When in Louisiana, Do as the French Do: The Case for Integrated River Basin Management in Louisiana

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I. INTRODUCTION

Water is arguably the most important natural resource in the world. Across the globe, countries recognize the unique position water holds within the economy and environment. The European Union has stated, "[w]ater is not a commercial product like any other but rather, a heritage which must be protected, defended and treated as such."[1] In 1992 the new water laws of France stated, "[w]ater forms part of the common heritage of the nation."[2] And in Louisiana, the Constitution reads, "[t]he natural resources of the state, including air and water, and the healthful, scenic, historic, and esthetic quality of the environment shall be protected, conserved, and replenished insofar as possible and consistent

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1. Directive 2000/60, of the European Parliament and of the Council of 23 October 2000 Establishing a Framework for Community Action in the Field of Water Policy, 2000/60/EC, para. 1, 2000 O.J. (L 327) 1.

2. Loi 92-3 du 3 janvier 1992, Journal Officiel De La Republique Francaise [J.O.] [Official Gazette Of France] Jan. 3, 1992 art. 1.

with the health, safety, and welfare of the people."[3] Water is indeed a unique thing, and in the United States, whether in the arid West or humid, comparatively water-rich East, water is controlled almost exclusively by the states. This means that the states are responsible for developing (or not) the best way to manage and maintain their water supplies. Generally, there are two options: riparianism, (traditionally used in the East) and prior appropriation (favored in the West). However, across the globe, many countries have adopted other forms of water management. Europe has largely adopted Integrated River Basin Management and as a civil law state, Louisiana has the heritage to follow suit.

Throughout human history, water has been viewed as a commodity to be captured, controlled, and used, whether for transportation, power, or industry. Louisiana knows this all too well. The Mississippi River, which once migrated hundreds of miles each year, has been tamed and contained by an impressive system of concrete, levees, locks, and canals preventing yearly flooding and in turn saving thousands of homes and businesses. And for many years, this was not an evident problem. However, as Louisiana continues to lose one football field of wetlands every hour, making its coastal cities far more vulnerable to hurricanes and sea level rise, many are beginning to see that manipulation of a valuable ecosystem has dire consequences.[4] Throughout the twenty-first century, the world's climate has been changing, and many regions are starting to understand just how finite water resources truly are. Now water management is attempting to shift from exploitation to preservation, and all the while, it continues to supply agriculture, municipal supply, electricity, industry, and recreation. It has become abundantly clear that current management regimes will not preserve water resources as the country knows them. Regions that have always had water are experiencing droughts. The Southeast was thrown into a panic when a severe drought hit in the 1980s, prompting Mississippi to attempt unsuccessfully to completely alter its water law. The West, which has always been dry, is finding that despite government allocations, the rivers are failing to provide their quotas. All the while, populations are growing, and water demand is increasing.

River systems do not respect the arbitrarily imposed boundaries of cities, counties, and states. Nor do river systems function as two separate parts in groundwater and surface water. In order to effectively manage

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3. LA. CONST. art. IX, § 1.

4. It is important to note that many scientists have recognized these consequences in literature for over a hundred years, and more specifically in coastal planning for nearly thirty; however the link to water management has just recently become clear.

their most important resource, states should recognize the connectivity of water systems and manage them as an entire unit. In this way, the environment will be preserved, and the most advantageous uses of the water will be made. Integrated River Basin Management (IRBM) is the choice of France and the European Union (EU), and, many believe, is the most comprehensive way to manage a river system.[5] The EU's Water Framework Directive of 2000 directed all member states to begin to manage water at the river basin level.[6] The United States, though attempting, to an extent, to adopt such a management regime in a few river compacts, has largely seen IRBM as a burden on state's rights and, as such, has failed to truly consider adopting IRBM in its purest form. This Article aims to detail the ways in which IRBM modeled on the French system would function in Louisiana. Louisiana is primed to move forward with a new management approach as it currently does not have a structured water code, but one has been ordered.[7] Further, the State Senate approved the much needed Coastal Master Plan, which calls for putting the Mississippi back in the landscape in order to rebuild the coast. If coastal Louisiana is to be saved, it needs to approach water management in a whole new way. Given its abundant water resources, the prospect of a soon-to-be-released comprehensive water budget, and the development of a new water code, Louisiana can and should be on the forefront of IRBM adaptation in the United States.

