

# A TIME TO PROTECT: REVISING LOUISIANA MINERAL CODE ARTICLE 122 TO PROTECT COASTAL RESTORATION PROJECTS

## I. INTRODUCTION

Louisiana's coastal wetlands need protection. Thirty percent of the nation's wetlands are located in coastal Louisiana; however, coastal Louisiana accounts for 90% of the loss of coastal wetlands in the lower forty-eight states.<sup>1</sup> The recent rate of wetland loss has been estimated between twenty-five and thirty-five square miles annually.<sup>2</sup> Billions of dollars will be spent on various projects in attempts to duplicate the benefits of these wetlands and to salvage what remains of coastal Louisiana. The state and federal governments plan to spend more than \$5 billion on coastal restoration and flood protection projects in Louisiana over the next twenty years.<sup>3</sup> The total cost to protect coastal Louisiana is estimated at \$14 billion; however, the cost of inaction will exceed \$100 billion in infrastructure costs alone.<sup>4</sup>

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1. OFFICE OF COASTAL PROT. & RESTORATION, LA. DEP'T OF NATURAL RES., LOUISIANA COASTAL FACTS [hereinafter LOUISIANA COASTAL FACTS] (citing T.E. DAHL, STATUS AND TRENDS OF WETLANDS IN COTERMINOUS U.S. 1987 TO 1997 (2000); D.W. FIELD ET AL., COASTAL WETLANDS OF THE U.S.—AN ACCOUNTING OF A VALUABLE NATIONAL RESOURCE (1991); U.S. GEOLOGICAL SURVEY (2003)), *available at* <http://dnr.louisiana.gov/crm/webfactsheet--2010-07-29.pdf> (last visited Sept. 7, 2010).

2. LA. COASTAL WETLANDS CONSERVATION & RESTORATION TASK FORCE & THE WETLANDS CONSERVATION & RESTORATION AUTH., COAST 2050: TOWARD A SUSTAINABLE LOUISIANA COAST 1 (1998) [hereinafter COAST 2050], *available at* <http://www.crcl.org/2943Coast2050.pdf>.

3. *See* U. S. GOV'T ACCOUNTABILITY OFFICE, COASTAL WETLANDS: LESSONS LEARNED FROM PAST EFFORTS IN LOUISIANA COULD HELP GUIDE FUTURE RESTORATION AND PROTECTION 2, 12 (2007) [hereinafter LESSONS LEARNED], *available at* <http://www.gao.gov/new.items/d08130.pdf>; COASTAL PROT. & RESTORATION AUTH. OF LA., FISCAL YEAR 2009 ANNUAL PLAN: ECOSYSTEM RESTORATION AND HURRICANE PROTECTION IN COASTAL LOUISIANA 30, 37 (2008), *available at* [http://www.lacpra.org/assets/docs/FY09\\_Annual\\_Plan%03-26-2008-1.pdf](http://www.lacpra.org/assets/docs/FY09_Annual_Plan%03-26-2008-1.pdf); COASTAL PROT. & RESTORATION AUTH. OF LA., FISCAL YEAR 2010 ANNUAL PLAN: ECOSYSTEM RESTORATION AND HURRICANE PROTECTION IN COASTAL LOUISIANA 3 (2008) [hereinafter FISCAL YEAR 2010], *available at* <http://www.lacpra.org/assets/docs/FY2010%20Annual%20Plannew.pdf>.

4. Press Release, Nat'l Wetlands Research Ctr., Without Restoration, Coastal Land Loss to Continue (May 21, 2003), [http://www.nwrc.usgs.gov/releases/pr03\\_004.htm](http://www.nwrc.usgs.gov/releases/pr03_004.htm) (last visited Aug. 23, 2010).

Before those monies are spent, the Louisiana legislature should ensure that dredging activities in coastal Louisiana do not undermine these expensive efforts. The revision to Louisiana Mineral Code Article 122<sup>5</sup> proposed herein would impose a surface restoration duty upon mineral lessees who conduct dredging operations in Louisiana's coastal zone. This revision would help to protect sensitive coastal wetlands, coastal restoration projects, and flood protection projects by ensuring that dredging activities in coastal Louisiana do not adversely affect coastal recovery efforts—that the hydrologic processes of the wetlands are restored.

Oil and gas companies are permitted to dredge areas of the marsh as necessary to facilitate exploration, drilling, and production operations. The current version of Mineral Code Article 122 does not impose a surface restoration duty; when the operations are completed, the canals and slips are left, permitting continued destruction of coastal wetlands. The proposed revision would make certain that, upon completion of operations, the wetlands are restored to ensure that no further damage occurs.

Section II of this Comment discusses the many local and national benefits provided by Louisiana's coastal wetlands. It also provides an explanation of the causes of wetland loss, the canal and slip dredging process, and the process by which dredging permits are issued for coastal wetlands. Section III discusses the legal issues that shape the current legislation and necessitate the proposed legislation. Section IV articulates the proposed revision and describes the proposed standard of restoration using backfilling as an example. Section V analyzes the current and proposed surface restoration duties, contrasted against the benefits of coastal wetlands, the money allocated for coastal wetland restoration in Louisiana, and the current state of the law pertaining to Louisiana's coastal wetlands. This section also addresses the concerns that plague those in favor of restoring coastal Louisiana, but recognize the importance of Louisiana's oil and gas industry. Section VII provides a succinct conclusion.

## II. BACKGROUND ON LOUISIANA'S COASTAL WETLANDS

### A. THE BENEFITS OF LOUISIANA'S COASTAL WETLANDS

Louisiana's coastal wetlands are functionally, economically, and

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5. Louisiana Mineral Code Article 122 currently provides: "A mineral lessee is not under a fiduciary obligation to his lessor, but he is bound to perform the contract in good faith and to develop and operate the property leased as a reasonably prudent operator for the mutual benefit of himself and his lessor. Parties may stipulate what shall constitute reasonably prudent conduct on the part of the lessee." LA. REV. STAT. ANN. § 31:122 (2000).

socially valuable to the state, as well as to the entire nation.<sup>6</sup> Functionally,<sup>7</sup> coastal wetlands play a crucial role in flood and storm surge protection. The economic impact stemming from the loss of Louisiana's wetlands is felt across a wide spectrum of local, state, and national industries.<sup>8</sup> Additionally, wetlands play an invaluable role in the heritage of South Louisiana.<sup>9</sup> Continued loss of the wetlands will have catastrophic implications for both the industries and residents of South Louisiana.<sup>10</sup>

### 1. A SOURCE OF FLOOD PROTECTION

Coastal wetlands provide two methods of natural, invaluable flood protection to coastal areas.<sup>11</sup> First, as storm surge associated with hurricanes approaches the coast, wetlands act like a sponge to absorb and store the rising water.<sup>12</sup> This absorption lowers the height of the storm surge.<sup>13</sup> Second, vegetation growing on the coastal wetlands can reduce the speed of flood water, thereby decreasing the damaging force of the incoming water.<sup>14</sup>

Thus, wetlands assist man-made, structural flood protection by decreasing the amount and force of water that man-made barriers will face in the height of a storm.<sup>15</sup> Of course, the inverse is also true; less coastal

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6. See, e.g., COAST 2050, *supra* note 2, at 51; COASTAL PROT. & RESTORATION AUTH. OF LA, INTEGRATED ECOSYSTEM RESTORATION AND HURRICANE PROTECTION: LOUISIANA'S COMPREHENSIVE MASTER PLAN FOR A SUSTAINABLE COAST 6-15 (2008) [hereinafter MASTER PLAN], available at <http://www.lacpra.org/index.cfm?md=pagebuilder&tmp=home&nid=24&pnid=0&pid=28&fmid=0&catid=0&elid=0>.

7. MASTER PLAN, *supra* note 6, at 6.

8. See LA COASTAL WETLANDS CONSERVATION & RESTORATION TASK FORCE, COASTAL WETLANDS PLANNING, PROTECTION AND RESTORATION ACT (CWPPRA): A RESPONSE TO LOUISIANA'S LAND LOSS 1-3 (2006) [hereinafter CWPPRA: A RESPONSE TO LOUISIANA'S LAND LOSS], available at <http://www.lacoast.gov/reports/program/CWPPRA%20A%20Response%20to%20Louisiana%27s%20Land%20Loss.pdf>; COAST 2050, *supra* note 2, at 51.

9. MASTER PLAN, *supra* note 6, at 10-11.

10. *Id.* at 14-15.

11. See CWPPRA: A RESPONSE TO LOUISIANA'S LAND LOSS, *supra* note 8, at 1.

12. *Id.*; U.S. ENVTL. PROT. AGENCY, WETLANDS: PROTECTING LIFE AND PROPERTY FROM FLOODING 1, 3 (2006) [hereinafter U.S. EPA], available at <http://www.epa.gov/owow/wetlands/pdf/Flooding.pdf>.

13. CWPPRA: A RESPONSE TO LOUISIANA'S LAND LOSS, *supra* note 8, at 1. Scientists "estimate that every 3.8 to 4.3 miles of wetlands reduce storm surge [height] by an average of one foot." *Id.*

14. U.S. EPA, *supra* note 12, at 1.

15. WORKING GROUP FOR POST-HURRICANE PLANNING FOR THE LA. COAST, A NEW FRAMEWORK FOR PLANNING THE FUTURE OF COASTAL LOUISIANA AFTER THE HURRICANES OF 2005 16 (2006) ("[C]ontinued wetland loss in this region would increase the vulnerability of levees to overtopping by storm surges and attack by wind waves and, conversely, that increasing the extent of marshes and forested wetlands would provide a self-sustaining complement to

wetlands mean a greater destructive force will be applied to man-made flood protection measures, such as levees, during a storm.<sup>16</sup> The integration of coastal restoration efforts into flood protection plans is now widely recognized and accepted by scientists as well as state officials.<sup>17</sup>

Since Hurricane Katrina struck the coasts of Louisiana and Mississippi on August 29, 2005, the state and federal governments have funded over \$17 billion in flood protection and coastal restoration projects. Congress has authorized additional projects that will cost billions more.<sup>18</sup> The success of hurricane protection projects depends on the rebuilding of a sustainable Louisiana coast.<sup>19</sup> Coastal wetlands play a vital role in comprehensive protection from flooding and damage as a result of storm surges.<sup>20</sup> This is particularly true in Louisiana where the coastal terrain is flat and property is exposed to the full power of tropical storms and hurricanes.<sup>21</sup> The safety of people, property, infrastructure located in coastal Louisiana requires such comprehensive flood protection.<sup>22</sup>

## 2. A SOURCE OF ECONOMIC AND INDUSTRIAL ACTIVITY

The oil and gas industry is one of the major beneficiaries of the flood protection provided by Louisiana's coastal wetlands.<sup>23</sup> The energy industry has placed a considerable amount of the infrastructure necessary to refine and transport oil and gas in and around Louisiana's coastal wetlands.<sup>24</sup>

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structural protection.”).

16. WORKING GROUP FOR POST-HURRICANE PLANNING FOR THE LA COAST, *supra* note 15, at 16. Following Hurricane Katrina in 2005, a storm surge model concluded that if the wetlands to the east of New Orleans were replaced with open water, Hurricane Katrina's storm surge would have been three to six feet higher upon landfall. *Id.*

17. See MASTER PLAN, note 6, at 19 (“Plans for hurricane protection must rely on multiple lines of defense[,]” including natural features such as marshes”); WORKING GROUP FOR POST-HURRICANE PLANNING FOR THE LA COAST, *supra* note 15, at 15-16.

18. COASTAL PROT. & RESTORATION AUTH, FISCAL YEAR 2011 DRAFT ANNUAL PLAN: ECOSYSTEM RESTORATION AND HURRICANE PROTECTION IN COASTAL LOUISIANA 9 (January 2010) [hereinafter FISCAL YEAR 2011].

