

ANALYSIS OF ENVIRONMENTAL AND ECONOMIC DAMAGES  
FROM BRITISH PETROLEUM'S *DEEPWATER HORIZON* OIL  
SPILL

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ABSTRACT

This study examines the environmental and economic damages caused by British Petroleum's ("BP") *Deepwater Horizon* oil spill in the spring and summer of 2010.<sup>1</sup> The process of oil exploration and production is extremely challenging, offering significant rewards that are offset by equally significant risks. The world's demand for energy is constantly growing, thereby leading to extraordinary efforts and gigantic investments by energy companies to find new supplies of oil. The \$365 million *Deepwater Horizon* was an offshore drilling unit designed to operate in waters as deep as 8000 feet, and to drill down 30,000 feet.<sup>2</sup> The *Deepwater Horizon* was drilling an exploratory well about forty-one miles off the coast of Louisiana, when on April 20, 2010, an explosion killed eleven workers and began the release of massive amounts of oil into the Gulf.<sup>3</sup> The well

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<sup>1</sup> British Petroleum is hereinafter referred to as BP.

<sup>2</sup> See *infra* Part I and note 10 (describing *Deepwater Horizon's* cost); see also *infra* Part I and note 9 (describing the drilling depth of the *Deepwater Horizon*).

<sup>3</sup> Press Release, BP, BP Confirms That Transocean Ltd. Issued the Following Statement Today (Apr. 21, 2010), <http://www.bp.com/genericarticle.do?categoryId=2012968&contentId=7061443> (disclosing that a fire occurred on board the *Deepwater Horizon* forty-one miles offshore from Louisiana); BP, DEEPWATER HORIZON ACCIDENT INVESTIGATION REPORT 3 (Sept. 8, 2010), [http://www.bp.com/liveassets/bp\\_internet/globalbp/globalbp\\_uk\\_english/incident\\_](http://www.bp.com/liveassets/bp_internet/globalbp/globalbp_uk_english/incident_)

was eventually capped on July 15.<sup>4</sup> Total damages to BP, the environment, and the U.S. Gulf Coast economy are estimated to be \$36.9 billion.<sup>5</sup> The damages are attributed to three major factors: (1) human error and equipment failure at BP's *Deepwater Horizon* offshore drilling unit; (2) failure of the U.S. government to assign, and in some cases to permit, resources to assist with the containment of the oil spill; and (3) misinformation disseminated by the news media regarding the amount and location of oil pollution in the water and on the beaches of the Gulf of Mexico.

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*DEEPWATER HORIZON* OIL SPILL

A. *Introduction*

In the spring and summer of 2010, the BP *Deepwater Horizon* oil spill dominated the world news. The event was hailed as an environmental and economic disaster. World energy needs are constantly growing, resulting in extraordinary efforts and gigantic investments by energy companies to find new supplies of oil. Oil exploration and production is well known for its tremendous challenges, working in harsh environments, and using the latest and most complex technologies. Successful operations can lead to significant rewards, but these are offset by equally significant risks. The purpose of this paper is to examine the environmental and economic damages caused by BP's *Deepwater Horizon* oil spill in the spring and summer of 2010.

The *Deepwater Horizon* was an offshore drilling rig, licensed to BP by Transocean Ltd.<sup>6</sup> The *Deepwater Horizon* was a fifth-generation dynamic positioned semi-submersible oil rig.<sup>7</sup> The *Deepwater Horizon* cost \$365 million to build, and was designed to operate in waters as deep as 8000 feet, and to drill down 30,000

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response/STAGING/local\_assets/downloads\_pdfs/Deepwater\_Horizon\_Accident\_Investigation\_Report.pdf (discussing the *Deepwater Horizon* accident findings) [hereinafter INVESTIGATION REPORT].

<sup>4</sup> Bradley Blackburn & David Muir, *Gulf of Mexico Oil Spill: Well Integrity Test Shows Oil Stopped*, ABC NEWS (July 15, 2010), <http://abcnews.go.com/WN/gulf-oil-spill-bps-cap-success-oil-stops/story?id=11173330>.

<sup>5</sup> See *infra* Exhibit 4.

<sup>6</sup> INVESTIGATION REPORT, *supra* note 3, at 3.

<sup>7</sup> *Deepwater Horizon Spec Sheet*, TRANSOCEAN LTD. (2010), [http://www.deepwater.com/fw/filemanager/fm\\_file\\_manager\\_download.asp?FileName=Deepwater\\_Horizon\\_spec\\_sheet.pdf&FilePath=/\\_filelib/FileCabinet/Horizon/](http://www.deepwater.com/fw/filemanager/fm_file_manager_download.asp?FileName=Deepwater_Horizon_spec_sheet.pdf&FilePath=/_filelib/FileCabinet/Horizon/).

feet.<sup>8</sup> The *Deepwater Horizon* was drilling an exploratory well about forty-one miles off the coast of Louisiana, when on April 20, 2010, an explosion and fire killed eleven workers and began the release of massive amounts of oil into the Gulf of Mexico.<sup>9</sup>

The oil spill was ultimately contained when the well was capped on July 15, 2010.<sup>10</sup> Damages to BP, the environment, and the U.S. Gulf Coast economy are estimated to be \$36.9 billion, as will be described in this paper.<sup>11</sup> The damages are ascribed to three major factors: (1) human error and equipment failure at BP's *Deepwater Horizon* offshore drilling unit; (2) failure of the U.S. government to assign, and in some cases to permit, resources to assist with the containment of the oil spill; and (3) misinformation disseminated by the news media regarding the amount and location of oil pollution in the water and on the beaches of the Gulf of Mexico.

### B. Background and Past Research

People's concern for the environment can be traced back to ancient times.<sup>12</sup> Directions for proper care of the natural environment are found in ancient literature, such as the Bible and Qur'an. The Prophet Moses, known mostly for providing the Ten Commandments, also gave the ancient Israelites guidance regarding land management and care of animals.<sup>13</sup> The Prophet Mohammed offered instructions concerning water conservation in the Holy Qur'an.<sup>14</sup> Closer to the present day, the word "ecology" was coined by German biologist Ernst Haeckel in 1866.<sup>15</sup> While serving as President of the United States from 1901 to 1909, Theodore Roosevelt championed environmentalism. Roosevelt was famed as an avid outdoorsman and conservationist. His efforts paved the way to the formation of several national parks.<sup>16</sup> During the 1960s to 1980s, a number of laws were passed in the U.S. for the

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<sup>8</sup> *Id.* (explaining the depth limits of the *Deepwater Horizon*); Peter Coy & Stanley Reed, *Oil-Rig Disaster Threatens Future of Offshore Drilling*, BLOOMBERG (May 14, 2010), <http://www.bloomberg.com/news/2010-05-06/bp-s-deepwater-horizon-rig-disaster-threatens-future-of-offshore-drilling.html>.

<sup>9</sup> Press Release, *supra* note 3; INVESTIGATIVE REPORT, *supra* note 3, at 3.

<sup>10</sup> Blackburn & Muir, *supra* note 4.

<sup>11</sup> *See infra* Exhibit 4.

<sup>12</sup> Richard Harrow Feen, *Keeping the Balance: Ancient Greek Philosophical Concerns with Population and Environment*, 17 POPULATION & ENV'T. 447, 447 (1996) (explaining that population and environmental concerns date back to 1700 B.C.).