II. INTEGRATED RIVER BASIN MANAGEMENT

The primary driver behind IRBM, especially in the French context, is that "governance is more effective if the decision-making authority is located where the pertinent knowledge exists and where decision-makers are directly responsible for the outcomes of actions taken to the community they serve."[8] In order to make effective decisions at the community level, the laws and regulations need to be based in hydrology around the river basin. Professor Dan Tarlock notes that "we can only

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5. Directive 2000/60 EC of the European Parliament and of the Council of 23 October 2000 Establishing a Framework for Community Action in the Field of Water Policy, para. 13, 2000 O.J. (L 327) 1.

6. Directive 2000/60 EC of the European Parliament and of the Council of 23 October 2000 Establishing a Framework for Community Action in the Field of Water Policy, art. 3, para. 1, 2000 O.J. (L 327) 8.

7. S. Res. 171, 2014 Leg. Reg. Sess. (La. 2014)

8. James L. Huffman, *Comprehensive River Basin Management*, 49 NAT. RESOURCES J. 117, 139 (2009) (quoting Jyothsna Mody, *Achieving Accountability Through Decentralization: Lessons for Integrated River Basin Management*, World Bank Policy Research Paper No. 3346, 45 (2004), http://documents.worldbank.org/curated/en/186291468761425528/pdf/wps3346.pdf).

sustain biodiversity by managing entire ecosystems.'"[9] A similar statement could also be made about sustaining human societies and economies. Tarlock points out that historically, rivers were perceived as underutilized if they were left to their natural course.[10] Development, at least in western states, was seen as making the most "beneficial" use of the water, generally by using as much as possible, which effectively removes it from the ecosystem. In the eastern states, rivers were, and still largely are, disconnected from their hydrological connections through water management regimes identifying various water bodies and sources as separate and apart. Rarely are surrounding lands managed with water as a system. Water is divvied up by state boundaries, and within states, by groundwater and surface water classifications, sometimes with entirely different management regimes governing each respectively.[11] To be sure, it has not always been easy to understand groundwater bodies, but as science has progressed, so too should the management of this integral part of a river basin.

In the loftiest of terms:

> [I]ntegrated river basin management aims to establish a framework for coordination whereby all administrations and stakeholders involved in river basin planning and management can come together to develop an agreed set of policies and strategies such that a balanced and acceptable approach to land, water, and natural resources management can be achieved.[12]

It is the combination of administration at the highest levels of government, lowest levels of government, stakeholder participation, and hydrologic and environmental considerations that make IRBM truly integrated. The World Bank emphasizes the fact that integration must extend not only to environmental and economic issues but also social issues.[13] Meaningful stakeholder input and participation is key if the river basin is to be managed holistically and to the most beneficial extent.[14]

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9. A. Dan Tarlock, *Putting Rivers Back in the Landscape: The Revival of Watershed Management in the United States*, 6 HASTINGS W.-NW. J. ENVTL. L. & POL'Y 167 (2000).

10. *Id.* at 168.

11. For example, Tennessee does not manage surface and groundwater conjunctively, but rather the first based on riparianism, and the later by correlative rights.

12. Peter Millington, Douglas Olson & Shelly McMillan, *Integrated River Basin Management: From Concepts to Good Practice* 3 (World Bank Integrated River Basin Management Briefing Note No. 1, Report No. 41150 (2006)), http://documents.worldbank.org/curated/en/965371468340137430/pdf/411500Intro0to1mgmt0NOTE1101PUBLIC1.pdf.

13. *Id.* at 4.

14. *Id.* at 3.