19. MASTER PLAN, *supra* note 6, at 6 (describing wetlands functioning as storm protection measures).

20. See CWPPRA: A RESPONSE TO LOUISIANA'S LAND LOSS, *supra* note 8, at 1; U.S. EPA, *supra* note 12, at 3; Nat'l Wetlands Research Ctr., About Wetlands, <http://www.nwrc.usgs.gov/wetlands.htm> (last visited Sept. 7, 2010).

21. U.S. EPA, *supra* note 12, at 3.

22. As of 2004, Louisiana's coastal infrastructure was valued at \$96 billion. CWPPRA: A RESPONSE TO LOUISIANA'S LAND LOSS, *supra* note 8, at 1.

23. MASTER PLAN, *supra* note 6, at 7.

24. *Id.* (citing LA. DEP'T OF NATURAL RES., AMERICA'S ENERGY CORRIDOR: LOUISIANA SERVING THE NATION'S ENERGY NEEDS (2006), available at [http://dnr.louisiana.gov/sec/exccdiv/techasmt/policy/wetlands/AW\\_AmericasEnergyCorridor\\_Revised.pdf](http://dnr.louisiana.gov/sec/exccdiv/techasmt/policy/wetlands/AW_AmericasEnergyCorridor_Revised.pdf). Nearly one-third of the nation's oil and gas supply is produced or transported in coastal Louisiana, and 50% of

Wetlands help to protect these segments of the petroleum infrastructure from storm damage.<sup>25</sup>

The oil and gas industry plays a vital role for South Louisiana.<sup>26</sup> Seventeen coastal parishes and nine adjacent parishes comprise 67.1% of the total state population and 73.5% of the state employment.<sup>27</sup> In these parishes, the oil and gas industry employs almost 60% of the population.<sup>28</sup> Furthermore, the oil and gas industry necessitates the presence of other industries that also dominate the employment opportunities in these parishes.<sup>29</sup> The rest of the country also is dependent upon the oil and gas concerns of Louisiana. In 2006, Louisiana ranked first and second in the nation for oil and gas production respectively, when outer continental shelf (OCS) activities were considered.<sup>30</sup>

Continued coastal land loss in Louisiana will increasingly expose the infrastructure and facilities that support oil and gas activity to storm surges. This increased exposure renders Louisiana's oil and gas industry more susceptible to appreciable storm surge damage and accompanying service interruptions, the cost of which is felt across the entire nation.<sup>31</sup> A 2004 report prepared for the Louisiana Department of Natural Resources indicated that the economic impact of a disruption in Louisiana's crude oil pipeline system could raise the price of oil by as much as \$9 per barrel and the price of gasoline by 21.6 cents per gallon.<sup>32</sup> Hurricanes Katrina and Rita illustrated such an effect when the cost for gasoline and heating oil "significantly increased" throughout the nation following the storms.<sup>33</sup>

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the nation's refining capacity is located in coastal Louisiana. *Id.* at 1. The network of pipelines in Louisiana includes 32,600 miles of pipe moving natural gas for both intrastate and interstate purposes, 3,450 miles of pipe for crude oil and crude oil products, and thousands of miles of pipe carrying oil and gas from wellheads to production facilities. JAMES A. RICHARDSON & LOREN C. SCOTT, THE ECONOMIC IMPACT OF COASTAL EROSION IN LOUISIANA ON STATE, REGIONAL, AND NATIONAL ECONOMIES 22 (2004), available at [http://dnr.louisiana.gov/sec/execdiv/tehasmt/policy/wetlands/AW\\_EconomicImpactofCoastErosion.pdf](http://dnr.louisiana.gov/sec/execdiv/tehasmt/policy/wetlands/AW_EconomicImpactofCoastErosion.pdf). This network of pipelines has a market value of \$2.4 billion. *Id.*

25. MASTER PLAN, *supra* note 6, at 7.

26. *See, e.g.*, RICHARDSON & SCOTT, *supra* note 24, at 15-20.

27. *Id.* at 19.

28. *Id.*

29. *Id.* at 19-20 (referring to downstream activities of the oil and gas industry such as refining, water transportation, and shipbuilding).

30. LOUISIANA COASTAL FACTS, *supra* note 1. Not considering OCS activities, Louisiana ranks fourth and fifth in oil and gas production respectively. *Id.*

31. RICHARDSON & SCOTT, *supra* note 24, at 28.

32. *Id.* at 42 (citing WALDEMAR NELSON CO., ECONOMIC IMPACT ASSESSMENT LOUISIANA COASTAL AREA COMPREHENSIVE COAST/WIDE ECOSYSTEM RESTORATION STUDY (2004)).

33. MASTER PLAN, *supra* note 6, at 7.

In addition to the oil and gas industry, Louisiana is home to ten major navigational routes and five of the busiest ports in the United States.<sup>34</sup> These assets provide the infrastructure to handle approximately 469 million tons of cargo annually, representing almost 20% of “annual U.S. waterborne commerce.”<sup>35</sup> Louisiana’s coastal wetlands provide protection from storm surges for these assets as well. Continued loss of coastal wetlands exposes port and cargo interests to greater risk when storms come ashore.<sup>36</sup>

Coastal wetlands also provide the requisite ecosystem for commercially and recreationally viable fish and wildlife.<sup>37</sup> South Louisiana is home to the largest region of coastal wetlands in the lower forty-eight states, providing a supportive ecosystem to a substantial commercial fishing industry.<sup>38</sup>

Louisiana is the largest national producer of shrimp, oyster, and blue crab, and also produces 26% of the commercial fish landed in the continental United States.<sup>39</sup> In terms of annual volume of seafood harvested, Louisiana is second only to Alaska;<sup>40</sup> three of the nation’s top seafood ports are in Louisiana.<sup>41</sup> The commercial fishing industry employs almost 30,000 Louisiana citizens.<sup>42</sup> The total economic impact of Louisiana’s commercial fishing industry was over \$2.4 billion in 2006.<sup>43</sup> Other commercially viable industries in Louisiana’s coastal wetlands include fur and alligator harvesting.<sup>44</sup>

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34. MASTER PLAN, *supra* note 6, at 8.

35. *Id.*

36. *Id.*

37. *See* COAST 2050, *supra* note 2, at 1.

38. MASTER PLAN, *supra* note 6, at 8.

39. *Id.*

40. *Id.*

41. *Id.* at 8-10 (citing LA. DEP’T OF WILDLIFE & FISHERIES, THE ECONOMIC BENEFITS OF FISHERIES, WILDLIFE, AND BOATING RESOURCES IN THE STATE OF LOUISIANA (2005)).

42. *Id.*

43. SOUTHWICK ASSOCS., THE ECONOMIC BENEFITS OF FISHERIES, WILDLIFE AND BOATING RESOURCES IN THE STATE OF LOUISIANA – 2006 15 (2008), *available at* <http://www.southwickassociates.com/sites/default/files/reports/LEI2006.pdf> (considering the dockside value, retail sales, earnings, as well as local, state, and federal tax revenues to compute the total economic impact of the industry). In 2006, Louisiana’s saltwater commercial fishing industry landed more than 844 million pounds of fish with a dockside value of over \$202 million. LOUISIANA COASTAL FACTS, *supra* note 1.

44. In 2007-2008, the fur harvest generated approximately \$1.7 million. LOUISIANA COASTAL FACTS, *supra* note 1. The 2006 alligator harvest generated approximately \$38 million. *Id.*

### 3. A SOURCE OF HERITAGE

Fishing and hunting in Louisiana's coastal marshes is a way of life for many South Louisiana residents, and many non-residents who visit the state also enjoy the outdoor recreational activity provided by coastal wetlands.<sup>45</sup> In 2006, the economic impact of recreational saltwater fishing in Louisiana was over \$757 million.<sup>46</sup> The economic impact of migratory bird hunting, which includes duck hunting in the marshes of coastal Louisiana, was more than \$153 million.<sup>47</sup> These figures represent only the direct impacts of recreational hunting and fishing and do not include indirect impacts such as travel, lodging, food, and other related expenditures.<sup>48</sup>

Louisiana's coastal wetlands have offered protection and a way of life for more than 12,000 years.<sup>49</sup> Currently, more than two million residents call coastal Louisiana home, representing more than 47% of the state's total population.<sup>50</sup> Many residents of South Louisiana share a unique bond with their families and to the land. This sentiment is perhaps best represented by the fact that most Louisianans remain in their home state, more than any other state in the nation.<sup>51</sup> If Louisiana's coastal wetlands continue to vanish, the recreational fishing and hunting industry<sup>52</sup> and a significant part of South Louisiana's heritage will disappear as well.

#### B. CREATION AND DESTRUCTION OF SOUTH LOUISIANA'S COASTAL WETLANDS

To better understand the destruction of Louisiana's coastal wetlands, one must understand the process that created them. The majority of the land in coastal Louisiana is the result of sediment carried by the Mississippi River in a natural process known as "delta building."<sup>53</sup> During times of

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45. See COAST 2050, *supra* note 2, at 56-57.

46. SOUTHWICK ASSOCS., *supra* note 43, at 14 tbl. 7b (showing the total economic impact of recreational saltwater fishing as \$757,091,876).

47. *Id.* at 13 tbl.6 (showing the total economic impact of migratory bird hunting as \$153,569,060).

48. See *generally id.*

49. MASTER PLAN, *supra* note 6, at 10.

50. LOUISIANA COASTAL FACTS, *supra* note 1 (citing U.S. CENSUS BUREAU, ANNUAL ESTIMATES OF THE POPULATION FOR COUNTIES: APRIL 1, 2000 TO JULY 1, 2006 (2007)).

51. MASTER PLAN, *supra* note 6, at 11 (showing that 79.4% of Louisiana's population is composed of native residents, the highest in the nation).

52. See COAST 2050, *supra* note 2, at 57-67.

53. Denise J. Reed & Lee Wilson, *Coast 2050: A New Approach to Restoration of Louisiana Coastal Wetlands*, 25 PHYSICAL GEOGRAPHY 4, 5-6 (2004); see also NAT'L WETLANDS RESEARCH CTR., STEMMING THE TIDE: THE MISSISSIPPI RIVER DELTA AND THE DAVIS POND FRESHWATER DIVERSION PROJECT (2002), available at <http://www.lacoast.gov/programs/DavisPond/stemming-the-tide.htm> (describing the attempts to replicate the "delta

high water, the river and the distributaries connected to the river would carry sediment-rich floodwater to the coastal wetlands.<sup>54</sup> As the water flowed over and through the vegetated wetlands, the wetlands slowed the flow of the water and the sediment would be deposited.<sup>55</sup> The deposited sediment would then be shaped by the river, tide, or storms.<sup>56</sup> Over time, the accumulated sediment deposits would result in fertile marsh capable of sustaining plant growth to continue this cycle.<sup>57</sup> The disruption of this natural process is one of the leading causes of wetland loss in Louisiana.<sup>58</sup>

Scientists and ecologists have identified several sources of wetland loss and divide these sources into two categories: natural and man-made.<sup>59</sup> The natural factors that adversely affect coastal wetlands include sediment compaction and gradual sea-level rise.<sup>60</sup> Included in the human factors which directly and indirectly alter the natural delta building process are

- (1) construction and management of levees and flood control structures on the Mississippi River that alter the supply of freshwater, sediment and nutrients to wetlands and limit the building of new lands, (2) *construction of canals and spoil banks that disrupt the internal hydrology of the estuaries and wetlands*, (3) extraction of oil and natural gas, which may have resulted in accelerated down faulting, and thus increased subsidence above that associated with natural compaction, and (4) increased boat traffic and construction of jetties and other structures to facilitate navigation which cause erosion of channel banks and interfere with natural patterns of sediment transport. Other activities likely have localized effects, including the introduction of nutria that graze extensively on wetland plants.<sup>61</sup>

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building” process with a freshwater diversion which takes sediment-rich water from the Mississippi River and distributes it into the coastal wetlands).