<sup>13</sup> *See infra* Exhibit 1.

<sup>14</sup> *Id.*

<sup>15</sup> *Id.*

<sup>16</sup> *Id.*

purpose of protecting the environment.<sup>17</sup> Some of the key events regarding the environment are shown in Exhibit 1.<sup>18</sup>

Care for the environment is a business and social issue of increasing importance. One of the critical challenges facing businesses is how to market environmentally-friendly products and services. Damages caused by oil and gas companies have tarnished the reputations of these companies. While people in these companies are generally just as concerned about the environment as the average person, the nature of their business often puts them in situations fraught with risks of environmental pollution and damage.

A notable recent study posed the question whether environmental and social objectives are compatible with profit maximization.<sup>19</sup> The researchers considered the effect that people have on environmental quality, and how companies carry out “green” marketing.<sup>20</sup> The study evaluated how corporate governance affects the ability of management to reconcile environmental objectives with profit maximization.<sup>21</sup> In a landmark study, Kinnear et al. searched for characteristics of ecologically-concerned consumers.<sup>22</sup> Later studies found that environmentally friendly, or “green” products, are preferred by consumers, even so far as consumers being willing to spend more to acquire these products.<sup>23</sup>

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<sup>17</sup> *Id.*

<sup>18</sup> *Id.*; Katherine T. Smith, *An Examination of Marketing Techniques That Influence Millennials' Perceptions of Whether a Product is Environmentally Friendly*, J. STRATEGIC MARKETING (forthcoming 2010), available at [http://ssrn.com/so13/papers.cfm?abstract\\_id=1702924](http://ssrn.com/so13/papers.cfm?abstract_id=1702924).

<sup>19</sup> Andrea Woolverton & Carolyn Dimitri, *Green Marketing: Are Environmental and Social Objectives Compatible with Profit Maximization?*, 25 RENEWABLE AGRIC. & FOOD SYS. 90, 90 (2010).

<sup>20</sup> *Id.*

<sup>21</sup> *Id.* at 91.

<sup>22</sup> Thomas C. Kinnear et al., *Ecologically Concerned Consumers: Who Are They?*, 38 J. MARKETING 20, 20 (1974).

<sup>23</sup> Michel Laroche et al., *Targeting Consumers Who Are Willing to Pay More for Environmentally Friendly Products*, 18 J. CONSUMER MARKETING 503, 504 (2001); Hazel T. Suchard & Michael J. Polonsky, *A Theory of Environmental Buyer Behavior and Its Validity: The Environmental Model*, 2 A.M.A. EDUCATORS' PROC. 187, 187 (1991); Jacqui Myburgh-Louw & N.J. O'Shaughnessy, *Consumer Perception of Misleading and Deceptive Claims on the Packaging of "Green" Fast Moving Consumer Goods*, 4 A.M.A. EDUCATORS' PROC. 344, 346 (1994); Jason D. Oliver, *Increasing the Adoption of Environmentally Friendly Products: Who Are the Non-Adopters, and What Will Get Them to Buy Green?* (2007) (unpublished Ph.D. dissertation, University of Rhode Island) (on file with *Albany Law Review*).

*C. Environmental Accounting and Financial Reporting Requirements*

Accounting and financial reporting disclosures have been the subject of extensive academic research.<sup>24</sup> In past times, environmental issues were largely ignored by both corporations and individuals. Dangerous wastes and environmental hazards were regarded as a necessary part of a growing economy. People have come to realize the importance of minimizing waste products that could damage the environment. Preserving clean air, water, and land, to the extent possible, is generally regarded as more important than minimizing costs of products to consumers, or making the absolute highest profit by business firms. Policies have been developed to govern “waste management” and to ensure that corporations are environmentally conscious. In some cases, corporations have had to pay to correct past environmentally “unfriendly” behavior. For the most part, however, businesses have established positive reputations as being environmentally friendly.<sup>25</sup>

Federal laws regarding environmental protection and remediation have substantially expanded over recent decades. Laws regarding environmental protection include the following: (1) Resource Conservation and Recovery Act of 1976 (“RCRA”); (2) Clean Air Act (“CAA”); (3) Clean Water Act (“CWA”); (4) Emergency Planning and Community Right to Know Act (“EPCRA”); and (5) Toxic Substances Control Act (“TSCA”).<sup>26</sup>

The RCRA regulates the handling of hazardous wastes from generation to disposal.<sup>27</sup> RCRA specifies proper storage and treatment for a large number of materials.<sup>28</sup> The CAA regulates sources of air pollution by limiting the amounts of pollution that can

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<sup>24</sup> Paul Ashcroft & L.M. Smith, *Impact of Environmental Regulation on Financial Reporting of Pollution Activity: A Comparative Study of U.S. and Canadian Firms*, 20 RES. ACCT. REG. 127, 127–29 (2008); Walter Aerts et al., *Intra-Industry Imitation in Corporate Environmental Reporting: An International Perspective*, 25 J. ACCT. & PUB. POL’Y. 299, 300 (2006); Mimi Alciatore et al., *Changes in Environmental Regulation and Reporting: The Case of the Petroleum Industry from 1989 to 1998*, 4 J. ACCT. & PUB. POL’Y. 295, 295–96 (2004); Lee Parker, *Social and Environmental Accountability Research: A View from the Commentary Box*, 20 ACCT. AUDITING & ACCOUNTABILITY J. 842, 842–43 (2005).

<sup>25</sup> Zabihollah Rezaee, L. Murphy Smith, & Lawrence C. Smith, Jr., *Voluntary Environmental Reporting: Does it Matter to Investors?*, 50 OIL, GAS & ENERGY Q. 165, 165–66 (2001).

<sup>26</sup> *Contingent Environmental Liabilities: Disclosures and Accounting*, Acct. Pol’y. & Prac. Series Portfolio (BNA) 5136-2nd, A-1 (Jan 24, 2007).

<sup>27</sup> *Id.* at (A)(2).

<sup>28</sup> *See id.*

be released.<sup>29</sup> The CWA provides regulation over sources of water pollution by limiting the discharge amounts that a firm can release.<sup>30</sup> The EPCRA mandates that companies with certain amounts of hazardous substances must inform their state emergency response commission so that the commission can plan a course of action in the event of an accident or other exigency.<sup>31</sup> The TSCA provides federal regulation regarding the manufacture, processing, and distribution in commerce of chemical substances and mixtures capable of adversely affecting health or the environment.<sup>32</sup>

Concerning remediation, federal laws include the following: (1) Comprehensive Environmental Response, Compensation, and Liability Act (“CERCLA,” also known as “Superfund”); (2) Superfund Amendments and Reauthorization Act (“SARA”); and (3) RCRA.<sup>33</sup>

Under CERCLA, a program was established to identify sites where hazardous substances have been or might be released into the environment, to insure that the responsible parties or the government remediate the damages to the environment, and compensate the appropriate parties for the damages to natural resources.<sup>34</sup> CERCLA established a trust fund for “orphan” sites, and investigates the existence of potentially responsible parties.<sup>35</sup> SARA concerns emergency planning in dealing with environmental hazards.<sup>36</sup> Pollution control provisions were included in the RCRA.<sup>37</sup> The RCRA authorizes the EPA to conduct removal actions and cost recovery actions where endangerment to public health, welfare, or the environment is in existence.<sup>38</sup>

Responsibility for cleanup is described in CERCLA. Potentially responsible parties (“PRP”) are identified as follows: (1) “Parties that transported hazardous substances to a site”;<sup>39</sup> (2) “Parties that arranged for disposal of hazardous substances”;<sup>40</sup> (3) “previous

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<sup>29</sup> *Id.* at (A)(3).