Stakeholders are the water users, whether they are domestic households, industry, the state, local municipalities, or even environmental groups that seek to "use" the water through preservation.[15] The Dublin Principles state that "[w]ater development and management should be based on a participatory approach, involving users, planners and policy-makers at all levels," which is a noble aim[16], but one that takes much effort and coordination to implement. In a true IRBM system, it is important that all stakeholders have an equal voice in management. It is imperative that all stakeholders are identified and their needs and values assessed.[17] Generally, each sector or identified stakeholder group will vote or appoint representatives to the basin commission.[18] Once this is complete, the collaboration process will work to keep all constituents informed, generally through stakeholder meetings, frequent communications and publications, and frequent consultation with those responsible for the final draft of the basin management plan. This can often be a long and daunting task, but if IRBM is to function correctly, recognizing the water needs of all users is highly important.

One of the political challenges is recognizing that the environmental groups and domestic users have an interest in the water resource equal to

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15. MINISTRY OF ECOLOGY, SUSTAINABLE DEV., TRANSP. & HOUS., WATER POLICY IN FRANCE: EXPERIENCE AT THE SERVICE OF THE INTERNATIONAL COMMUNITY 8 (2012), http://www.developpement-durable.gouv.fr/IMG/pdf/Politique_de_l_eau_GB.pdf [hereinafter MINISTRY, WATER POLICY IN FRANCE].

16. In 1992, the International Conference on Water (ICWE) and the Environment met in Dublin, Ireland, and developed the Dublin Principles which set forth the ICWE's recommendations for action to reduce water scarcity. *See* Miguel Solanes & Fernando Gonzalez-Villarreal, *The Dublin Principles for Water as Reflected in a Comparative Assessment of Institutional and Legal Arrangements for Integrated Water Resource Management*, GLOBAL WATER PARTNERSHIP TECHNICAL ADVISORY COMMITTEE, TAC Background Papers No. 3, 6 (1999), http://www.gwp.org/Global/ToolBox/Publications/Background%20papers/03%20The%20Dublin%20Principles%20for%20Water%20as%20reflected%20in%20a%20Comparatice%20Assessment%20of%20Institutional%20and%20Legal%20Arrangements%20for%20IWRM%20(1999).pdf.

17. The UN's Organization for Economic Cooperation and Development (OECD) suggests creating a map of stakeholders and their interests, by first identifying their involvement across the water chain, for example quality, quantity, or waste management, and their link with other sectors. Second, it is important to assess the potential of each stakeholder to aid or hinder the decision-making process. For further detail on this process, see OECD STUDIES IN WATER, STAKEHOLDER ENGAGEMENT FOR INCLUSIVE WATER GOVERNANCE (2015) [hereinafter OECD, STAKEHOLDER ENGAGEMENT], http://www.oecd-ilibrary.org/docserver/download/4215051e.pdf?expires=1459867204&id=id&accname=ocid45123324&checksum=3553F85E1B105B4D7B5B3C13270B284B.

18. The OECD highlights the mechanism elected in the Netherlands, stakeholder democracies, in which stakeholders are elected by their peers to the water basin boards or commissions. Each sector is allotted a fixed amount of seats. In order to ensure equal representation and voting, IRBM would demand that each sector have an equal number of seats. Such a selection process would likely be ideal here in the United States.

that of the industry groups whose interests often carry a lot of weight in government decisions. It is imperative that all stakeholders have a meaningful say in the decision-making process.[19] This role equates to something akin to legal standing. James Huffman cites Jyothsna Mody, who states, "[p]articipation is sometimes described as providing a 'voice' to stakeholders. However, it is more helpful to think of participation as providing *de facto* property rights."[20] The *de facto* property rights give each stakeholder an equal vote in the decision-making process, which if run effectively, will prevent the stakeholders with significant influence from overcoming those with less bargaining power.[21] The arguably more powerful stakeholder, usually someone with private property rights in the basin, will be held in check by the *de facto* property rights of a stakeholder that may only have an interest in how the water is used and managed and not necessarily a riparian right. Although there are multiple ways in which these rights can be accounted for and managed[22]—such as stakeholder coalitions, committees, or groups—one recommended way in which to define these rights, and the way in which decision making is handled, is through operating agreements.[23] These *de facto* rights would be enumerated in the operating agreement and give the non-riparian stakeholder the same standing in a court of law as the riparian.[24] This amounts to more than a heckler's veto because should the committee deviate from the operating agreement, or a large powerful stakeholder attempt to bully through his position, those with these *de facto* property rights have the operating agreement to fall back upon and enforce. By implementing a proper IRBM voting allotment system, laid out in an operating agreement, each stakeholder representative will have the same power and therefore be more inclined to participate in the compromise driven management system. When the management plans for the basin are drafted and put to a vote in the basin commission, each stakeholder representative will have the responsibility and privilege to cast their vote of approval or disapproval based on the collaboration that was mandated in the development. However, it is important to note that a unanimity system, a tenant of a pure IRBM system, may simply stall the