54. NAT'L WETLANDS RESEARCH CTR., *supra* note 53.

55. *Id.*

56. *Id.*

57. *Id.*

58. Reed & Wilson, *supra* note 53, at 6.

59. *Id.* at 5 (citing D.F. Boesch, et al., *Scientific Assessment of Coastal Wetland Loss, Restoration, and Management in Louisiana*, 20 J. COASTAL RES. 1 (1994); R.E. Turner, *Wetland Loss in the Northern Gulf of Mexico: Multiple Working Hypothesis*, 20 ESTUARIES 1 (1997); J.W. Day et al., *Pattern and Process of Land Loss in the Mississippi Delta: A Spatial and Temporal Analysis of Wetland Habit Change*, 23 ESTUARIES 425 (2000)).

60. *Id.* at 5-6 (citing D.J. Reed, *The Response of Coastal Marshes to Sea-Level Rise: Survival or Submergence?* 20 EARTH SURFACE PROCESSES & LANDFORMS 39 (1995)).

61. *Id.* at 6-7 (emphasis added). Nutria are “large semiaquatic rodents introduced from South America.” See U.S. GEOLOGICAL SURVEY/NAT'L WETLANDS RESEARCH CTR., NUTRIA, EATING LOUISIANA'S COAST 1-2 (2000), available at <http://www.nwrc.usgs.gov/factshts/020-00.pdf>. “Nutria live in fresh, intermediate, and brackish marshes and wetlands and feed on vegetation (herbivory) that is vital to sustaining the Louisiana coastline.” *Id.* Furthermore, “[I]ow demand,

As noted above, the dredging of canals and construction of spoil banks is one of the leading man-made causes of wetland loss in coastal Louisiana. However, canal and slip dredging in Louisiana's coastal wetlands is necessary to discover, exploit, and produce oil and gas that is located beneath the surface. The process of canal dredging could perhaps best be analogized to building a driveway. The street is the navigable body of water, which requires no alteration to accommodate the drilling rig and necessary service equipment. The home is the location of the well site and the rig. The driveway is the route taken by the rig and used by other vessels to service the rig during the drilling process. The "driveway" is constructed by dredging—removing the marsh that is in between the navigable waterway and the well site.

The dredging process is relatively simple and archaic,<sup>62</sup> despite advancements in technology available to oil and gas companies.<sup>63</sup> Once the location of the well site is established, a surveyor determines the location and dimensions of the channel and/or slip necessary to facilitate the drilling and production equipment. Next, the canal and/or slip is dug using excavation equipment mounted on a barge or an amphibious vehicle, known as a marsh buggy. This equipment simply excavates the portions of the marsh necessary to permit access to the well site or to form the pipeline channel. As the material is removed, it is placed alongside the channel or slip. There, the excavated material forms a levee referred to as a "spoil bank." Typically, a channel approximately eight feet deep and up to 120 feet wide must be dredged to allow access to the well site. Unless the landowner and mineral lessee have arranged for the restoration of the surface, the channel and/or slip, and the resulting spoil bank remain once the drilling operations are completed. Studies indicate that over time, the canals and channels will widen.<sup>64</sup>

The dredging of canals and slips changes the hydrology of the wetlands in two ways that adversely affect the "processes essential to a healthy coastal ecosystem."<sup>65</sup> First, canals allow saltwater to pierce into

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high reproductive rates, and low natural predation have enabled the nutria population to increase." *Id.* at 2.

62. Description of the wetland dredging process based on the author's own experience working as captain aboard inland tugboats engaged in oil and gas drilling and production operations in coastal Louisiana.

63. Don Francis, *Time and Motion*, E&P, July 1, 2006, available at <http://www.epmag.com/archives/wellConstruction/5913.htm> (describing a method of drilling which would require only 2.5 feet of water depth).

64. Reed & Wilson, *supra* note 53, at 8.

65. *Id.*

areas of coastal wetlands that otherwise would contain only freshwater.<sup>66</sup> The introduction of saltwater creates detrimental effects on the vegetation in these areas. Second, the spoil bank constructed by the dredging process is higher than the surface of the surrounding marsh. Its relative height prohibits the natural flow of water and sediments across the marsh and creates ponding.<sup>67</sup> The actual removal of material is described as the direct effect, while the changes as a result of the altered hydrology are the indirect effects.<sup>68</sup>

Studies have generated various estimates as to how much wetland loss is attributable to canal and slip dredging.<sup>69</sup> In 2000, a study showed that direct removal, mostly from the construction of canals, accounted for 15% of the coastal land loss.<sup>70</sup> Others contend that canal dredging is only responsible for 9.2% of the direct loss.<sup>71</sup> The indirect losses attributable to canal dredging are considerably higher than the direct losses.<sup>72</sup> A 1996 study reported that 35% of the wetland loss is due to the indirect effects of canal dredging.<sup>73</sup> However, all of the reports cited herein agree that canal and slip dredging is responsible for some of the wetland loss in coastal Louisiana. A report from 2006 found that canals and their accompanying spoil banks “account for over 22% of the total wetland area lost.”<sup>74</sup> Some scientists have concluded that as much as 85% of the land loss in coastal Louisiana is attributable to the direct and indirect effects of canal dredging.<sup>75</sup>

Coastal land loss in Louisiana is a complex problem for which there is no single solution. Rather, it requires a comprehensive strategy, which

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66. Reed & Wilson, *supra* note 53, at 7 (citing F.C. Wang, Dynamics of Saltwater Intrusion in Coastal Channels, 93 J. GEOPHYSICAL RES. 6937 (1988)).

67. *Id.* at 7, 9; see also Joseph J. Baustian & R. Eugene Turner, *Restoration Success of Backfilling Canals in Coastal Louisiana Marshes*, 14 RESTORATION ECOLOGY 636 (2006) (defining “ponding” as the increased drying or flooding of the marsh behind a spoil bank because of interrupted water flow).

68. See, e.g., Aaron S. Bass & R. Eugene Turner, *Relationships Between Salt Marsh Loss and Dredged Canals in Three Louisiana Estuaries*, 13 J. COASTAL RES. 895 (1997); James G. Gosselink, *Comments on Wetland Loss in the Northern Gulf of Mexico: Multiple Working Hypothesis by R.E. Turner 1997 Estuaries 20:1-13*, 24 ESTUARIES 636 (2001); Turner, *supra* note 59, at 1-13.

69. See, e.g., Baustian & Turner, *supra* note 67, at 636; Day, *supra* note 59, at 431; Gosselink, *supra* note 68, at 636; Reed & Wilson, *supra* note 53, at 10.

70. Reed & Wilson, *supra* note 53, at 10 (citing S. Penland et al., *The Processes of Coastal Land Loss in the Mississippi River Delta Plain*, USGS Open File Report 00-0418 (2000)).

71. See Day, *supra* note 59, at 431.

72. Baustian & Turner, *supra* note 67, at 636.

73. Gosselink, *supra* note 68, at 636.

74. Baustian & Turner, *supra* note 67, at 636.

75. See Turner, *supra* note 59, at 1-13.

addresses separate problems while considering the objectives of Louisiana's Master Plan.<sup>76</sup> Engineers, scientists, and ecologists working to restore coastal Louisiana must consider the causes of loss listed above, as well as other practical constraints, such as funding and other necessary resources.<sup>77</sup> The revision to Mineral Code article 122 proposed herein is intended to help alleviate the direct and indirect effects of canal and slip dredging and is only part of the solution to coastal land loss.

### C. CURRENT REGULATION OF CANAL AND SLIP DREDGING

The federal and state government share responsibility for regulating and permitting dredging activities in Louisiana's coastal wetlands.<sup>78</sup> The federal regulations and permitting process for dredging activities in coastal wetlands are set forth in Section 404 of the Clean Water Act.<sup>79</sup> Section 404 further grants concurrent departmental jurisdiction to the Environmental Protection Agency and the Army Corps of Engineers.<sup>80</sup> Louisiana regulates dredging activity in coastal wetlands through the Coastal Management Division of the Louisiana Department of Natural Resources, which issues Coastal Use Permits for activities that affect coastal wetlands.<sup>81</sup> Coastal Use Permits (CUP) are only issued for work in the statutorily defined Coastal Zone, which includes all of Louisiana's coastal wetlands with which this Comment is concerned.<sup>82</sup>

In order to dredge a slip or canal in Louisiana's coastal wetlands, an oil and gas company must obtain both state and federal permits<sup>83</sup> from the

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76. MASTER PLAN, *supra* note 6, at 36.

77. *Id.*

78. See Kathrin Ellen Yates, *Wetlands Mitigation and Mitigation Banking in Louisiana*, 59 LA. L. REV. 591, 592 (1998-99) (human activities affecting wetlands are regulated by federal and state permit programs); see also 33 U.S.C. § 1251(g) (2006) (providing that the States have the authority to regulate water within their boundaries and that the federal agencies shall cooperate with the states to develop solutions to manage their water resources).

79. See 33 U.S.C. § 1344 (2006) (discussing permits for dredge or fill material); Sharon M. Mattox, *Regulatory Obstacles to Development and Redevelopment: Wetlands and Other Essential Issues*, A.L.I. 1571, 1597 (2007).

80. See 33 U.S.C. § 1344; Mattox, *supra* note 79, at 1571.

81. LA. REV. STAT. ANN. § 49:214.30 (2003 & Supp. 2009).

82. See LA. REV. STAT. ANN. § 49:214.24 (2003) (defining the boundaries of the Coastal Zone); LA. REV. STAT. ANN. § 49:214.30 (2003 & Supp. 2009) (establishing the applicability of Coastal Use Permits).

83. LA. REV. STAT. ANN. § 49:214.30; see also LA. DEP'T OF RESOURCES, JOINT PERMIT APPLICATION FOR WORK WITHIN THE LOUISIANA COASTAL ZONE, available at [http://dnr.louisiana.gov/crm/coastmgt/cup/20040521JPA\\_v1.pdf](http://dnr.louisiana.gov/crm/coastmgt/cup/20040521JPA_v1.pdf) (last visited Sept. 7, 2010) (describing the applicability, requirements, and application process for DEQ permits necessary for some fill activity); LA. DEP'T OF NATURAL RESOURCES, EPA ROLE IN SECTION 404 PERMIT, <http://dnr.louisiana.gov/crm/coastmgt/permitsmitigation/permitsmitigation.asp> (last visited Sept. 7, 2010).

Louisiana DNR and the U.S. Army Corps of Engineers with EPA approval. These agencies require permit applicants to mitigate the damage that their dredging causes.<sup>84</sup> However, none of the mitigation requirements compel the dredging party to restore the specific area that the party damaged.<sup>85</sup>

Instead, mitigation can come in several other forms, the most popular of which are compensatory mitigation and mitigation banking.<sup>86</sup> “Compensatory mitigation is achieved through a process where a permittee restores, creates, or protects another wetland in exchange for, or to replace the one destroyed.”<sup>87</sup> Similarly, “[w]etland mitigation banking’ is a type of service industry that supplies established wetlands and their associated values that developers may purchase to fulfill the compensatory mitigation requirements of a permit.”<sup>88</sup> Neither type of off-site mitigation can offset the indirect effects of the permitted activity, which tend to have a more severe effect on coastal wetland loss than direct effects.<sup>89</sup>

Although rarely used, a restoration duty is nevertheless available to the permittee.<sup>90</sup> Louisiana defines mitigation as “all actions taken by a permittee to avoid, minimize, *restore*, and compensate for ecological values

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84. See 40 C.F.R. § 1508.20(c) (2008) (“Rectifying the impact by repairing, rehabilitating, or restoring the affected environment.”); LA. REV. STAT. ANN. § 49:214.41(A)(3) (2003 & Supp. 2009) (“‘Mitigation’ means all actions taken by a permittee to avoid, minimize, restore, and compensate for ecological values lost due to a permitted activity.”).