<sup>30</sup> *Id.*

<sup>31</sup> *Id.* at (A)(4).

<sup>32</sup> *Id.* at (A)(5).

<sup>33</sup> *Id.* at (A)(1).

<sup>34</sup> *Id.*

<sup>35</sup> *Id.*

<sup>36</sup> *Id.*

<sup>37</sup> *Id.* at (A)(2).

<sup>38</sup> *Id.* at (A)(2).

<sup>39</sup> *Id.* at (A)(1).

<sup>40</sup> *Id.*

owners or operators of sites at the time of disposal”;<sup>41</sup> and (4) “Current owners” of the property.<sup>42</sup> Becoming a responsible party is not dependent on negligence or fault. In other words, there is no innocent purchaser defense. The legal provision of joint and several liability applies. Consequently, the PRP with sufficient funds to pay for clean up must do so.<sup>43</sup>

From an auditing standpoint, once environmental risks have been identified, the auditor must check for compliance with accounting standards. Accounting guidance provides for environmental disclosures. Generally Accepted Accounting Principles (“GAAP”) include the Statements of Financial Accounting Standards (“SFAS”), which are promulgated by the Financial Accounting Standards Board (“FASB”).<sup>44</sup> The Emerging Issues Task Force (“EITF”) was created by the FASB in July 1984 to help FASB identify emerging issues affecting financial reporting, and resolve problems in implementing authoritative pronouncements.<sup>45</sup> Statements of Position (“SOP”) are developed by the Accounting Standards Executive Committee of the American Institute of Certified Public Accountants (“AICPA”).<sup>46</sup> Key accounting pronouncements concerning environmental reporting are described below: (1) SFAS No. 5; (2) EITF 90-8; (3) EITF 93-5; and (4) SOP 96-1.<sup>47</sup>

(1) SFAS No. 5 indicates under “Accounting for Contingencies” that a liability should be recognized in the financial statements if a loss is probable and the amount is estimable. If the loss amount is not estimable, which is often the case, the contingency must be described in the footnotes to the financial statements.

(2) EITF Issue No. 90-8 required that environmental contamination costs be expensed as they are incurred [except where] costs extend the life or increase capacity of the property, costs mitigate or prevent future environmental

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<sup>41</sup> *Id.*

<sup>42</sup> *Id.*

<sup>43</sup> *Id.*

<sup>44</sup> See *Generally Accepted Accounting Principles*, FASB, <http://www.fasab.gov/accepted.html> (last visited Jan. 24, 2011).

<sup>45</sup> FASB, <http://www.fasb.org/home> (last visited Jan. 24, 2011).

<sup>46</sup> *Recently Issued Statements of Position*, AICPA <http://www.aicpa.org/InterestAreas/AccountingAndAuditing/Resources/Pages/RecentlyIssuedStatementsofPosition.aspx> (last visited Jan. 24 2010).

<sup>47</sup> L. Murphy Smith, *Accounting Guidelines for Environmental Issues*, ENVTL. ACCT. & AUDIT ISSUES (2010), [http://acct.tamu.edu/smith/env\\_acct/Acctenv.htm](http://acct.tamu.edu/smith/env_acct/Acctenv.htm).

contamination (that would otherwise occur), or costs are incurred to prepare a property for sale.

(3) EITF Issue No. 93-5 states that an environmental liability [is to] be evaluated independently from any potential claim for recovery. [A] recovery claim can [decrease] the liability only if it is probable.<sup>48</sup> Securities and Exchange Commission (“SEC”) standards state that it is appropriate to net the asset and liability if the asset’s recovery is recognized as probable. The asset and liability should be disclosed in the notes to the financial statements.<sup>49</sup> . . . The asset and liability should be [reported] in the notes to the financial statements. . . .

(4) AICPA Statement of Position (SOP) 96-1, “Environmental Remediation Liabilities,” [encompasses] auditing and accounting topics regarding environmental issues. [The SOP describes] the responsibilities of corporations involved in environmental cleanup, and responsibilities of corporations to avoid environmental destruction.”<sup>50</sup>

#### *D. Timeline of the BP Deepwater Horizon Oil Spill*

A timeline of key events in the BP *Deepwater Horizon* oil spill is shown in Exhibit 2, *infra*.<sup>51</sup> Hyundai Heavy Industries in South Korea began construction on the *Deepwater Horizon* oil-drilling rig in 1998, and the rig was delivered to the Gulf of Mexico in 2003.<sup>52</sup> The rig was in the Gulf for several years at various oil fields prior to the April 20, 2010 accident. On that day, a methane bubble caused an explosion and a fire that burned for two days and sank the *Deepwater Horizon*. More tragic than the resulting oil spill was the eleven lives lost and the seventeen people who were injured.<sup>53</sup>

#### *E. Estimating Economic Costs and BP’s Liability*

Estimating the total economic cost of the oil spill is extremely difficult due to the many unknown factors, particularly in relation

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<sup>48</sup> *Id.*

<sup>49</sup> *Id.*

<sup>50</sup> *Id.*

<sup>51</sup> See *infra* Exhibit 2.

<sup>52</sup> *BP Oil Spill Timeline: Follow Our Step-By-Step Timeline of the BP Oil Spill, From the Construction of Deepwater Horizon to Date*, GUARDIAN (July 22, 2010), <http://www.guardian.co.uk/environment/2010/jun/29/bp-oil-spill-timeline-deepwater-horizon>.

<sup>53</sup> See *infra* Exhibit 2.

to the extent that the oil was dispersed, above and below the surface, and in what manner, and how quickly, the oil is biodegraded. The biodegrading process is complex and is affected by the quantity of oil, nutrients, and microbes in the area.<sup>54</sup> The oil did not spread to beaches nearly as close to the extent predicted in worst-case scenarios.<sup>55</sup> In addition, oil-eating microbes consumed the oil droplets more rapidly than most experts thought possible.<sup>56</sup>

The negative economic impact of the oil spill was exacerbated by media coverage. For example, on June 9, 2010, *USA Today* reported the following: “The numbers point to an unprecedented ecological disaster unfolding in the Gulf of Mexico and possibly along the Eastern Seaboard.”<sup>57</sup> The worst-case scenario did not happen to the Gulf Coast beaches or the East Coast beaches, and business people complained that the media had overstated the impact of the oil spill, causing a marked decrease in tourism.<sup>58</sup> Common frustration was expressed by Buck Lee, Executive Director of Santa Rosa Island Authority, the governing body for Pensacola Beach: “It’s perception right now that’s killing us.”<sup>59</sup> The fact that the oil spill was not contained for almost three months, April 20 to July 15, kept the event in the news and on people’s minds.

The U.S. government’s handling of the accident was frequently criticized by citizens and political leaders in the states affected by the spill. In October 2010, the Presidential Commission

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<sup>54</sup> David Biello, *Meet the Microbes Eating the Gulf Oil Spill* [Slide Show], *SCI. AMERICAN* (Aug. 18, 2010), <http://www.scientificamerican.com/article.cfm?id=gulf-oil-eating-microbes-slide-show>.

