and peace building. Regardless of what final form that a TESECA in the Gulf of Mexico may take, Mexico and the U.S. will benefit from these positive institutional features.

VII. Conclusion

It will not be easy to reduce the deep-seated historical mistrust that the Mexican people have of foreign enterprises exploiting the nation's natural resources. However, establishing TESECAs in the Gulf of Mexico may represent the best way to develop a foundation of trust between the two nations. It is in both nations' strong self-interest to find a framework to efficiently and effectively develop and manage the transboundary hydrocarbons in the Gulf of Mexico. Collaboration using a TESECA approach represents a template upon which a complex set of relationships can evolve. It will allow the nations to jointly develop goals and priorities; produce baseline geo-seismic and environmental studies; and begin the process of setting up the institutional and legal mechanisms necessary to jointly develop their shared transboundary resources as mandated by norms of international law. Future research will be necessary to determine the most effective way to institutionally structure, administratively implement, and sustainably fund any proposed TESECA.

It is time for both nations to move beyond the current historical and political paradigm and to begin to develop a collaborative vision for transboundary areas in the Gulf of Mexico. Establishing some type of TESECA in the region may provide the necessary framework to move forward in a mutually beneficial fashion.

⁶² *Ibid.* at 245.

⁶³ Lejano, *supra* note 57 at 575.