85. See 40 C.F.R. § 1508.20(e) (“Compensating for the impact by replacing or providing substitute resources or environments.”); LA. REV. STAT. ANN. § 49:214.41 (2003 & Supp. 2009). Coastal Use Permits are issued for residential and commercial activities other than dredging. See LA. REV. STAT. ANN. § 49:214.25(A) (2003) (outlining activities other than dredging which require a Coastal Use Permit). Some of these projects can only be mitigated through offsite mitigation. Therefore, it is not proposed to eliminate offsite compensatory or wetland mitigation banking so as to hinder other developments in the Coastal Zone.

86. Of the 251 permits issued to oil and gas operators, 247 purchased mitigation credits or paid into the state’s coastal resources trust fund as authorized by section 49:214.40. LOUISIANA DEP’T OF NATURAL RES. – COASTAL MGMT. DIV., SPREADSHEET OF PERMITS WITH WETLAND IMPACTS ISSUED TO OIL AND GAS INDUSTRY FROM 2003 – 2008 (2009) [hereinafter LA. DEP’T OF NATURAL RES. SPREADSHEET] (unpublished spreadsheet created by DNR) (on file with author). Twenty-two of these 247 operators combined other mitigation types such as planting, creation of a conservation easement, construction of a terrace, or shoreline stabilization. *Id.* Only five permittees opted for the partial backfilling or plugging of dredged canals. *Id.*

87. Yates, *supra* note 78, at 593.

88. Yates, *supra* note 78, at 593.

89. See discussion *supra* Part II.B.

90. See LA. REV. STAT. ANN. § 49:214.1 (2003); 40 C.F.R. § 1508.20 (2008). See also COASTAL MANAGEMENT DIVISION, LA. DEP’T OF NATURAL RES., COASTAL USE PERMIT/CONSISTENCY TRACKING SYSTEM – MITIGATION TYPES, [http://sonris-www.dnr.state.la.us/sundown/cart\\_prod/cmd\\_mitigation\\_type](http://sonris-www.dnr.state.la.us/sundown/cart_prod/cmd_mitigation_type) (last visited Sept. 7, 2010) (illustrating that the backfilling and plugging of canals is available to permittees in Louisiana).

lost due to a permitted activity.”<sup>91</sup> This definition is similar to the federal definition of mitigation.<sup>92</sup> Thus, imposing a duty as a legal component of the lease is consistent with the permitting process.

### III. THE JUXTAPOSITION OF MINERAL LEASES AND MINERAL CODE ARTICLE 122

Louisiana Mineral Code Article 122 does not currently impose a surface restoration duty upon mineral lessees who dredge wetlands in the coastal zone.<sup>93</sup> Furthermore, the current version of Article 122 permits the parties to a mineral lease to contractually avoid any surface restoration.<sup>94</sup> Because federal and state dredging regulations also fail to make restoration mandatory, landowners and the petroleum industry have wide discretion in determining the extent to which it will curtail the adverse environmental effects of its drilling operations. This section discusses the legal obligations of parties stemming from mineral leases, the Louisiana Mineral Code, and the judicial interpretation of Mineral Code Article 122 to illustrate the need for the proposed revision.

#### A. THE MINERAL LEASE

A mineral lease is defined as “a contract by which the lessee is granted the right to explore for and produce minerals.”<sup>95</sup> It is a private agreement that sets out the obligations of the mineral lessee, typically a company or organization, that wants to explore for oil on the lessor’s property. In other words, the mineral lease works alongside any public regulation, such as dredging permits, to define the responsibility of companies drilling for oil or gas. The majority of the lease is standardized; however, the lease is

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91. LA. REV. STAT. ANN. § 49:214.41 (2003 & Supp. 2009) (emphasis added).

92. The definition of mitigation provided in the CFR and referenced in the CWA includes:

- (a) Avoiding the impact altogether by not taking a certain action or parts of an action.
- (b) Minimizing impacts by limiting the degree or magnitude of the action and its implementation.
- (c) *Rectifying the impact by repairing, rehabilitating, or restoring the affected environment.*
- (d) Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action.
- (e) Compensating for the impact by replacing or providing substitute resources or environments.

40 C.F.R. § 1508.20 (2008) (emphasis added).

93. See discussion *infra* Part IV.B.

94. Mineral Code Article 122 states that

A mineral lessee is not under a fiduciary obligation to his lessor, but he is bound to perform the contract in good faith and to develop and operate the property leased as a reasonably prudent operator for the mutual benefit of himself and his lessor. *Parties may stipulate what shall constitute reasonably prudent conduct on the part of the lessee.*

LA. REV. STAT. ANN. § 31:122 (2000) (emphasis added).

95. LA. REV. STAT. ANN. § 31:114 (2000).

negotiable, and provisions can be inserted to address a wide variety of circumstances.<sup>96</sup>

One such circumstance is the duty to restore the surface of the property after the dredging company has finished its operations. Mineral Code article 122 does not obligate the mineral lessee to restore the surface of the premises upon completion of operations.<sup>97</sup> Instead, article 122 provides that “[p]arties may stipulate what shall constitute reasonably prudent conduct on the part of the lessee.”<sup>98</sup> Accordingly, surface lessors and mineral lessees may contractually provide for surface restoration upon the termination of the lease.<sup>99</sup>

However, it is rare that private landowners, who own more than 75% of the coastal wetlands in Louisiana, will require mineral lessees to restore the surface once dredging operations are completed.<sup>100</sup> Coastal landowners are in a vulnerable bargaining position. A study conducted by Paul Coreil, vice chancellor and director of the Louisiana Cooperative Extension Service at Louisiana State University, found that “[m]ost coastal landowners earn little or no income from the surface of their wetlands (not counting oil and gas leases).”<sup>101</sup> The landowners questioned in the study ranked oil and gas exploration and production as the most important current and future source of revenue for their property.<sup>102</sup> Because they have little alternative economic use for the land, their ability to negotiate with a mineral lessee is limited. Furthermore, an overwhelming majority of dredging permits are issued to oil and gas companies, whose economic resources and bargaining power far outstrip an individual landowner. Current mitigation options available to lessees make it unlikely that mineral lessees will seek to restore the surface in lieu of simply purchasing mitigation credits or paying into the

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96. Mark Needham, *The Louisiana Oil, Gas, and Mineral Lease*, 28 LA. B.J. 35, 38 (1980).

97. LA. REV. STAT. ANN. § 31:122 (2000).

98. *Id.*

99. *See, e.g.*, Terrebonne Parish Sch. Bd. v. Castex Energy, Inc., 04-0968 (La. 1/19/05); 893 So. 2d 789, 798-99.

100. Paul D. Coreil, *Landowner's Perceptions Related to Wetland Regulatory Policy in Coastal Louisiana*, in THE 8TH TRIENNIAL NATIONAL WILDLIFE AND FISHERIES EXTENSION SPECIALISTS CONFERENCE 52 (1996) [hereinafter *Coreil Study*], available at <http://digitalcommons.unl.edu/ewfsc8/10/>.

101. *Id.* at 58. The Coreil Study was conducted in 1995; however, there have been no legislative changes or judicial decisions which would seem to significantly alter the perceptions and concerns of coastal landowners since the study was performed. The study systematically questioned land owners who own wetlands in Louisiana's coastal parishes. *Id.* The purpose of the study was to determine the perspective of the landowners regarding regulatory policies and economic concerns. *Id.* at 52.

102. *Id.* at 54.

land trust.<sup>103</sup> In sum, the oil and gas companies seeking to lease land hold all the cards at the bargaining table.

A mineral lease must be distinguished from a mineral servitude. While a mineral lessee is not statutorily required to restore the surface, the holder of a mineral servitude *is* statutorily required to restore the surface upon the cessation of operations.<sup>104</sup> A mineral servitude is the right to explore for, produce, and reduce to ownership minerals of land owned by another.<sup>105</sup> A mineral lease does not produce the same legal effects as a mineral servitude; instead, a mineral lease “permits the lessee to explore for minerals on the land of the lessor in consideration of the payment of a rental and/or bonuses.”<sup>106</sup> A mineral lease “places no charge whatever on the land and cannot be put in the same classification as a mineral servitude, which is an incorporeal immovable that attaches to the land itself.”<sup>107</sup> Louisiana Mineral Code article 22 expressly imposes a surface restoration duty upon mineral servitude owners.<sup>108</sup> In pertinent part, article 22 provides that the owner of a mineral servitude “is obligated, insofar as practicable, to restore the surface to its original condition at the earliest reasonable time.”<sup>109</sup>

Landowners prefer a mineral lease to a mineral servitude because the mineral lease provides the landowner with greater control over the exploration for minerals on the property.<sup>110</sup> Because a mineral servitude

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103. See *supra* notes 100-102 and accompanying text.

104. Compare LA. REV. STAT. ANN. § 31:22 (2000) (imposing expressly a surface restoration duty) with LA. REV. STAT. ANN. § 31:122 (2000) (neglecting to impose a surface restoration duty).

105. See LA. REV. STAT. ANN. § 31:21 (2000) (defining a mineral servitude); Luther L. McDougal III, *Louisiana Mineral Servitudes*, 61 TUL. L. REV. 1097, 1099 (1987) (explaining mineral servitudes in great detail). The Supreme Court of Louisiana has explained that a mineral servitude “is a dismemberment of the title insofar as it creates a secondary right in the property separate from the principal right of ownership of the land,” and “the creation of a mineral servitude effectively fragments the title such that different elements of ownership are held by different owners . . . .” *Steele v. Denning*, 456 So. 2d 992, 998 (La. 1984).

106. *Dixon v. Am. Liberty Oil Co.*, 77 So. 2d 533, 537 (La. 1954).

107. *Id.*

108. LA. REV. STAT. ANN. § 31:22 (2000).

109. *Id.* The Supreme Court of Louisiana has stated that the mineral servitude owner’s surface restoration duty does not extend to mineral lessees. *Terrebonne Parish Sch. Bd. v. Castex Energy, Inc.*, 04-0968 (La. 1/19/05); 893 So. 2d 789, 801 n.11 (expressly rejecting the argument that the legislative intent of the mineral code was to impose the same surface restoration duty on mineral lessees as mineral servitude owners).

110. In *Tinsley v. Seismic Explorations, Inc.*, 117 So. 2d 897 (La. 1960), the court expressly held that:

In a mineral [lease, the] lessee is not only accorded the right to explore but is obliged to do so in most cases or pay a delay rental if he does not explore within the primary term of the lease. In a mineral lease, the lessor, being entitled to royalties in the event of production, is interested in requiring his lessee to explore. Not so with a landowner whose property is subjected to a mineral servitude. Being without interest in the minerals, [the land owner] is

owner does not own the surface of the leased premises, he is obligated to restore the surface if damaged by the servitude owner while exercising his servitude.<sup>111</sup> The surface restoration duty imposed on mineral servitude owners will not translate into an obligation for mineral lessees to restore the surface.