<sup>55</sup> Michael Grunwald, *The BP Spill: Has the Damage Been Exaggerated?*, *TIME* (July 29, 2010), <http://www.time.com/printout/0,8816,2007202,00.html>; Elizabeth Weise & Doyle Rice, *How Bad Could BP Oil Spill Get for the Gulf and the Nation?*, *USA TODAY* (June 9, 2010), <http://www.usatoday.com> (search “how bad could BP oil get”; then follow first hyperlink).

<sup>56</sup> David Biello, *supra* note 54.

<sup>57</sup> Weise & Rice, *supra* note 55.

<sup>58</sup> Compare Maryann Tobin, *BP Oil Spill Disaster Update: The End of Life As We Know It in the Gulf of Mexico*, *EXAMINER* (April 30, 2010), <http://www.examiner.com/x-33986-Political-Spin-Examiner~y2010m4d29-BP-oil-spill-disaster-The-end-of-life-as-we-know-it-in-the-Gulf-of-Mexico> (calling the catastrophe immeasurable), and Chelsey Francis, *BP Oil Spill Likely to Affect N.C. Coast*, *TECHNICIAN ONLINE* (June 9, 2010), <http://www.technicianonline.com/news/bp-oil-spill-likely-to-affect-n-c-coast-1.2273359> (last visited Jan. 24, 2011) (indicating effects may expand to North Carolina coast), with Press Release, City of New Orleans, Mayor Landrieu Requests \$75 Million Tourism Grant from BP, (June 17, 2010), [http://www.nola.gov/en/PRESS/City-Of-New-Orleans/All-Articles/MAYOR-LANDRIEU-REQUESTS-\\$75-MILLION-TOURISM-GRANT-FROM-BP](http://www.nola.gov/en/PRESS/City-Of-New-Orleans/All-Articles/MAYOR-LANDRIEU-REQUESTS-$75-MILLION-TOURISM-GRANT-FROM-BP) (stating negative media has affected tourism), and Richard Rainey, *Many Florida Beaches Have No Oil, but Also Not Many Tourists*, *TIMES-PUCAYUNE* (July 31, 2010), available at [http://www.nola.com/news/gulf-oil-spill/index.ssf/2010/07/many\\_florida\\_beaches\\_have\\_no\\_o.html](http://www.nola.com/news/gulf-oil-spill/index.ssf/2010/07/many_florida_beaches_have_no_o.html).

<sup>59</sup> Rainey, *supra* note 58.

investigating the handling of the oil spill stated that the White House had blocked release of government worst-case estimates of the quantity of oil pouring from the well into the Gulf.<sup>60</sup> According to the Commission, when “the National Oceanic and Atmospheric Administration (“NOAA”) wanted to [distribute] some of its long-term, worst-case . . . models [regarding the accident] . . . , the White House Office of Management and Budget blocked the move to make the information public.”<sup>61</sup>

In addition to the matter of withholding information, the U.S. government was criticized for blocking aid offered from other countries to help with the cleanup. President Obama blocked foreign crews from operating advanced cleanup vessels.<sup>62</sup> According to the Jones Act, foreign vessels and crews are banned from working in U.S. waters, but the President has the authority to waive the ban.<sup>63</sup> The President chose not to lift the ban, even after American shippers, who typically support the ban, said that they had no objections to having the ban lifted in order to clean up the spill.<sup>64</sup> The prior administration, under President George W. Bush, had waived the Jones Act in the aftermath of hurricanes Katrina and Rita in 2005.<sup>65</sup> U.S. Representative Corrine Brown, a Democrat from Florida, stated that it was unacceptable that her state was not permitted to use foreign vessels for skimming.<sup>66</sup>

Estimating the effects of the BP oil spill is extremely important because crude oil is difficult and expensive to eradicate from an ecosystem. In addition, BP is a publicly-traded corporation, and its stakeholders need to be informed of the damages to BP itself and damages to external parties, both of which BP may be liable. Regarding external parties, Exhibit 3 summarizes estimated damages to the commercial fishing and tourism industries, wildlife, the general natural environment, and real estate.<sup>67</sup> Exhibit 4

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<sup>60</sup> Tom Doggett, *UPDATE 1—W. House Blocked BP Oil Spill Estimates—Govt Panel*, REUTERS, Oct. 6, 2010, <http://www.reuters.com/article/idUSN0627252220101006>.

<sup>61</sup> *Id.*

<sup>62</sup> Hans Bader, *Obama Blocks Clean-Up of Oil Spill by Louisiana and Our Foreign Allies, Through Pointless Red Tape*, EXAMINER.COM (D.C.) (June 18, 2010), <http://www.examiner.com/scotus-in-washington-dc/obama-blocks-clean-up-of-oil-spill-by-louisiana-and-our-foreign-allies-through-pointless-red-tape>.

<sup>63</sup> *Id.* The EPA may also have blocked foreign skimmers from cleaning up the spill. See, e.g., *EPA, Not Jones Act, Blocking Use of Foreign Skimmers*, MARINELOG (June 29, 2010), <http://www.marinelog.com/DOCS/NEWSMIX/2010jun00292.html>.

<sup>64</sup> *Id.*

<sup>65</sup> *Id.*

<sup>66</sup> *Id.*

<sup>67</sup> See *infra* Exhibit 3.

summarizes damages to BP, including BP's liability for damages to external parties.<sup>68</sup>

The United State's Gulf of Mexico waters produce seventy-three percent of the nation's domestically-harvested shrimp and fifty-nine percent of its oysters, according to the National Marine Fisheries Service ("NMFS").<sup>69</sup> The NMFS reported that in 2008, sales revenues for the commercial fishing industry by state were as follows: Alabama: \$445 million; Florida: \$5.7 billion; Louisiana: \$2.4 million; Mississippi: \$391 million; and Texas: \$2 billion, for a total of approximately \$10.9 billion for all Gulf States.<sup>70</sup>

The exact quantity of seafood harvested in 2010 could not be determined from a reliable source. Based on the length and extent of the spill, perhaps a reasonable estimate of the damages from the BP oil spill to the Gulf Coast commercial fishing industry would be about forty percent of the 2008 sales revenues of \$10.9 billion, equivalent to a loss of \$4.36 billion as shown in Exhibit 3.<sup>71</sup>

Tourism generates \$65 billion annual revenue for businesses in the Gulf Coast States.<sup>72</sup> Oxford Economics estimated the losses to the Gulf Coast tourism industry from the BP oil spill by measuring the duration and scale of negative impacts on tourism of comparable prior disasters.<sup>73</sup> Duration was measured as the time from the start of each disaster to the point when the number of visitors and spending return to pre-disaster levels.<sup>74</sup>

Specific prior events studied by Oxford Economics for tourism effects included the 1979 Ixtoc oil spill of 140 million gallons of oil in the Gulf of Mexico (which took five years to clear all the oil from the Texas beaches), Hurricane Katrina and several other major hurricanes, the 1989 *Exxon Valdez* oil spill of eleven million gallons, the 2004 Asian Tsunami, and terrorist attacks.<sup>75</sup> The duration and amount of tourism losses in the selected case studies were used to

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<sup>68</sup> See *infra* Exhibit 4.