19. Huffman, *supra* note 8, at 140.

20. *Id.* at 141 (quoting Jyothsna Mody, *Achieving Accountability Through Decentralization: Lessons for Integrated River Basin Management*, World Bank Policy Research Paper No. 3346, 11 (2004), http://documents.worldbank.org/curated/en/186291468761425528/pdf/wps3346.pdf).

21. *Id.* at 141-42.

22. OECD, STAKEHOLDER ENGAGEMENT, *supra* note 17, at 119-36.

23. *Id.* at 120.

24. *Id.* at 142.

process as any one of the stakeholders may hold out on voting if they are not pleased with the arrangement.[25] Huffman suggests, and is very likely correct, that despite the fact that it would be a move away from the pure collaborative governance strategy promoted by IRBM, the best way in which to achieve the best results without voting stalemates is a majoritarian or super-majoritarian rule of decision.[26]

In IRBM, stakeholders not only have the responsibility of voting, they also have the responsibility to aid in internalizing costs of the water management system.[27] In a true IRBM system, costs associated with water management are born by the users and polluters of the water, in other words IRBM is founded on the polluter pays principle, or as France states it, "water pays for water."[28] In its most basic form, the polluter pays principle requires that polluters and users of water pay for the amount of pollution they discharge into the water and the amount of water that they withdraw from the water course.[29] This can be true for a variety of pollution, not simply for water. The companies selling a good usually internalize the cost of pollution in their products.[30] This system allows for the management system to pay for itself through fees and taxes levied on the polluter and user. It also encourages the development of the best available technology to reduce pollution output and water consumption.[31] The United States has not adopted this system, as the true form of the polluter pays principle is preemptive rather than reactive.[32] Federal environmental statutes in the United States provide a structure that forces a polluter to pay in the event of an accident. They do not build in pollution costs at the outset before a permit is given to construct the facility as most European countries do.[33] Such cost built in at the outset ensures that the management system will effectively be paid for.

Though there is no one way to implement an IRBM system that would contravene the principles of the system itself, the World Bank has

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25. Huffman, *supra* note 8, at 142.

26. *Id.* at 146-47.

27. MINISTRY, WATER POLICY IN FRANCE, *supra* note 15, at 10.

28. *Id.*

29. Coralie Noël, INT'L OFFICE FOR WATER, CAPACITY BUILDING FOR BETTER WATER MANAGEMENT: ORGANIZATION OF WATER MANAGEMENT IN FRANCE 1, 11-12 (June 2009), http://www.oieau.org/IMG/pdf/IOWater-WaterManagementFrance.pdf.

30. *Id.*

31. Jonathan Remy Nash, *Too Much Market? Conflict Between Tradable Pollution Allowances and the "Polluter Pays" Principle*, 24 HARV. ENV. L. REV. 465, 479 (2000).

32. Though certain emission trading programs such as the sulfur dioxide trading program administered by the EPA have had great success. *See id.* at 466.