### B. MINERAL CODE ARTICLE 122

The Louisiana Mineral Code was adopted as an amendment to the Louisiana Revised Statutes as Title 31 and enacted as Act 50 of 1974 by the Louisiana legislature.<sup>112</sup> The overarching goal of the Mineral Code was to codify the mineral law jurisprudence that had developed in Louisiana up until that time.<sup>113</sup> Prior to the adoption of the Mineral Code, Louisiana's mineral law was a product of Louisiana's judiciary analogizing Civil Code articles relating to servitudes, obligations, and leases.<sup>114</sup>

As adopted in 1974, and as it remains today, article 122 imposes on mineral lessees the duty to "develop and operate the property leased as a *reasonably prudent operator* for the mutual benefit of himself and his lessor. Parties may stipulate what shall constitute reasonably prudent conduct on the part of the lessee."<sup>115</sup> The statute does not expressly impose a surface restoration duty; however, the comment following the article indicates that the drafters of the Mineral Code considered the duty to restore to be required by both the Mineral Code and provisions of the Civil Code.<sup>116</sup>

Jurisprudence prior to the adoption of the Mineral Code recognized the duty of the mineral lessee to restore the surface of the leased property to

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without right, during the existence of the servitude, to insist upon development, and the only duty required of him is to permit the servitude owner to explore as long as the servitude remains in [effect].

Tinsley v. Seismic Explorations, Inc., 117 So. 2d 897, 901-02 (La. 1960) (citing Perkins v. Long Bell Petroleum Co., 81 So. 2d 389, 393 (La. 1955)).

111. See LA. REV. STAT. ANN. §§ 31:21-22 (2000).

112. WADE O. MARTIN, JR., LOUISIANA SECRETARY OF STATE, STATE OF LOUISIANA MINERAL CODE 1 (1974) [hereinafter 1974 LOUISIANA MINERAL CODE].

113. *Id.* at ix.

114. *Id.*

115. Cf. LA. REV. STAT. ANN. § 31:122 (1974) with LA. REV. STAT. ANN. § 31:122 (2000 & Supp. 2009) (emphasis added) (the language of § 122 remains unchanged since its enactment in 1974).

116. LA. REV. STAT. ANN. § 31:122 cmt. (1974) (the obligation of the mineral lessee to restore the surface "has a foundation in [a]rticles 2719 and 2720 of the Civil Code"). The drafters of the Mineral Code recognized that the surface restoration duty was not specifically included in the duty to act as a prudent operator; however, the comment states that there was "no reason whatsoever to exclude this particular obligation as being a specification of the prudent administrator standard." *Id.*

its pre-lease condition, limited only by a standard of reasonableness.<sup>117</sup> Drafters of the Louisiana Mineral Code relied on *Smith v. Schuster* and *Rohner v. Austral Oil Exploration Co.* to determine that the reasonably prudent operator standard does not “specifically include” a surface restoration duty.<sup>118</sup> Rather, the drafters reasoned that the surface restoration obligation was based on Civil Code articles 2719 and 2720.<sup>119</sup> Nevertheless, the drafters expressly stated that “there appears no reason whatsoever to exclude [the surface restoration] obligation as being a specification of the prudent administrator standard.”<sup>120</sup> The comment to article 122 cites to *Smith* as establishing that, even when the lease is silent, the mineral lessee has a duty to restore the leased property.<sup>121</sup> The same comment cites *Rohner* as establishing that the duty of the mineral lessee to restore the surface is “limited by a standard of reasonableness which balances the cost of perfect restoration against the value of the use to which the land is being put.”<sup>122</sup>

The earliest pre-Mineral Code decision mentioned in the comment to article 122 is *Wemple v. Pasadena Petroleum Co.*, a 1920 Louisiana Supreme Court decision that pre-dates *Smith* and *Rohner* by thirty-three and thirty-eight years respectively.<sup>123</sup> *Wemple* was not cited as authority in

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117. LA. REV. STAT. ANN. § 31:122 cmt. (1974); *see also* *Smith v. Schuster*, 66 So. 2d 430, 431-32 (La. App. 2 Cir. 1953) (holding that the lessee “should maintain and restore the premises in the condition he found them subject to his rightful use, and where he has damaged the land it is his duty to appropriately remedy the condition brought on by his use of the lease”). *But see* *Rohner v. Austral Oil Exploration Co.*, 104 So. 2d 253 (La. App. 1 Cir. 1958) (Lessee backfilled pits used for saltwater storage, however landowner brought action claiming that restoration was not complete because backfilled land would not sustain crops. Court balanced cost of perfect restoration against the value of the land and determined that the obligation to restore the surface is limited by a standard of reasonableness.).

118. LA. REV. STAT. § 31:122 cmt. (2000 & Supp. 2009); *Smith v. Schuster*, 66 So. 2d 430, 431-32 (La. App. 2 Cir. 1953); *Rohner v. Austral Oil Exploration Co.*, 104 So. 2d 253 (La. App. 1 Cir. 1958).

119. LA. REV. STAT. ANN. § 31:122 cmt. (1974). At the time the Mineral Code was enacted, Civil Code article 2719 provided in pertinent part that “it shall be the duty of the lessee to deliver back everything in the same state in which it was when taken possession of by him, making, however, the necessary allowance for wear and tear and for unavoidable accidents.” LA. CIV. CODE ANN. art. 2719 (1870) (amended 2004). Article 2720 provides in pertinent part that “the lessee is presumed to have received the thing in good order, and he must return it in the same state.” LA. CIV. CODE ANN. art. 2720 (1870) (amended 2004); *see also* *Broussard v. Waterbury*, 346 So. 2d 1342, 1344 (La. App. 3 Cir. 1977) (holding that Civil Code articles 2719 and 2720 impose a surface restoration duty when provisions of the lease so require and when the lease is silent).

120. LA. REV. STAT. ANN. § 31:122 cmt. (1974).

121. *Id.* (referencing *Smith v. Schuster*, 66 So. 2d 430, 431-32 (La. App. 2 Cir. 1953) as jurisprudence that the mineral lessee is under a duty to restore).

122. *Id.* (citing *Rohner v. Austral Oil Exploration Co.*, 104 So. 2d 253 (La. App. 1 Cir. 1958)).

123. *Id.*; *see also* *Wemple v. Pasadena Petroleum Co.*, 85 So. 230 (La. 1920); *Smith v.*

either *Smith* or *Rohner* where the existence and scope of the mineral lessee's surface restoration duty was in dispute.<sup>124</sup> In *Wemple*, the plaintiff brought suit seeking to recover for timber and fences that were destroyed as a result of the mineral lessees operations on the property.<sup>125</sup> The plaintiff argued that the lessee destroyed more than what was necessary to conduct the exploration, drilling, and production activities.<sup>126</sup> The court reasoned, citing only to the Louisiana Civil Code, that the lessee was only bound to act as "a good administrator" of the leased property.<sup>127</sup> The court found that because the defendant oil company was not negligent in the pursuit of oil and gas on the leased property, the defendant was acting as a good administrator, and accordingly dismissed the suit.<sup>128</sup>

In sum, at the time the Mineral Code was enacted, the mineral lessee was obligated to act as a prudent administrator of the leased premises, which at least implied that the lessee had a duty to reasonably restore that portion of the property that was damaged through the lessee's negligence. Judicial decisions as well as scholarly commentary following the enactment of the Mineral Code also recognized the mineral lessee's surface restoration duty.<sup>129</sup>

The plaintiff-landowner in *Broussard v. Waterbury*, an early post-Mineral Code decision, sued a mineral lessee who was operating two wells on the leased premises. The plaintiff sought to have the property restored to its pre-lease condition.<sup>130</sup> Upon termination of the operations, the defendant abandoned the plaintiff's property leaving four open slush pits, several

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Schuster, 66 So. 2d 430 (La. App. 2 Cir. 1953); *Rohner v. Austral Oil Exploration Co.*, 104 So. 2d 253 (La. App. 3 Cir. 1958).

124. See *Smith*, 66 So. 2d at 431; *Rohner*, 104 So. 2d at 253.

125. *Wemple v. Pasadena Petroleum Co.*, 85 So. 230, 231 (La. 1920).

126. *Id.*

127. *Id.* (citing LA. CIV. CODE ANN. art. 2710 (1870) (showing that in 1920, article 2710 of the Louisiana Civil Code provided that "[t]he lessee is bound: (1) To enjoy the thing leased as a good administrator, according to the use for which it was intended by the lease. (2) To pay the rent at the terms agreed on.")).

128. *Wemple*, 85 So. at 232.

129. See, e.g., *Caskey v. Kelly Oil Co.*, 98-1193 (La. 6/29/99); 737 So. 2d 1257, 1261; *Broussard v. Waterbury*, 346 So. 2d 1342, 1344 (La. App. 3 Cir. 1977); *Edwards v. Jeems Bayou Prod. Co.*, 507 So. 2d 11, 12-13 (La. App. 2 Cir. 1987); *Terrebonne Parish Sch. Bd. v. Castex Energy, Inc.*, 01-2634 (La. App. 1 Cir. 3/19/04); 878 So. 2d 522, 527-29, *rev'd*, 893 So. 2d 789, 801 (La. 2005). "The Comment to article 122 of the Mineral Code . . . indicates that the redactors considered the obligation to restore the premises in a reasonable manner to be a part of the prudent administrator standard of preservation imposed by articles 2719 and 2720 of the Civil Code." John M. McCollam, *A Primer for the Practice of Mineral Law Under the New Louisiana Mineral Code*, 50 TUL. L. REV. 729, 811 (1976).

130. *Broussard v. Waterbury*, 346 So. 2d 1342, 1342-43 (La. App. 3 Cir. 1977).

levees, and some equipment on the premises.<sup>131</sup> Prior to trial, the defendant backfilled the slush pits, leveled the levees, and removed the equipment; however, the plaintiff took issue with the results and contended that the property was not fully restored.<sup>132</sup> There was no written lease between the parties, but the court determined that the defendant was the mineral lessee.<sup>133</sup> The court considered the *Smith* and *Rohner* decisions, article 122 of the Mineral Code, and Civil Code articles 2719 and 2720 to determine that the mineral lessee does have a duty to restore the surface to its pre-lease condition.<sup>134</sup> The court found the defendant had breached the duty to restore the surface because, while the property was improved, it was not totally restored, and therefore the defendant was liable for the restoration.<sup>135</sup>

In 1987, Louisiana's second circuit held that a mineral lessee "is obligated, insofar as practicable, to restore the surface to its original condition . . . ."<sup>136</sup> The plaintiff-landowner in *Edwards v. Jeems Bayou Production Co.* brought suit against the mineral lessee who drilled a gas well, which was shut-in at the time suit was brought, and left the ground in such a rough condition that the area could not be used as it was prior to the lease.<sup>137</sup> The court held that the mineral lessee was obligated to restore that portion of the drill site not reasonably needed for the future production of the shut-in well.<sup>138</sup> The court reasoned, as did the court in *Waterbury*, that the lessee's surface restoration duty was implied in article 122 of the Mineral Code and Civil Code articles 2719 and 2720.<sup>139</sup>

In 1999, the Supreme Court of Louisiana, in dicta, recognized the mineral lessee's duty to restore.<sup>140</sup> In *Caskey v. Kelly Oil Co.*, the court recognized five duties imposed upon mineral lessees by article 122, and expressly noted the obligation of the mineral lessee "to restore the surface as near as practical on completion of operations."<sup>141</sup>

The most influential interpretation of article 122 in the coastal restoration context is *Terrebonne Parish School Board v. Castex Energy*,

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131. *Broussard v. Waterbury*, 346 So. 2d 1342, 1343 (La. App. 3 Cir. 1977).

132. *Id.*

133. *Id.*

134. *Id.* at 1343-44.

135. *Id.* at 1344.

136. *Edwards v. Jeems Bayou Prod. Co.*, 507 So. 2d 11, 12-13 (La. App. 2 Cir. 1987).

137. *Id.* at 13.

138. *Id.*

139. *Id.* at 12-13; *see also Broussard*, 346 So. 2d at 1343-44.

140. *Caskey v. Kelly Oil Co.*, 98-1193 (La. 6/29/99); 737 So. 2d 1257, 1261. The issue at bar was whether, under an "adjacent lands" clause in a mineral lease, the lessee may use and improve a road on the leased premises for access to a neighboring lease. *Id.* at 1259.