<sup>69</sup> Julie Schmit, *Shrimpers, Fishermen, Hotels Feel Oil Spill's Trickle-down Effect*, USA TODAY, [http://www.usatoday.com/money/economy/2010-05-13-gulfecon13\\_CV\\_N.htm?csp=obinsite](http://www.usatoday.com/money/economy/2010-05-13-gulfecon13_CV_N.htm?csp=obinsite) (last updated May 13, 2010).

<sup>70</sup> U.S. DEP'T. OF COMMERCE, FISHERIES ECONOMIES OF THE UNITED STATES 2008: ECONOMIC AND SOCIOCULTURAL STATUS AND TRENDS SERIES 131 (2010), available at <http://www.st.nmfs.noaa.gov/st5/publication/econ/2008/FEUS%202008%20ALL.pdf>.

<sup>71</sup> See *infra* Exhibit 3.

<sup>72</sup> BP GULF OIL SPILL LAWSUIT, <http://www.bpgulfoilspilllawsuit.net/> (last visited Jan. 24, 2011).

<sup>73</sup> OXFORD ECONOMICS, POTENTIAL IMPACT OF THE GULF OIL SPILL ON TOURISM 3 (July 22, 2010), available at [http://www.ustravel.org/sites/default/files/page/2009/11/Gulf\\_Oil\\_Spill\\_Analysis\\_Oxford\\_Economics\\_710.pdf](http://www.ustravel.org/sites/default/files/page/2009/11/Gulf_Oil_Spill_Analysis_Oxford_Economics_710.pdf).

<sup>74</sup> See *id.* at 11.

<sup>75</sup> See *id.* at 11–13.

estimate that the BP oil spill would disrupt tourism in the Gulf Coast for a minimum of fifteen months, with lost revenues of \$7.6 billion, to a maximum of thirty-six months, with lost revenues of \$22.7 billion.<sup>76</sup> As events unfolded, however, the oil spill had far less of an impact on Gulf Coast beaches than was first predicted. For this reason, perhaps a reasonable estimate is fifty percent of the lower estimate by Oxford Economics, which would be \$3.8 billion as shown in Exhibit 3.<sup>77</sup>

St. Joe Company (NYSE: "JOE"), a major real estate developer, owned several hundred thousand acres in the Florida northwest Panhandle as of March 31, 2010.<sup>78</sup> St. Joe's closing share price was \$35.70 on April 20, 2010,<sup>79</sup> when the *Deepwater Horizon* well exploded, but declined to \$20.56 as of October 15, 2010,<sup>80</sup> a 42.4% decrease. Prior to the spill, coastal Florida land was normally valued from \$2 million to \$8 million per acre.<sup>81</sup> Using a \$3 million average value per acre, a ten percent estimated decrease rate in oil-exposed coastal real estate values, and the total acres in the one-acre-deep strip of land along the shore between Mobile, Alabama, and Clearwater, Florida, St. Joe estimates that the BP oil spill has caused a \$4.32 billion loss in real estate values.<sup>82</sup>

Regarding damages to tourism and real estate prices, damages caused by the spill were to some extent exacerbated by government and media actions previously described. Given that the government and media are outside of BP's control, it is arguable whether BP should be liable for all the damages—whatever they may ultimately be—to tourism and real estate prices.

Animals at the greatest risk from the effects of the BP oil spill are the great bluefin tuna, sea turtles, sharks, marine mammals (whales, porpoises, and dolphins), brown pelicans, oysters, shrimp, blue crab, marsh-dwelling fish, such as mullet and menhaden, beach-nesting and migratory shorebirds, and migratory songbirds.<sup>83</sup>

As shown in Exhibit 3, the U.S. Department of the Interior lists a

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<sup>76</sup> *Id.* at 21.

<sup>77</sup> *See infra* Exhibit 3.

<sup>78</sup> Randy Drummer, *Commercial Property Owners Brace for Economic Impact of Gulf Oil Spill*, COSTAR GROUP (June 9, 2010), <http://www.costar.com/News/Article/Commercial-Property-Owners-Brace-For-Economic-Impact-of-Gulf-Oil-Spill/120804>.

<sup>79</sup> *Historical Quote for: JOE*, MARKET WATCH, <http://www.marketwatch.com/investing/stock/JOE/historical> (search "4/20/2010"; then follow "set" hyperlink).

<sup>80</sup> *Id.* (search "10/15/2010"; then follow "set" hyperlink).

<sup>81</sup> *See* Drummer, *supra* note 78.

<sup>82</sup> *Id.*

<sup>83</sup> Julia Kumari Drapkin, *10 Animals Most at Risk from Gulf Oil Spill*, CBS NEWS (Apr. 29, 2010), [http://www.cbsnews.com/8301-503543\\_162-20003738-503543.html](http://www.cbsnews.com/8301-503543_162-20003738-503543.html).

total of eight National Parks and four National Wildlife Refuges from Texas to Florida at immediate risk from the effects of the BP oil spill.<sup>84</sup> The U.S. Fish and Wildlife Service reports that the following pounds of oiled debris have been removed from “sensitive lands” in the following states: Mississippi: 585,479; Alabama: 172,185; and Florida: 491,292.<sup>85</sup>

Shown in Exhibit 3 are the number of visibly-oiled animals (including birds, sea turtles, and mammals) that were tabulated by the U.S. Fish and Wildlife Service (“USFWS”) from the start of the BP oil spill through October 14, 2010.<sup>86</sup> In their report, the USFWS states that not all of the injured or dead fish and wildlife reflected in these numbers were necessarily caused by the *Deepwater Horizon*/BP incident. The report indicates that official designations of cause of death will be determined at a later date.<sup>87</sup>

A July 27, 2010 BP press release stated that BP recorded a pre-tax charge of \$32.2 billion for the oil spill.<sup>88</sup> The \$32.2 billion charge was composed of \$2.9 billion costs to date and \$29.3 billion in future costs, which included \$20 billion for the *Deepwater Horizon* Oil Spill Trust.<sup>89</sup> In addition to these amounts, BP is likely to pay fines to the U.S. government. Les Blumenthal wrote on June 7, 2010, that BP could be fined under the Clean Water Act “as much as \$4.7 billion in civil fines just for the oil that’s spilled so far.”<sup>90</sup> Exact quantities of the spill, and how much of it should be fined, are still to be determined. The fact that damages to the Gulf Coast and Eastern Seaboard were not as extensive as first feared suggests that fines may not be as high as Blumenthal estimated. In any event, the \$4.7 billion estimate is shown in Exhibit 4.<sup>91</sup>

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<sup>84</sup> *Interior Fact Sheet—BP Deepwater Horizon Response*, U.S. DEPT. OF THE INTERIOR (2010), <http://www.doi.gov/deepwaterhorizon/interior-fact-sheet-bp-deepwater-horizon-response.cfm>.

<sup>85</sup> *USFWS—FWS Deepwater Horizon Oil Spill Response*, U.S. FISH & WILDLIFE SERV. (Oct. 8, 2010), <http://www.google.com> (search “U.S. Fish Wildlife Service Oil Debris removed October 8, 2010”; then follow “cached” link for [www.fws.gov/home/dhoilspill/index.html](http://www.fws.gov/home/dhoilspill/index.html)) (on file with *Albany Law Review*).