33. Statutes in the United States that incorporate a reactive version of polluter pays include the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) 42 U.S.C. § 9607; and the Oil Pollution Act 33 U.S.C. 2102.

suggested that there are five key features that "constitute best practice in IRBM."[34] The first requires the establishment of a "basin-wide institutional framework that allows all the main government administrations operating within the basin to participate."[35] It emphasizes that this must be equal participation, and it must be supported by some form of legislation, regulation, or decree.[36] Further, it recommends a clear integrated natural resource policy agenda, as well as a financing and budgeting system.[37] The second necessary prong is knowledge of the condition and behavior of the water resources in the basin, which will require assessment and data collection on water quality and quantity.[38] This data should not remain static but rather be converted and used in trend analysis. Third, the institutional framework, considering the trend analysis, should develop integrated policies and strategies for addressing issues and make decisions based on and in recognition of the holistic and interactive nature of the water resources.[39] Integration must not stop at the water resource itself but be applied across institutions and governing bodies.[40] As noted above, the fourth integral prong to successful IRBM is the participation of the community and stakeholders in the management process.[41] Finally, system-wide monitoring is necessary to ensure sustainable management across the basin.[42] Such a system could take many forms depending on the sophistication of prior government oversight or management practices, but in any event, the auditing and monitoring process will "create or reinforce accountability among the key organizations and their staff."[43] No matter how IRBM is implemented within a state, country, or region, one thing is certain: there must be willingness to compromise and change despite political and economic interests. Louisiana, with an ever-shrinking coast that threatens not only the economy but also a deeply-rooted culture, may be in such a position to change.

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34. Millington et al., *supra* note 12, at 5.
35. *Id.*
36. *Id.*
37. *Id.*
38. *Id.*
39. *Id.*
40. *Id.*
41. *Id.*
42. *Id.*
43. *Id.*

III. THE FRENCH SYSTEM

The French have been relying on various forms of IRBM since 1964.[44] In recent years, the French systems have been reimagined as the European Union issued multiple water management directives charging the entire European community with adopting a river basin management scheme to preserve the natural heritage of water in Europe.[45] The Law of 16 December 1964 called for organized water management at the river basin level.[46] In 1992, the Law of 3 January overlaid this basin organization with the principles of integrated management, declaring water the "common heritage of the Nation," calling for cross-sectoral management by stakeholders and comprehensive management of surface and groundwater.[47] Importantly, it required that each basin and sub-basin develop and implement basin management plans.[48] These two laws have largely been repealed, though leaving the basic basin structure, owing to issuance of the EU's Water Framework Directive (WFD) in 2000[49] and subsequent directives including the Groundwater Directive in 2006.[50] In 2004 the WFD was transposed into French law through the Law of 21 April 2004.[51] Finally, the Law on Water and Aquatic Environments of 30 December 2006 revised French water policy to improve access to water and provided for transparency of water utility operations, among other things.[52] Most importantly, it recognized the right to water for everyone and took into account adaptation for climate change.[53] It also established the *Office National de l'Eau et des Milieux Aquatiques* (ONEMA), or the National Agency for Water and Aquatic Environments, which

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44. *See*, *e.g.*, OECD, OECD ECONOMIC SURVEYS: FRANCE (Nov. 29, 2001), http://www.oecd-ilibrary.org/docserver/download/1001131e.pdf?expires=1475446668&id=id&accname=ocid56016049&checksum=50C92F6AF4452C8C6A348707B1892413.

45. Directive 2000/60, of the European Parliament and of the Council of 23 October 2000 Establishing a Framework for Community Action in the Field of Water Policy, 2000/60/EC, para. 1, 2000 O.J. (L 327) 5.

46. Jan C. Bongaerts, *European Water Law: Water Policy and Water Resources Management in France*, the Projet de loi sur l'eau, 11 EUR. ENERGY & ENV'T. L. REV. 239, 240 (2002).

47. Loi 92-3 du 3 janvier 1992, Journal Officiel De La Republique Francaise [J.O.] [Official Gazette Of France] Jan. 3, 1992 art. 1.

48. *Id.* at art. 3.

49. Bongaerts, *supra* note 46, at 239.

50. Directive 2006/118/EC of the European Parliament and of the Council of 12 December 2006 on the Protection of Ground Water Against Pollution and Deterioration, 2006 O.J. (L 372) 21.

51. Noël, *supra* note 29, at 5.

52. *Id.*

53. *Id.*

enforces regulations and permits throughout the country.[54] The legal evolution of the French water management system has moved it closer to a true IRBM system and should be used as an example for Louisiana.