141. *Id.*

*Inc.*<sup>142</sup> The plaintiff-landowner in *Terrebonne Parish School Board* granted a mineral lease to Shell Oil Company and subsequently brought suit seeking to have the surface restored.<sup>143</sup> Specifically, the plaintiff “claimed that the canals the defendants dredged altered the hydrology of the marsh and adversely affected its ecology by removing marsh terrain, creating spoil banks, and generally impairing the natural ebb and flow of tidal waters.”<sup>144</sup> The mineral lease gave express permission to the lessee to dredge the canals as necessary; however, the lease did not include any provisions for the restoration of the surface.<sup>145</sup> The trial court found that the defendants did have a duty to restore the surface and awarded damages accordingly; the defendants appealed.<sup>146</sup>

In affirming the trial court’s holding, the appellate court reasoned that article 122, Civil Code articles 2719 and 2720, and the related jurisprudence imposed a duty on the mineral lessee to restore the surface, “despite the lack of an express provision so requiring.”<sup>147</sup> The defendant argued that *Rohner* held that the lessee is not liable for surface restoration when the damage caused to the property was not caused through negligence.<sup>148</sup> The court reasoned that the issue in *Rohner* was not whether the lessee was obliged to restore the surface, but whether the lessee could be held liable for substandard performance of the surface restoration.<sup>149</sup> The intermediate appellate court held that “where an oil and gas lease lacks an express provision articulating the lessee’s obligation to restore the surface at cessation of the lease term, a lessee is implicitly obligated to perform that duty.”<sup>150</sup>

Judge J. McDonald dissented in the decision, arguing that the dredging of canals was part of the “ordinary, customary, and necessary acts in order to drill and produce the wells” and therefore the canals should not be backfilled under the “reasonably prudent operator standard.”<sup>151</sup> Judge McDonald noted that Civil Code articles 2719 and 2720 both permitted “wear and tear” and reasoned that the dredging of the canals, as permitted

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142. *See, e.g.*, *Terrebonne Parish Sch. Bd. v. Castex Energy, Inc.*, 04-0968 (La. 1/19/05); 893 So. 2d 789, 796-99.

143. *Id.* at 793.

144. *Id.*

145. *Id.* at 792-93.

146. *Id.* at 794.

147. *Terrebonne Parish Sch. Bd. v. Castex Energy, Inc.*, 01-2634 (La. App. 1 Cir. 3/19/04); 878 So. 2d 522, 528-29, *rev’d*, 893 So. 2d 789 (La. 2005).

148. *Id.* at 525-26.

149. *Id.*

150. *Id.* at 529.

151. *Id.* at 540 (McDonald, J., dissenting).

by the lease, was expected wear and tear that the lessee did not have to restore.<sup>152</sup>

The Supreme Court of Louisiana granted certiorari and reversed the lower courts, holding specifically that a surface restoration duty was not implied in article 122.<sup>153</sup> The court began by analyzing the language of Mineral Code article 122 and determined that the surface restoration duty was not implied by the text of the article, but only implied by the comment to the article.<sup>154</sup> The court noted that the language of “the official comments are not part of the statute, and are not binding on [the] court, although [the court does] not discount them entirely.”<sup>155</sup>

Next, the court addressed the jurisprudence of the state courts regarding any implied surface restoration duty imposed by the Mineral Code.<sup>156</sup> The court acknowledged its decision in *Caskey*, wherein the court expressly listed the mineral lessee’s duty to restore the surface as one of the obligations imposed by article 122.<sup>157</sup> The court reasoned that the *Caskey* decision did not directly address the existence or the scope of the restoration duty imposed by article 122 and therefore was not binding on the court in *Terrebonne Parish School Board*.<sup>158</sup> The court then found that *Rohner*, a pre-Mineral Code decision, “properly articulated the rule concerning the scope of any implied duty to restore the surface.”<sup>159</sup> Furthermore, the court rejected the first circuit’s attempt to limit *Rohner*’s holding to situations where the lessee had undertaken the restoration of the surface.<sup>160</sup>

The court then reasoned that Civil Code articles 2719 and 2720<sup>161</sup>

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152. *Terrebonne Parish Sch. Bd. v. Castex Energy, Inc.*, 01-2634 (La. App. 1 Cir. 3/19/04); 878 So. 2d 522, 540, *rev’d*, 893 So. 2d 789 (La. 2005) (McDonald, J., dissenting) (citing LA. CIV. CODE ANN. arts. 2719, 2720 (1870)).

153. *Terrebonne Parish Sch. Bd. v. Castex Energy, Inc.*, 04-0968 (La. 1/19/05); 893 So. 2d 789, 801.

154. *Id.* at 797-98.

155. *Id.* at 797 (citing *Ramirez v. Fair Grounds Corp.*, 575 So. 2d 811, 813 (La. 1991)).

156. *Id.*

157. *Id.* at 797-98 (citing *Caskey v. Kelly Oil Co.*, 98-1193 (La. 6/29/99), 737 So. 2d 1257, 1261).

158. *Id.* at 798-99.

159. *Terrebonne Parish Sch. Bd. v. Castex Energy, Inc.*, 04-0968 (La. 1/19/05); 893 So. 2d 789, 799 (citing *Rohner v. Austral Oil Exploration Co.*, 104 So. 2d 253 (La. App. 1 Cir. 1958)).

160. *Id.*

161. In 2004, the Louisiana legislature passed Act 821 which abrogated Civil Code articles 2719 and 2720, and revised the Civil Code articles pertaining to leases and the obligations of lessors and lessees. 2004 La. Acts 2556. The revisions provide that the lessee is obligated “[t]o return the thing at the end of the lease in a condition that is the same as it was when the thing was delivered to him, except for normal wear and tear or as otherwise provided hereafter.” LA. CIV.

permit necessary “wear and tear” of the leased property, and those canals dredged in support of oil and gas operations constitute such necessary wear and tear.<sup>162</sup> The court found it particularly significant that the lease in the present case permitted the dredging of canals and reasoned that the “changes necessarily incident” to dredging constituted consent of the necessary “wear and tear.”<sup>163</sup>

Ultimately, the Supreme Court of Louisiana held that “in the absence of an express lease provision, Mineral Code article 122 does not impose an implied duty to restore the surface to its original, pre-lease condition absent proof that the lessee has exercised his rights under the lease unreasonably or excessively.”<sup>164</sup> Following its holding, the court recognized the “plight of Louisiana’s coastal wetlands” and reasoned that if the state wished to impose a surface restoration duty upon mineral lessees, “the state was at liberty to attempt to pass legislation to expressly do so.”<sup>165</sup> The Louisiana legislature should accept the court’s invitation and statutorily impose a surface restoration duty on mineral lessees such as the one proposed herein.

#### IV. PROPOSED REVISION TO MINERAL CODE ARTICLE 122

The following revision to Louisiana Mineral Code article 122 is hereby proposed to impose a surface restoration obligation upon mineral lessees operating in Louisiana’s coastal zone. “Words which are ~~struck through~~ are deletions from existing law; words in **boldface type and underscored** are additions.”<sup>166</sup>

§ 122. Lessee’s obligation to act as a reasonably prudent operator

A mineral lessee is not under a fiduciary obligation to his lessor, but he is bound to perform the contract in good faith and to develop and operate the property leased as a reasonably prudent operator for the mutual benefit of himself and his lessor. Parties may stipulate what shall constitute reasonably prudent conduct on the part of the lessee, **except that a mineral lessee conducting dredge and/or fill activities in the Coastal Zone as defined in LA R.S. § 49:214.24 is obligated**

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CODE ANN. art. 2683(3) (2005). The drafters of Act 821 expressly provided that “[a] mineral lease is governed by the Mineral Code,” thus preventing an application of the restoration standard in Civil Code article 2683 from being applied to mineral leases. LA. CIV. CODE ANN. art. 2672 (2005).

162. *Terrebonne Parish Sch. Bd. v. Castex Energy, Inc.*, 04-0968 (La. 1/19/05); 893 So. 2d 789, 799-800.

163. *Id.* at 800.

164. *Id.* at 801.

165. *Id.* at 802.

166. This is the format used by the Louisiana legislature when proposing changes to existing law. *See, e.g.*, S.B. 244, 2005 Reg. Sess. (La. 2005).

**to restore the local hydrologic conditions of the impacted area at the earliest reasonable time after termination of operations on the leased property, or any portion thereof, even if the lease is not expired. Restoration of local hydrologic conditions shall include, but not be limited to the following: surface restoration, plugging and backfilling of canals and slips, adding additional fill material, and replacing vegetation as needed to ensure the restoration of hydrologic processes. The lessee shall submit a Proposed Restoration Plan to the Coastal Protection and Restoration Authority and the Department of Natural Resources when applying for a Coastal Use Permit. The issuance of the Coastal Use Permit will be subject to approval of the Proposed Restoration Plan by both agencies. A lessor who enforces the restoration obligation of the lessee provided in this section shall be entitled to court costs and attorney fees.**

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(a) This is a revision of Article 122 of the Louisiana Mineral Code. It changes the law in that it imposes a surface restoration duty upon mineral lessees who conduct dredge and fill activities in the Coastal Zone.

(b) The 2010 revision expressly supersedes the Supreme Court of Louisiana's decision in *Terrebonne Parish Sch. Bd. v. Castex Energy, Inc.*, 893 So. 2d 789, 801 (La. 2005), *reh'g denied* (February 25, 2005) wherein the court found that Mineral Code Article 122 "does not impose an implied duty to restore the surface to its original, pre-lease condition."

#### A. PROPOSED STANDARD OF RESTORATION DUTY

Currently, there is no clear standard for restoration of a canal or slip dredged in Louisiana coastal wetlands, which makes it difficult to propose a specific method to accomplish such restoration. The original comments to article 122 specifically stated that "the obligation to restore the surface is limited by a standard of reasonableness which balances the cost of perfect restoration against the value of the use to which the land is being put."<sup>167</sup>

The Louisiana Supreme Court in *Terrebonne Parish School Board*, after finding that mineral lessees were under no surface restoration duty, also stated that "[t]he court is hesitant to interpose its authority . . . to order piecemeal restoration of the coast in some fashion, considering the far superior knowledge of relevant environmental concerns that state agencies

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167. 1974 LOUISIANA MINERAL CODE, *supra* note 112, at 97.

and experts possess.”<sup>168</sup> The court provides sound advice in deferring to coastal restoration experts for establishing a restoration standard. Louisiana’s Master Plan sets forth four objectives to guide future coastal restoration and flood protection efforts in the state.<sup>169</sup> Particularly relevant to coastal restoration, the second objective of the Master Plan is to “[p]romote a sustainable coastal ecosystem by harnessing the processes of the natural system.”<sup>170</sup> The Master Plan describes a sustainable ecosystem as “one characterized by high levels of productivity and resilience.”<sup>171</sup> The standard for the surface restoration duty proposed herein conforms to this objective, resulting in a sustainable coastal wetland balanced against the cost of perfect restoration.

Plugging and backfilling represents a method of restoring the hydrologic processes of dredged wetlands in some instances. Louisiana’s coastal wetlands were built by the Mississippi River over a 5,000-year period through the process of delta building.<sup>172</sup> It would be impractical, indeed impossible, to require mineral lessees to restore damaged wetlands using anything resembling delta building. Recent scientific studies indicate that plugging and backfilling dredged canals and slips could create a sustainable wetland in dredged areas, providing a cost effective solution to satisfying the restoration standard proposed herein.<sup>173</sup>

Backfilling a canal in a coastal wetland is a simple process. Backfilling is accomplished by simply returning the material removed in the process of dredging back to the canal or slip from whence it came.<sup>174</sup> The benefits of backfilling are immediate and improve over time as the backfilled marsh is sustained, and continues restoring itself over time.<sup>175</sup> Therefore, adequate restoration of canals may also be a simple, cost-effective, and extremely beneficial process.