<sup>86</sup> See *infra* Exhibit 3.

<sup>87</sup> *Deepwater Horizon Response Consolidated Fish and Wildlife Collection Report*, U.S. FISH & WILDLIFE SERV. (Oct. 14, 2010), [http://www.fws.gov/home/dhoilspill/pdfs/collection\\_07182010.pdf](http://www.fws.gov/home/dhoilspill/pdfs/collection_07182010.pdf).

<sup>88</sup> Press Release, BP, BP Sets Out Gulf of Mexico Costs, Further Asset Sales and Strong Operating Performance (July 27, 2010), <http://www.bp.com/extendedgenericarticle.do?categoryId=2012968&contentId=7063921>.

<sup>89</sup> *Id.*

<sup>90</sup> Les Blumenthal, *BP Could Face Massive Fines Under Clean Water Act*, SUNHERALD.COM (June 7, 2010), <http://www.sunherald.com/2010/06/04/2234205/bp-could-face-massive-fines-under.html>.

<sup>91</sup> See *infra* Exhibit 4.

BP reported in an October 1, 2010 press release that they have incurred actual costs of \$11.2 billion through September 29, 2010, for spill containment, drilling the relief well, capping the original well, providing grants to the Gulf States, and paying claims to compensate for damages and federal costs.<sup>92</sup> The same press release explains how BP previously committed to create a \$20 billion “*Deepwater Horizon* Oil Spill Trust” to cover claims for damages suffered, and has contributed \$3 billion to the trust so far.<sup>93</sup>

Based on the above estimates, the total damages to BP, the environment, and the U.S. Gulf Coast economy are estimated to be \$36.9 billion. BP’s *Deepwater Horizon* Oil Spill Trust, assuming estimates hold up, should be sufficient to cover the damages associated with the commercial fishing industry, the tourism industry, and real estate losses.

#### F. Conclusions

The British Petroleum *Deepwater Horizon* oil spill will be remembered as a major disaster, having a substantial environmental and economic impact, with estimated total damages of \$36.9 billion to BP, the environment, and the U.S. Gulf Coast economy. The spill will also be noted for its extensive media coverage, among the most ever given to any single event. The BP oil spill will likely have long-term ramifications for future energy production and related environmental policies. The risks associated with deep-sea oil production are now better understood, as well as the resilience of the environment, at least in the Gulf of Mexico, in handling such a spill. Nevertheless, there remain many unknowns, and experts do not agree on the exact long-term impact of such a massive oil spill.

The oil drilling operation was the responsibility of British Petroleum. Therefore, BP is appropriately accountable for the cleanup and is liable for environmental and economic damages, but only those damages actually caused by BP. Some responsibility for damages lies with the U.S. government (or government actions at least mitigate some of BP’s responsibility). Near the beginning of the oil spill, actions by the White House, according to the

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<sup>92</sup> Press Release, BP, BP Pledges Collateral for Gulf of Mexico Oil Spill Trust (Oct. 1, 2010), <http://www.bp.com/genericarticle.do?categoryId=2012968&contentId=7065280>.

<sup>93</sup> See *id.* (explaining that BP will have contributed \$5 billion to the Trust by the end of 2010, and has committed to contribute another \$15 billion from 2011 to 2013).

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Presidential Commission, blocked public dissemination of information regarding the spill. In addition, the President hampered cleanup operations by failing to waive the Jones Act and allow foreign vessels and crews to assist with the cleanup.

Examples of economic damages associated with the oil spill include reductions in oil drilling activity in the Gulf, restrictions on commercial fishing, and the negative impact on the tourism industry in the Gulf Coast States.<sup>94</sup> The Obama Administration imposed a six-month moratorium on deepwater drilling,<sup>95</sup> which had a negative economic impact on BP and other energy companies operating in the Gulf of Mexico. Later, a federal judge lifted the moratorium, indicating that it was “arbitrary and capricious.”<sup>96</sup>

The oil spill led to restrictions on areas in which fishing was allowed while the impact of the oil spill was assessed. As information was accumulated, the impact was much less than first anticipated, and areas were reopened for fishing. With regard to tourism, some of the blame for economic losses could be assigned to the news media whose reporting was criticized for exaggerating the impact of the oil spill, giving the impression those coastal waters and beaches were widely affected, when in reality that was simply not the case.

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<sup>94</sup> *Factbox: Gulf Oil Spill Impacts Fisheries, Wildlife, Tourism*, REUTERS, May 30, 2010, <http://www.reuters.com/article/idUSTRE64T23R20100530>.

<sup>95</sup> *Hornbeck Offshore Servs., L.L.C. v. Salazar*, 696 F. Supp. 2d 627, 631 (E.D. La. 2010).

<sup>96</sup> *Id.* at 638.

## EXHIBIT 1: TIMELINE OF MAJOR ENVIRONMENTAL EVENTS

- 1400 B.C. Moses provides environmental guidance.<sup>97</sup>
- 650 Mohammed provides environmental guidance.<sup>98</sup>
- 1866 German zoologist Ernst Haeckel coins the word “ecology,”<sup>99</sup> deriving it from the Greek *oikos*, meaning “house” or “dwelling-place.” Ecology is defined as the study of the relationship between organisms and their environment.<sup>100</sup>
- 1872 Yellowstone National Park is established, the world’s first national park.<sup>101</sup>
- 1886 The Audubon Society is formed.<sup>102</sup>
- 1891 The U.S. Forest Reserve Act is passed. The law enables the President to form forest reserves, which leads to the National Forest System.<sup>103</sup>
- 1901–1909 Avid outdoorsman and conservationist, U.S. President Theodore Roosevelt, popularizes environmentalism and spearheads creation of several national parks.<sup>104</sup>
- 1916 The U.S. National Park Service is created with Stephen Mather as President.<sup>105</sup>
- 1948 Twenty people die from a cloud of gas from the Donora Zinc Works, Donora, Pennsylvania. As a result, the U.S. government begins to study air pollution.<sup>106</sup> This leads to the Air Pollution Control Act of 1955, and later the Clear Air Act of 1970.
- 1969 The Santa Barbara Oil Spill pollutes beaches in Southern California.<sup>107</sup>

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<sup>97</sup> 23 *Exodus* 10–12 (instructing that in the seventh year, land should rest and lie fallow); 5 *Deuteronomy* 12–15 (instructing that man and animal shall rest on the Sabbath).

<sup>98</sup> See 2 Al-Baqarah 60 (providing food and water in the Holy Qur’an).

<sup>99</sup> *Conservation Timeline 1801–1900*, NAT. PARK SERVICE, <http://www.nps.gov/mabi/historyculture/conservation-timeline-1801-1900.htm> (last visited Jan. 24, 2011).

<sup>100</sup> MERRIAM-WEBSTER’S COLLEGIATE DICTIONARY 394 (11th ed. 2005).

<sup>101</sup> *Yellowstone*, NAT. PARK SERVICE, <http://www.nps.gov/yell/> (last visited Jan. 24, 2011).

<sup>102</sup> THE ENCYCLOPEDIA AMERICANA: INTERNATIONAL EDITION 678 (1981).