French water management emphasizes deconcentration and decentralization, which allows for management plans tailored to the needs of specific basins and input from all water users.[55] However, the central government does play a management role through the *Ministere de l'Ecologie, du Developpement durable, des Transports et du Logement*, or the Ministry of Ecology, Sustainable Development, and Energy (the Ministry).[56] The Ministry is the main governmental body responsible for implementing environmental laws through its main and regional offices.[57] The Ministry oversees its regional offices, the *Directions Régionales de l'Environnement, de l'Amenagement et du Logement* (DREAL), or the Regional Environmental Planning and Housing Agency, as well as ONEMA.[58] Other offices of the State overseen by the Ministry relevant to water management are the *Comité national de l'eau* (CNE), or the National Water Committee, and *Voies Navigables de France* (VNF), or French Navigable Waterways.[59] The CNE is a consultative body to the Ministry chaired by a member of Parliament appointed by the prime minister and made up of users, environmental associations, local governments, representatives of the state, river restoration advisers, and the drainage basin presidents.[60] The CNE is consulted on new national and regional policy decisions and advises on proposed new draft legal texts, as well as text reforms and potential government action.[61] The VNF is responsible for the management of many, though not all, of the navigable rivers within the country, and in 2012, VNF was given permission to begin producing electricity.[62]

French water management is based around the six major river basins, made up of eight total river basin districts, on the continent and

54. *Id.*
55. *Id.*
56. Jeremy Watkins, *The French Water and River Management System: An Overview*, RIVER RESTORATION CTR. CRANFIELD U. 4 (2012), http://www.ecrr.org/Portals/27/The%20French%20Water%20and%20River%20Management%20System.pdf.
57. *Id.*
58. *Id.* at 4, 11.
59. *Id.* at 5-6.
60. *Id.* at 5.
61. *Id.*; Noël, *supra* note 29, at 9.
62. Watkins, *supra* note 56, at 6.

the five overseas territories.[63] This basin structure is layered upon the divisions of the state: regions, which are broken down into departments, which are ultimately broken down into municipalities.[64] As of 2012, there were 36,766 municipalities, housed within 101 departments and 26 regions.[65] The continental basins, along with the sub-basins within them, are managed by *Les Agences De L'Eau*, or the Water Agencies, each named for the major basin they cover.[66] These are Adour-Garonne, Rhone-Mediterranée, Artois-Picardie, Rhin-Meuse, Loire-Bretagne, and Seine-Normandie.[67] Six of the river basin districts within continental France are considered international basins and, as such, are required by the European Union to develop management plans through cooperation with the neighboring country.[68] Each of the six major river basins in France has developed a *Schema Directeur d'Amenagement et de Gestion des Eaux* (SDAGE) that serves as the main water management plan.[69] Each of the smaller regional basins within the larger basin develop *Schema d'Amenagement et de Gestion des Eaux* (SAGE), a smaller regional water plan that is to comply with the larger SDAGE.[70] Arguably the most important features of IRBM in France are the concepts of decentralization and deconcentration.[71] The central government is deconcentrated at the departmental and regional level, each headed by the state-appointed Prefect.[72] The Prefect is effectively the only state representative in the departments and regions; he or she acts as the voice of the central government and oversees the Ministry offices found within each region and department, including ONEMA, DREAL, and VNF.[73] Though he is responsible for much more than water management, one Regional Prefect from the major basin is given the title *Préfet Coordonnateur De Bassin*. As the coordinator of the drainage basin, the

63. This Article will focus on the continental basins. The overseas basins are Corsica, Guadeloupe, Martinique, French Guyana, and Reunion Island.

64. Noël, *supra* note 29, at 4.

65. Watkins, *supra* note 56, at 14; Noël, *supra* note 29, at 4.

66. *See* Noël, *supra* note 29, at 8.

67. Watkins, *supra* note 56, at 7.

68. Rep. from the Commission to the European Parliament and The Council on the Implementation of the Water Framework Directive (2000/60/EC) River Basin Management Plans, COM (2012) 670 Final (Nov. 14, 2012).

69. Watkins, *supra* note 56, at 9.

70. *Id.* at 12.