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168. *Terrebonne Parish Sch. Bd. v. Castex Energy, Inc.*, 04-0968 (La. 1/19/05); 893 So. 2d 789, 802.

169. MASTER PLAN, *supra* note 6, at 37-39.

170. MASTER PLAN, *supra* note 6, at 37.

171. *Id.*

172. COAST 2050, *supra* note 2, at 19.

173. Baustian & Turner, *supra* note 67, at 636-44 (evaluating the condition of 30 canals 20 years after they were backfilled and comparing to restoration success 5 and 10 years after backfilling); Joseph J. Baustian et al., *Restoration of Dredged Canals in Wetlands: A Comparison of Methods*, 17 WETLANDS ECOLOGY AND MANAGEMENT 445, 445-53 (2009) (noting that two canals on the Jean Lafitte Historical Park and Preserve were backfilled using two different methods by the National Park Service).

174. Baustian & Turner, *supra* note 67, at 636; Baustian et al., *supra* note 173, at 1-9.

175. Baustian & Turner, *supra* note 67, at 643.

### B. SIMILAR PROPOSED LEGISLATION IN LOUISIANA

The catastrophic land loss of coastal Louisiana and the consequences of that loss were recognized long before the devastation caused by Hurricanes Katrina and Rita in 2005. In 1989, the Louisiana legislature enacted the Louisiana Coastal Wetlands Conservation and Restoration Act.<sup>176</sup> At that time, the legislature articulated the state's coastal restoration policy which was "to achieve a proper balance between development and conservation and encourage the use of coastal resources."<sup>177</sup> When creating the Coastal Protection and Restoration Authority in 2005, the legislature articulated a similar policy that "the state must act to conserve, restore, create, and enhance wetlands and barrier shorelines or reefs in coastal Louisiana while encouraging use of coastal resources and recognizing that it is in the public interest of the people of Louisiana to establish a responsible balance between development and conservation."<sup>178</sup>

In April of 2005, before Hurricanes Katrina or Rita struck the Louisiana coast, Senate Bill 244 was proposed, which would have amended Mineral Code articles 122 and 129.<sup>179</sup> The amendment to article 122 would have imposed a surface restoration duty on the mineral lessee to be executed at "the earliest reasonable time after termination of operations on the leased property."<sup>180</sup> The proposed amendment to article 122 would have also provided that "[a] lessee who fails to perform the obligation to restore shall be liable for costs and a reasonable attorney's fee incurred to enforce the provisions" contained in the Mineral Code.<sup>181</sup> The proposed amendment to article 122 would have voided any indemnity agreement affecting a mineral lease.<sup>182</sup> Senate Bill 244 was referred to the Senate Natural Resources Committee without a vote being taken on the issue.

The scope of Senate Bill 244 is distinguishable from the legislation proposed herein. Senate Bill 244 would have amended article 122 to impose a surface restoration duty upon all mineral lessees.<sup>183</sup> Alternatively, the amendment proposed in this Comment is limited to mineral lessees operating in the coastal zone of the state.

In 2006, two Senate Bills were proposed to amend Mineral Code

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176. LA. REV. STAT. ANN. § 49:214.1 (2003).

177. *Id.*

178. LA. REV. STAT. ANN. § 49:214.1(C) (2003 & Supp. 2009).

179. S.B. 244, 2005 Reg. Sess. (La. 2005).

180. *Id.*

181. *Id.*

182. *Id.*

183. *Id.*

article 122.<sup>184</sup> Senate Bill 309 sought to have the mineral lessee (1) “restore the surface of the leased property to its original condition,” and (2) “repair any environmental damage that may have been caused by the lessee’s operations.”<sup>185</sup> Senate Bill 309 also contained a notice provision and assigned liability for litigation and attorney fees should a lessee not honor its obligation to restore.<sup>186</sup> The changes proposed by Senate Bill 309 were broad. They obligated the lessee to restore the surface and rendered the lessee liable for environmental damage.<sup>187</sup> While the surface restoration proposed in 309 was aligned with the revision proposed herein, the additional environmental damage liability is not. Furthermore, Senate Bill 655 of the same legislative session, signed into law as Act 312, imposed liability for environmental damage upon mineral lessees.<sup>188</sup> Therefore, Senate Bill 309 was unnecessarily broad and imposed more liability than would be permitted under the Mineral Code.

The second relative legislation proposed in 2006 was Senate Bill 334.<sup>189</sup> Senate Bill 334 succinctly provided that “[a] mineral lessee is obligated, insofar as practicable, to restore the surface to its original condition at the earliest reasonable time, even though the lease is not expired.”<sup>190</sup> Bill 334 was actually considered by the Senate Committee on Natural Resources on May 4, 2006, however was not sent back to the senate for a full vote.<sup>191</sup> Bill 334 is distinguishable from the legislation proposed herein because Bill 334 would effect mineral lessees operating anywhere in the state of Louisiana.<sup>192</sup> The revision of Article 122 proposed in this Comment is restricted to mineral lessees conducting activities within the coastal zone and therefore is well within the policy adopted by the state under Title 49, section 214.1(D) of the Louisiana Revised Statutes.<sup>193</sup>

### C. SURFACE RESTORATION DUTY IN OTHER STATES

At least six other states currently provide statutes that require the

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184. S.B. 309, 2006 Reg. Sess. (La. 2006); S.B. 334, 2006 Reg. Sess. (La. 2006).

185. S.B. 309, 2006 Reg. Sess. (La. 2006).

186. *Id.*

187. *Id.*

188. 2006 La. Acts Vol. II 1472-83.

189. S.B. 334, 2006 Reg. Sess. (La. 2006).

190. *Id.*

191. Louisiana Legislature, <http://www.legis.state.la.us/> (search for “S.B. 334” in 2006, then follow “History” hyperlink) (last visited Sept. 7, 2010).

192. S.B. 334, 2006 Reg. Sess. (La. 2006).

193. LA REV. STAT. ANN. § 49:214.1(D) provides that “it is the public policy of the state to develop and implement, on a comprehensive and coordinated basis, an integrated coastal protection program in order to reduce if not eliminate the catastrophic rate of coastal land loss in Louisiana.”

mineral lessee or operator to restore the surface of the leased premises at the cessation of operations.<sup>194</sup> Illinois requires that upon abandoning the well, operators

[S]hall restore the surface to a condition as near as practicable to the condition of the surface prior to commencement of drilling operations; provided, however, that the surface owner and operator may waive this requirement in writing, subject to the approval of the Department of Natural Resources that the waiver is in accordance with its rules.<sup>195</sup>

Kentucky, Montana, New Jersey, Ohio, and Pennsylvania all have similar statutes with slightly different language.<sup>196</sup> Unlike the revision proposed in this Comment, Illinois, Kentucky, and Montana allow the parties to waive the restoration duty.<sup>197</sup> To be enforceable, the state's administrative department must approve of the waiver.<sup>198</sup> New Jersey, Ohio, and Pennsylvania do not provide for such a waiver.<sup>199</sup> Also unlike the proposed revision, the obligations imposed upon mineral lessees/operators in the above referenced states are not dependent upon the location of the operations.<sup>200</sup>

## V. JUSTIFICATIONS FOR REVISING ARTICLE 122

As the widespread destruction of Louisiana's coastal wetlands has become alarmingly evident, the federal and state governments have steadily increased the amount of money dedicated to the restoration of Louisiana's coastal wetlands.<sup>201</sup> The federal government has spent billions of dollars on

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194. See 765 ILL. COMP. STAT. ANN. 530/6 (West 2008); KY. REV. STAT. ANN. § 353.595 (West 2008); MONT. ADMIN. R. 36.22.1307 (2008); N.J. STAT. ANN. § 13:1M-8 (West 2008); OHIO REV. CODE ANN. § 1509.072 (West 2008); 58 PA. CONS. STAT. ANN. § 601.206 (West 2008).

195. 765 ILL. COMP. STAT. ANN. 530/6(C) (West 2008).

196. See KY. REV. STAT. ANN. § 353.595 (West 2008); MONT. ADMIN. R. 36.22.1307 (2008); N.J. STAT. ANN. § 13:1M-8 (West 2008); OHIO REV. CODE ANN. § 1509.072 (West 2008); 58 PA. CONS. STAT. ANN. § 601.206 (West 2008).

197. 765 ILL. COMP. STAT. ANN. 530/6 (West 2008); KY. REV. STAT. ANN. § 353.595 (West 2008); MONT. ADMIN. R. 36.22.1307 (2008).

198. See sources cited *supra* note 197.

199. N.J. STAT. ANN. § 13:1M-8 (West 2008); OHIO REV. CODE ANN. § 1509.072 (West 2008); 58 PA. CONS. STAT. ANN. § 601.206 (West 2008).

200. See 765 ILL. COMP. STAT. ANN. 530/6 (West 2008); KY. REV. STAT. ANN. § 353.595 (West 2008); MONT. ADMIN. R. 36.22.1307 (2008); N.J. STAT. ANN. § 13:1M-8 (West 2008); OHIO REV. CODE ANN. § 1509.072 (West 2008); 58 PA. CONS. STAT. ANN. § 601.206 (West 2008).

201. See COAST 2050, *supra* note 2, at 12-14. Table 2-1 illustrates the "Milestones concerning coastal restoration in Louisiana" which outlines 19 coastal restoration and flood protection plans and legislative achievements at the state and federal level. *Id.*

coastal restoration efforts in Louisiana and has allocated billions more.<sup>202</sup> The state government has and will continue to increase its spending on coastal restoration to fulfill its percent matching requirements under federal law.<sup>203</sup> Louisiana anticipates spending over \$1.4 billion in state and federal funds between fiscal years 2011 and 2013.<sup>204</sup> All told, the State of Louisiana estimates that the total cost for implementing the restoration and protection measures outlined in the State's Master Plan will cost in excess of \$50 billion and may take upwards of thirty years to complete.<sup>205</sup> Imposing a surface restoration duty in mineral leases would help ensure that these investments do not go to waste.

<b>Program / Funding Source</b>	<b>FY 2011 – FY 2013</b>
CIAP Projects	\$152,045,150
CWPPRA Projects	\$48,780,743
Remaining Surplus 2007 Projects	\$142,157,341
Remaining Surplus 2008 Projects	\$127,640,000
Remaining Surplus 2009 Projects	\$36,846,488
WRDA Projects	\$320,452,397
Beneficial Use Program	\$75,000,000
Project operation, maintenance, and monitoring costs	\$32,938,366
Hazard Mitigation Grant Program	\$47,200,000

202. *See, e.g.*, Coastal Wetlands Planning, Protection and Restoration Act (CWPPRA), 16 U.S.C.A. § 3951-56 (West 2000 & Supp. 2008). The estimated total federal funding for all CWPPRA projects through 2019 is \$2.44 billion. LESSONS LEARNED, *supra* note 3, at 10; Coastal Impact Assistance Program (CIAP), 43 U.S.C.A. § 1356a (West 2007). Through CIAP, Louisiana expects to receive up to \$523 million between 2008 and 2012. LESSONS LEARNED, *supra* note 3, at 3; Gulf of Mexico Energy Security Act of 2006, Pub. L. No. 109-432, Division C, Title I (2006); Patrick B. Sanders, Blanco v. Burton: *Louisiana's Struggle for Cooperative Federalism in Offshore Energy Development*, 69 LA. L. REV. 255, 276-78 (2008).

203. Over \$48 million of the total \$1.4 billion estimated to be spent on coastal protection and restoration projects in Louisiana between fiscal years 2011 and 2013 will be State funds. FISCAL YEAR 2011, *supra* note 18, at Appendix D Table D-2.