<sup>103</sup> *The National Parks: Shaping the System*, NAT. PARK SERVICE (Barry Mackintosh ed., Harpers Ferry Center 1991) [http://www.nps.gov/history/history/online\\_books/mackintosh1/sts2.htm](http://www.nps.gov/history/history/online_books/mackintosh1/sts2.htm) (last modified July 25, 2005).

<sup>104</sup> MARY CLIFFORD, ENVIRONMENTAL CRIME: ENFORCEMENT, POLICY AND SOCIAL RESPONSIBILITY 37 (1998).

<sup>105</sup> *A Brief History of the National Park Service*, NAT. PARK SERVICE (James F. Kieley ed., 1940) [http://www.nps.gov/history/history/online\\_books/kieley/kieley4.htm](http://www.nps.gov/history/history/online_books/kieley/kieley4.htm) (last modified June 16, 2003).

<sup>106</sup> *20 Dead in Smog; Rain Clearing Air As Many Quit Area*, N.Y. TIMES, Nov. 1, 1948, at A1.

<sup>107</sup> Elizabeth Kolbert, *Oil Shocks*, NEW YORKER (May 31, 2010), available at

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- 1969 The U.S. National Environmental Policy Act passes, and Environmental Protection Agency (“EPA”) is formed.<sup>108</sup>
- 1970 The U.S. Clean Air Amendments of 1970 pass.<sup>109</sup>
- 1972 The U.S. Water Pollution Control Amendments of 1972 pass.<sup>110</sup>
- 1973 The U.S. Endangered Species Act passes.<sup>111</sup>
- 1976 The U.S. Resource Conservation and Recovery Act (“RCRA”) passes. RCRA of 1976 includes pollution control provisions, including “cradle to grave” management. The law authorizes the EPA to conduct removal actions and cost recovery actions where endangerment to public health or welfare or to the environment exists.<sup>112</sup>
- 1980 “The Comprehensive Environmental Response, Compensation, and Liability Act (“CERCLA”), commonly known as Superfund, [is] enacted by Congress on December 11, 1980. This law created a tax on the chemical and petroleum industries and provided broad Federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment.”<sup>113</sup>
- 1986 The Chernobyl nuclear plant disaster occurs. Over thirty people die and thousands suffer as a result of the explosion and fire at the nuclear plant.<sup>114</sup>
- 1989 The oil tanker *Exxon Valdez* wrecks and spills massive amounts of oil off the coast of Alaska.<sup>115</sup>

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[http://www.newyorker.com/talk/comment/2010/05/31/100531taco\\_talk\\_kolbert](http://www.newyorker.com/talk/comment/2010/05/31/100531taco_talk_kolbert).

<sup>108</sup> National Environmental Policy Act of 1969, 42 U.S.C. § 4321 (2006).

<sup>109</sup> Clean Air Amendments of 1970, Pub. L. No. 91-604, 84 Stat. 1676 (1970).

<sup>110</sup> Federal Water Pollution Control Act Amendments of 1972, Pub. L. No. 92-500, 86 Stat. 816 (1972).

<sup>111</sup> Endangered Species Act of 1973, 16 U.S.C. § 1531 (2006).

<sup>112</sup> *History of RCRA*, U.S. ENVTL. PROT. AGENCY, <http://www.epa.gov/osw/laws-regs/rcrahistory.htm> (last visited Jan. 24, 2011).

<sup>113</sup> *CERCLA Overview*, U.S. ENVTL. PROT. AGENCY, <http://www.epa.gov/superfund/policy/cercla.htm> (last updated Oct. 1, 2010).

<sup>114</sup> Stefan Lovgren, *Chernobyl Disaster's Health Impact Remains Cloudy*, NAT'L GEOGRAPHIC (Apr. 26, 2004), [http://news.nationalgeographic.com/news/2004/04/0426\\_040426\\_chernobyl.html](http://news.nationalgeographic.com/news/2004/04/0426_040426_chernobyl.html).

<sup>115</sup> Philip Shabecoff, *Largest U.S. Tanker Spill Spews 270,000 Barrels of Oil Off Alaska*, N.Y. TIMES, Mar. 25, 1989, at A1.

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1998	Federal Trade Commission created the “Green Guidelines” that defined terms used in environmental marketing. <sup>116</sup>	
2005	“The Kyoto Protocol is established. Participating nations pledge to reduce emission of harmful gasses linked to global warming.” <sup>117</sup>	
2010	BP <i>Deepwater Horizon</i> oil spill pollutes the Gulf of Mexico. <sup>118</sup>	

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<sup>116</sup> 16 C.F.R. § 260.1 (1998).

<sup>117</sup> Smith, *supra* note 18.

<sup>118</sup> *Id.*

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EXHIBIT 2: TIMELINE OF THE 2010 BRITISH PETROLEUM *DEEPWATER HORIZON* OIL SPILL

- April 20 The *Deepwater Horizon* oil rig is drilling in British Petroleum's Macondo Project, about forty-one miles off the coast of Louisiana. A bubble of methane causes an explosion and fire on the rig, which is owned by Transocean Ltd. and leased to BP. Eleven workers are killed and seventeen injured. The blowout preventer fails, and crude oil pours into the Gulf of Mexico.<sup>119</sup>
- April 22 The *Deepwater Horizon* sinks.<sup>120</sup>
- April 25 *Deepwater* robots fail to shut valves on the blowout preventer. Initial estimate of the oil flow is 1000 barrels per day,<sup>121</sup> later revised to 5000 barrels per day.<sup>122</sup>
- April 30 Obama Administration issues moratorium on deepwater drilling. Controversy ensues as many jobs in the Gulf States are affected. The ban is subsequently overturned in federal court.<sup>123</sup> BP CEO Tony Hayward indicates that the company will take complete responsibility, compensate all legitimate claims, and pay for cleanup.<sup>124</sup>
- May 2 U.S. government bans fishing in waters around spill for ten days. BP starts drilling relief well.<sup>125</sup>
- May 7 BP attempts to set up a four-story, ninety-eight ton containment dome. This ultimately fails.<sup>126</sup>
- May 20 BP sets up a tube that draws up 5000 barrels of oil per day. Total flow is now estimated at 20,000 barrels per day.<sup>127</sup>

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<sup>119</sup> See David Cutler et al., *Timeline: Gulf of Mexico Oil Spill*, MONTREAL GAZETTE, Sept. 19, 2010, <http://www.montrealgazette.com/news/Timeline+Gulf+Mexico+Spill/3547051/story.html>.

<sup>120</sup> *Id.*

<sup>121</sup> *Id.*

<sup>122</sup> Ben Alford, *Five Months, Eight Days: A Timeline of the BP Oil Spill*, TAKEAWAY (Sept. 21, 2010), <http://www.thetakeaway.org/blogs/takeaway/2010/sep/21/five-months-eight-days-timeline-bp-oil-spill/>.

<sup>123</sup> *Id.*

<sup>124</sup> Cutler, *supra* note 119.

<sup>125</sup> *Id.*

<sup>126</sup> *Id.*; Alford, *supra* note 122.

<sup>127</sup> Alford, *supra* note 122.