71. *Id.*

72 Noël, *supra* note 29, at 4.

73. Watkins, *supra* note 56, at 5, 10; Noël, *supra* note 29, at 4.

Prefect is responsible for approving the SDAGE, which is drafted by the River Basin Committee (Committee).[74]

The Committee is part of the decentralization of water management. It also exemplifies how stakeholder input is successfully structured in an IRBM system. Each Committee is made up of 40% local authority representatives, 40% representatives of water users, and 20% government representatives.[75] Local ONEMA representatives, as well as other state-funded agency representatives, are included as members of the Committee.[76] The Committee, along with the Basin Coordinator Prefect, is responsible for ensuring that there is dialogue and coordination between water users, the state, and state and private agencies.[77] As such, the Committee, given its makeup of all water interests, is responsible for drafting the SDAGE. This plan acts as the blueprint for development and management of water resources, "setting out general directions, objectives and provisions to be implemented and puts forward an action plan."[78] This action plan, known as a Program of Measures, was required by the WFD.[79] Any further actions, plans, or management proposals at the regional or municipal level must comply with the SDAGE.[80] The regions, covered in the larger basin managed by the Water Agency, are responsible for working with local authorities and users in the agency's departments and municipalities to create the SAGE, which must comply with the SDAGE.[81] The SAGE is approved by the relevant Regional Prefect.[82] Finally, the municipality is responsible for drinking water supplies and sanitation. It has the option of combining with a neighboring municipality to provide these services.[83] Though the SDAGE governs water use in a given basin, the State, guided by the CNE, will set general rules of administration and sanitation and environmental objectives, which today comply with many EU Directives concerning the water environment.[84]

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74. AGENCE DE L'EAU SEINE-NORMANDIE, WATER MANAGEMENT IN THE SEINE-NORMANDIE RIVER BASIN DISTRICT 1 (2011), http://www.eau-seine-normandie.fr/fileadmin/mediatheque/Dossier_partage/INSTITUTIONNEL/PLAQUETTES/4VoletsAESN_ENG.pdf.

75. Noël, *supra* note 29, at 9.

76. *Id.*

77. Noël, *supra* note 29, at 11.

78. MINISTRY, WATER POLICY IN FRANCE, *supra* note 15, at 7.

79. Directive 2000/60 EC of the European Parliament and of the Council of 23 October 2000 Establishing a Framework for Community Action in the Field of Water Policy, art. 11, para. 1, 2000 O.J. (L 327) 13.

80. Noël, *supra* note 29, at 11-12.

81. MINISTRY, WATER POLICY IN FRANCE, *supra* note 15, at 7.

82. Watkins, *supra* note 56, at 13.

83. MINISTRY, WATER POLICY IN FRANCE, *supra* note 15, at 11.

84. *Id.* at 12.

IV. FRANCE AND THE EUROPEAN UNION

The WFD called for the development of policies and regulations based upon the precautionary and polluter pays principles.[85] As noted above, France complies with the WFD's polluter pays requirement by following the water pays for water maxim. Each of the six water agencies of France levy taxes on water withdrawals and emission of pollutants, creating incentives for the water users to develop the most efficient and cleanest technologies.[86] This tax is separate from the permit requirements and payments that each user must also meet and pay.[87] The water agencies reinvest these funds into maintaining the system through management, subsidies for public works, subsidies for those that cannot pay their water bills, and conservation efforts.[88] An important aspect of this taxation system is that it is modulated based on the uses, the emissions, and the quality of the environment in that region.[89] It is not a flat tax. The SDAGE for each basin reflects the financing priorities for a period of six years; as such, each basin may choose to allocate funds in whatever manner best suits the needs of the basin.[90]

The EU has issued several directives dealing with the environment and more specifically water management in the last fifteen years, the most important of which is EU Directive 2000/60/EC, known as the Water Framework Directive of 2000 (WFD).[91] France, as a member of the EU, is bound to follow the directives. Directives, unlike regulations, bind the member states of the EU, only in as much as they set out objectives to be achieved.[92] A member state is free to decide the means to be used to achieve these objectives.[93] The EU selected river basin divisions for water management in 2000 and called for each member state to develop management plans within their basins complete with a program of measures that will be used to implement this plan.[94] Each

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85. Directive 2006/118/EC of the European Parliament and of the Council of 12 December 2006 on the Protection of Groundwater Against Pollution and Deterioration, art. 3, 2006 O.J. (L 372) 21.