204. *Id.* at xiii tbl.ES-2 (setting forth the projected three year expenditures on coastal restoration, it is reproduced in pertinent part below).

205. LESSONS LEARNED, *supra* note 3, at 3.

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<b>Program / Funding Source</b>	<b>FY 2011 – FY 2013</b>
Community Development Block Grants	\$27,400,000
Barrier Island Maintenance Program	\$10,500,000
Ongoing Programs	\$56,300,000
Emergency Response / Program Support / Emergency Reserves	\$57,341,110
Operating Costs	\$69,369,621
HSDRRS Thirty Year Payback	\$124,400,000
HSDRRS LERRDS	\$76,300,000
<b>Total Planned Expenditures for FY 2011 through FY 2013</b>	<b>\$1,404,671,217</b>

Several attempts have been made to impose a surface restoration duty upon mineral lessees in Louisiana in the very recent past. These proposals were overly broad as they sought to impose a surface restoration duty on mineral lessees who operated anywhere in Louisiana. These proposals would have subjugated Louisiana's industrial interests to its environmental goals.

Coastal restoration projects must also work within the confines of coastal Louisiana's private ownership interests. Private landowners appreciate the benefits of coastal wetlands; however, royalties provided by mineral lessees are the principal source of revenue for most coastal wetland landowners. Therefore, it is unlikely that landowners will seek to unilaterally impose a surface restoration duty on mineral lessees for fear of losing the opportunity to lease the property altogether. The statutory imposition of a surface restoration duty would ensure that landowners have the opportunity to exercise their mineral rights and generate revenue, while not having to risk losing that opportunity by insisting on the inclusion of a surface restoration duty in the mineral lease. In turn, the taxpayers who ultimately fund coastal restoration projects will be ensured that dredging activities will not undermine a restoration project.

To meet the needs of coastal Louisiana, Mineral Code article 122 should be amended to impose a surface restoration duty on mineral lessees who conduct dredge and fill activities in the coastal zone. The state's Master Plan recognizes that changes in law are necessary "to ensure

successful implementation of the plan.”<sup>206</sup> This Comment proposes such a “change in law” so that the laws of Louisiana reflect the state’s need for coastal restoration and flood control efforts.

#### A. THE MINERAL LESSEES ALREADY MITIGATE THE DAMAGE; WHY RESTORE?

Some may argue that mitigation is sufficient to minimize or offset the adverse effects of canal and slip dredging. Mitigation is defined as the “actions taken by a permittee to avoid, minimize, restore, and compensate for ecological values lost due to a permitted activity.”<sup>207</sup> Both the Clean Water Act section 404 and coastal use permit regulations require that permittees mitigate the damage caused by their activity.<sup>208</sup> Indeed, all coastal use permits issued between 2003 and 2008 required that the permittee provide for mitigation of the damaged wetlands.<sup>209</sup> However, most only included compensatory mitigation or mitigation banking.<sup>210</sup>

Neither type takes into account the indirect losses attributable to a permitted project. Rather, only the direct losses attributable to a permitted activity are subject to mitigation.<sup>211</sup> Studies have shown that between 35% and 85% of the loss of coastal wetlands in Louisiana is attributable to the indirect effects of canals.<sup>212</sup> The surface restoration duty proposed in this Comment will ensure that the permitted activity does not alter the hydrologic processes of the area, thereby insuring that indirect losses will be negated.

As recognized by the federal section 404 guidelines, restoration is the preferred method of compensatory mitigation.<sup>213</sup> The guidelines provide in pertinent part that “[r]estoration should generally be the first option considered because the likelihood of success is greater and the impacts to potentially ecologically important uplands are reduced compared to

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206. MASTER PLAN, *supra* note 6, at Executive Summary.

207. LA. REV. STAT. ANN. § 49:214.41(A)(3) (2003 & Supp. 2009).

208. *See* 40 C.F.R. 230.93 (2008) (requiring mitigation for the issuance of a 404 permit); LA. REV. STAT. ANN. § 214.41(C) (2003 & Supp. 2009) (requiring mitigation for the issuance of a CUP).

209. LA. DEP’T OF NATURAL RES. SPREADSHEET, *supra* note 86.

210. *See supra* Part II.C.

211. LA. REV. STAT. ANN. § 49:214.41 (2003 & Supp. 2006) (“[M]itigation, at a level sufficient to replace or to substitute for the ecological value of the wetlands lost as a result of each permitted activity, shall be required . . .”).

212. *See* Gosselink, *supra* note 68, at 637 (citing S. PENLAND ET AL., NATURAL AND HUMAN CAUSES OF COASTAL LAND LOSS IN LOUISIANA (1996) (attributing 35% of the loss to canals); Turner, *supra* note 59, at 1-13 (1997) (attributing 85% of the loss to canals).

213. 40 C.F.R. § 230.93 (2008).

establishment, and the potential gains in terms of aquatic resource functions are greater, compared to enhancement and preservation.”<sup>214</sup> The recognition of restoration as a viable form of compensatory mitigation is echoed by the state of Louisiana.<sup>215</sup> Title 49, section 214.41 of the Louisiana Revised Statutes, which requires mitigation of coastal wetland losses, provides in pertinent part that “[c]ompensatory mitigation’ means *replacement*, substitution, enhancement, or protection of ecological values to offset anticipated losses of those values caused by a permitted activity.”<sup>216</sup> Therefore, no additional mitigation shall be required when a mineral lessee restores the surface of the wetland impacted by the lessees dredging activities.

#### **B. DREDGING IS ALREADY DECREASING; WHY REGULATE IT MORE STRINGENTLY?**

While it is true that canal and slip dredging has decreased significantly over the past two decades, the Louisiana Department of Natural Resources (DNR) still issues permits for such activities in the coastal zone.<sup>217</sup> Between 2003 and 2008, the DNR issued 251 coastal use permits to “disturb” 695.90 acres of wetlands.<sup>218</sup> In 2008, the DNR issued thirty-nine coastal use permits, allowing 180.50 acres of wetlands to be “disturbed.”<sup>219</sup> The possibility of a large discovery of oil or natural gas in the coastal zone could result in a large number of coastal use permits being issued to develop such a deposit.

In 2006, the Haynesville Formation, also referred to as Haynesville Shale, was discovered at over 10,000 feet in an area of northwest Louisiana.<sup>220</sup> The formation was once thought to be too deep to be economically feasible for development.<sup>221</sup> However, advancements in exploration and drilling technology, coupled with rising gas prices, resulted in a rush to drill the area.<sup>222</sup> Since August of 2006, the DNR has issued 2,109 scout drilling permits to explore the formation.<sup>223</sup> The same advancements in exploration and drilling technology could result in the

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214. 40 C.F.R. § 230.93(a)(2) (2008) (emphasis added).

215. LA. REV. STAT. ANN. § 49:214.41 (2003 & Supp. 2009).

216. *Id.* (emphasis added).

217. LA. DEP’T OF NATURAL RES. SPREADSHEET, *supra* note 86.

218. *Id.*

219. *Id.*

220. LA. DEP’T OF NATURAL RES., HAYNESVILLE SHALE (2009), <http://dnr.louisiana.gov/haynesvilleshale/>.

221. *Id.*

222. *Id.*

223. *Id.*

issuance of an inordinate number of coastal use permits that would destroy additional wetlands and could harm coastal restoration projects.

### C. SURFACE RESTORATION DUTY IS COST PROHIBITIVE; WHY ENCOURAGE IT?

Some opponents to the proposed surface restoration duty may argue that it will render Louisiana too costly for oil and gas companies to operate. This is a valid concern since so many residents in coastal Louisiana are employed, either directly or indirectly, by the petroleum industry.<sup>224</sup> However, the surface restoration duty proposed by this Comment is not likely to be a considerable expense for individual wells and is not a disproportionate solution to a problem that needs resolution.

Oil and gas companies are “not unsophisticated entities, [but rather] companies . . . willing to take risks to reap big rewards.”<sup>225</sup> In the context of the proposed surface restoration duty, plugging and backfilling a dredged canal will be a cost that the companies will have to calculate when deciding to explore, drill, or produce a certain well. Recent scientific studies indicate that the cost to restore a dredged canal is not much when compared to the costs of drilling a well.<sup>226</sup> The cost to drill a shallow gas well in coastal Louisiana ranges greatly; however, an operator can expect to encounter at least \$1 to \$4 million in drilling costs for such a well.<sup>227</sup> Studies indicate that the cost to plug and backfill a dredged channel or slip costs approximately \$6,804.80 per acre if no new material needs to be brought to the location.<sup>228</sup> Applied to the three largest coastal use permits issued for marsh dredging in 2008, the backfilling costs would range from \$26,538.72 to \$53,193.04.<sup>229</sup> If the cost to drill a well was \$1 million, \$53,193.04 of backfilling would represent 0.05% of the drilling costs. An operator would not likely find this amount so significant so as to render it cost prohibitive.

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224. See RICHARDSON & SCOTT, *supra* note 24, at 19.

225. *Terrebonne Parish Sch. Bd. v. Castex Energy, Inc.*, 01-2634 (La. App. 1 Cir. 3/19/04); 878 So. 2d 522, 534, *rev'd*, 893 So. 2d 789 (La. 2005).

226. See Baustian et al., *supra* note 173, at 449-50.

227. See Peggy Williams, *South Louisiana Rally*, OIL & GAS INVESTOR, Apr. 2007, at 52, 55 (interviewing the vice president of an independent oil and gas operator regarding drilling in south Louisiana).

228. See Baustian et al., *supra* note 173, at 450 (indicating that the cost for plugging and backfilling 1 hectare equals \$16,815, converted to cost per acre to remain consistent with permitting).

229. See LA. DEP'T OF NATURAL RES. SPREADSHEET, *supra* note 86. Permit numbers P20071190 (8.30 acres), P20070280 (4.21 acres), and P20070212 (3.90 acres) were the three largest permits issued for activity coastal marshes in 2008. Other larger permits were issued in bottomland hardwood (P20080037 - 40.80 acres) and cypress forest (P20071810 - 67.59 acres). However, these larger permits were not included in this calculation because the areas are not of the same composition as that on which the Baustain et. al. study was based.

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Furthermore, Louisiana represents an “energy corridor” for oil and gas companies.<sup>230</sup> The state is ideally situated in that the coast is close to offshore exploration zones, and refining capacity is nearby.<sup>231</sup> Nearly one-third of the nation’s oil and gas supply is produced or transported in coastal Louisiana, and 50% of the nation’s refining capacity is located in coastal Louisiana.<sup>232</sup> The purpose of the revision proposed in this Comment is not to take advantage of energy companies that operate in coastal Louisiana, but rather to ensure that the state will be able to continue to provide the valuable infrastructure on which those companies, as well as the rest of the country, rely.

**VI. CONCLUSION**

Billions of dollars in state and federal money will be spent to restore coastal wetlands and improve flood protection in Louisiana. Mineral Code article 122 has not changed since being enacted in 1974 and imposes no restoration duty on one of the largest causes of wetland loss—canal and slip dredging by oil and gas companies. To permit mineral lessees to dredge canals and slips without having to restore the surface, while accepting taxpayer money for restoration, is irresponsible. Recognizing the importance of the oil and gas industry for the entire nation, the proposed surface restoration duty is necessary to achieve Louisiana’s goal of creating sustainable coastal wetlands. If enacted, the revision proposed herein will ensure that Louisiana’s coastal wetlands, coastal restoration projects, and flood protection projects are protected from the adverse effects of dredging activities in the coastal zone.

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230. CWPPRA: A RESPONSE TO LOUISIANA’S LAND LOSS, *supra* note 8, at 1.

231. *Id.*

232. MASTER PLAN, *supra* note 6, at 7.