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May 26	BP attempts to stop the spill with “top kill” technique. This ultimately fails. <sup>128</sup>	
May 27	President Obama says that language used by Secretary of Interior Ken Salazar, regarding “boot on the neck” of BP, is not needed. <sup>129</sup>	
May 28	A six-month ban on new deepwater drilling is set up by the Obama Administration. <sup>130</sup>	
June 1	U.S. Attorney General begins criminal and civil investigation into the oil spill. <sup>131</sup>	
June 2	Fishing restrictions are broadened to include thirty-seven percent of U.S. federal waters in the Gulf. <sup>132</sup>	
June 3	Drilling companies sue the Obama Administration regarding the deepwater drilling ban. Deepwater robots saw off a bent pipe to facilitate capping of the wellhead. <sup>133</sup>	
June 8	President Obama reacts to increasingly negative media coverage of his handling of the oil spill, by stating that he would like to know “whose ass to kick” regarding the spill. <sup>134</sup>	
June 9	Secretary of Interior Ken Salazar states that BP should be required to pay the salaries of thousands of workers laid off due to government’s moratorium on drilling. <sup>135</sup>	
June 10	Flow rate estimated to be 40,000 barrels per day as of June 3 when bent pipe was sawed off. <sup>136</sup>	
June 16	BP CEO Tony Hayward and BP Chairman Carl-Henric Svanberg announce the establishment of a \$20 billion fund to pay for damage claims. BP also announces that it will pay \$100 million to workers laid off by the six-month ban on deepwater drilling. <sup>137</sup>	
June 22	U.S. federal judge overturns government six-month ban on deepwater drilling, calling the ban “arbitrary and capricious.” <sup>138</sup>	

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<sup>128</sup> *Id.*

<sup>129</sup> President Barack Obama, Remarks by the President on the Gulf Oil Spill (May 27, 2010), <http://www.whitehouse.gov/the-press-office/remarks-president-gulf-oil-spill>.

<sup>130</sup> Cutler, *supra* note 119.

<sup>131</sup> *Id.*; see also *BP Oil Spill Timeline*, *supra* note 52.

<sup>132</sup> Cutler, *supra* note 119.

<sup>133</sup> *Id.*

<sup>134</sup> *Id.*

<sup>135</sup> *Id.*

<sup>136</sup> *See id.*

<sup>137</sup> *Id.*

<sup>138</sup> *Hornbeck Offshore Servs., L.L.C. v. Salazar*, 696 F.Supp.2d 627, 631 (E.D. La. 2010).

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July 12	Secretary of Interior Ken Salazar issues a second, somewhat different ban on deepwater drilling. <sup>139</sup>	
July 15	The oil leak is completely stopped by a cap. <sup>140</sup>	
Sept 1	U.S. federal judge denies federal government's request to dismiss the driller lawsuit contesting the drilling ban. <sup>141</sup>	
Sept 8	BP releases its findings from an internal investigation of the accident. The report focuses on eight lapses in "engineering and design, operations, and human judgment." <sup>142</sup>	
Sept 15	BP CEO Tony Hayward speaks to British members of Parliament. He refutes that cost cuts were the cause of the spill, and defends the safety culture at BP. <sup>143</sup>	
Oct 6	Presidential Commission determines that the White House blocked dissemination of information regarding worst-case scenarios of oil spill. <sup>144</sup>	
Oct 12	Obama Administration ends six-month moratorium on deepwater drilling six weeks early. <sup>145</sup>	

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<sup>139</sup> Alford, *supra* note 122.

<sup>140</sup> *Id.*

<sup>141</sup> Hornbeck Offshore Servs., L.L.C v. Salazar, No. 10-1663, 2010 WL 3523040, at \*7 (E.D. La. Sept. 1, 2010).

<sup>142</sup> Cutler, *supra* note 119.

<sup>143</sup> *Id.*

<sup>144</sup> Doggett, *supra* note 60.

<sup>145</sup> *BP Oil Spill Timeline*, *supra* note 52.

EXHIBIT 3: ESTIMATES OF ECONOMIC AND ENVIRONMENTAL  
DAMAGES TO EXTERNAL PARTIES FROM THE BP *DEEPWATER*  
*HORIZON* OIL SPILL

<b>Panel A</b>	
<b>Description</b>	<b>Amount</b>
Damages to the commercial fishing industry.	\$4.2 billion <sup>146</sup>
Damages to the tourism industry.	\$3.80 billion <sup>147</sup>
Loss in coastal real estate values.	\$4.32 billion <sup>148</sup>
<b>Panel B</b>	
<b>Description</b>	<b>Number</b>
Number of National Parks and National Wildlife Refuges at immediate risk.	12 <sup>149</sup>
Pounds of oiled debris removed from land in Mississippi, Alabama, and Florida.	1,248,956 <sup>150</sup>
Visibly oiled animals found <i>dead</i> through October 14, 2010:	
Birds	2263 <sup>151</sup>
Sea turtles	17 <sup>152</sup>
Mammals	4 <sup>153</sup>
Visibly oiled animals found <i>alive</i> through October 14, 2010:	
Birds	2080 <sup>154</sup>
Sea turtles	456 <sup>155</sup>
Mammals	2 <sup>156</sup>

<sup>146</sup> U.S. DEP'T. OF COMMERCE, *supra* note 70, at 6.

<sup>147</sup> OXFORD ECONOMICS, *supra* note 73, at 21 (providing the raw data from which the cited figure is derived).

<sup>148</sup> Drummer, *supra* note 78.

<sup>149</sup> *Interior Fact Sheet*, *supra* note 84.

<sup>150</sup> USFWS—FWS *Deepwater Horizon Oil Spill Response*, *supra* note 85.

<sup>151</sup> *Consolidated Fish & Wildlife Report*, *supra* note 87, at 1.

<sup>152</sup> *Id.*

<sup>153</sup> *Id.*

<sup>154</sup> *Id.*

<sup>155</sup> *Id.*

<sup>156</sup> *Id.*

EXHIBIT 4: ESTIMATES OF COSTS TO BP FROM THE *DEEPWATER  
HORIZON* OIL SPILL

Description	Amount
Actual costs through September 29, 2010 for spill containment, relief well, cap original well, grants to the Gulf States, claims paid, and federal costs.	\$11.2 billion <sup>157</sup>
“ <i>Deepwater Horizon</i> Oil Spill Trust” funds pledged to cover damages to businesses and individuals. <sup>158</sup>	\$20.0 billion <sup>159</sup>
Costs estimated by BP beyond the items above.	\$1.0 billion <sup>160</sup>
Possible fines under the Clean Water Act.	\$4.7 billion <sup>161</sup>
<b>Total</b>	<b>\$36.9 billion</b>

<sup>157</sup> Press Release (Oct. 1, 2010), *supra* note 92.

<sup>158</sup> The Trust would be sufficient to cover estimates of damages to the commercial fishing industry of \$4.36 billion, damages to the tourism industry of \$3.8 billion, and potential claims regarding losses to coastal real estate values of \$4.32 billion. *See id.*

<sup>159</sup> *Id.*

<sup>160</sup> BP took a charge of \$32.2 billion after the Gulf of Mexico oil spill. *See* Press Release, (July 27, 2010), *supra* note 88. Later in October, BP’s expenditures through September 29, 2010, reached \$11.2 billion. *See* Press Release (Oct. 1, 2010), *supra* note 92. BP thereafter allocated \$20 billion to the *Deepwater Horizon* Oil Spill Trust. *Id.*

<sup>161</sup> Blumenthal, *supra* note 90.