86. Noël, *supra* note 29, at 11-12.

87. Bongaerts, *supra* note 46, at 260, 262.

88. Noël, *supra* note 29, at 11-12.

89. *Id.* at 12.

90. *Id.*

91. *Introduction to the New EU Water Framework Directive*, EUR. COMMISSION, http://ec.europa.eu/environment/water/water-framework/info/intro_en.htm (last visited Oct. 11, 2016).

92. THOMAS BUERGENTHAL & SEAN MURPHY, PUBLIC INTERNATIONAL LAW IN A NUTSHELL, 63 (3d ed. 2002).

93. *Id.*

94. Directive 2000/60 EC of the European Parliament and of the Council of 23 October 2000 Establishing a Framework for Community Action in the Field of Water Policy, art. 3-4,

basin should contemplate all water—including surface, ground, modified, and artificial—found within the delineated area.[95] This may have been related to France's success with this structure, but in any event, France did not have to greatly alter the way in which it managed water.

The EU's WFD established "a framework for Community action in the field of water policy."[96] Generally, the WFD sets forth a policy for conserving both surface and groundwater, preventing the deterioration of these waters by pollution and preserving ecological quality based on the precautionary principal and the idea that the polluter should pay.[97] Much like the French Water Law of 1992, the WFD states, "[w]ater is not a commercial product like any other but, rather, a heritage which must be protected, defended and treated as such."[98] The WFD promulgates an extensive list of goals and the exact parameters of many of the monitoring programs that it wishes to see within the member states.[99] As such, the WFD calls for the development of integrated qualitative and quantitative management techniques for groundwater and surface water by taking into account the natural flow conditions within the hydrological cycle.[100] Generally, it is designed to create a cohesive management system applicable across the member states.

The way in which the WFD directs the member states to implement such a cohesive management system is through the delineation of river basins and grouping of these basins into districts.[101] Importantly, groundwater is to be included, as well as coastal waters, in whatever river basin is nearest or most appropriate.[102] Those river basins that span more than one member state should be assigned to an international basin.[103] For those that extend into non-member states, the member state or states shall aim to coordinate with those non-members in an effort to fulfill the mission of the WFD and ensure that the entire river basin is in

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2000 O.J. (L 327) 8-11; Directive 2000/60 EC of the European Parliament and of the Council of 23 October 2000 Establishing a Framework for Community Action in the Field of Water Policy, para. 13-19, 2000 O.J. (L 327) 2.

95. Rep. from the Commission to the European Parliament and The Council on the Implementation of the Water Framework Directive (2000/60/EC) River Basin Management Plans, COM (2012) 670 Final (Nov. 14, 2012).

96. *Id.* at 1.

97. *Id.* at 4-5.

98. *Id.* at 1.

99. Directive 2000/60 EC of the European Parliament and of the Council of 23 October 2000 Establishing a Framework for Community Action in the Field of Water Policy, para. 33-34, 2000 O.J. (L 327) 4.

100. *Id.* at 4.

101. *Id.* at 8.

102. *Id.*

103. *Id.*

compliance.[104] Once basin-wide management units are established, the member state will appoint who they deem to be the "competent authority." In the case of France, the Prefect ensures that the goals of the WFD are carried out and river basin management plans complete with programs of measure are promulgated.[105] Such plans should be in accord with the specific environmental objectives for both groundwater and surface water set forth in Article 4 of the WFD.[106]

The WFD further emphasizes the importance of developing common definitions for the status of water, both for quality and quantity, as well as a common monitoring system.[107] This will ensure the protection of water and prevention of deterioration at the European community (Community) level. It should be noted that when the WFD discusses a common system, it does not require that the systems implemented in each member state be the same, rather they are to be compatible in order to better facilitate a general understanding of water quality and quantity across the Community.[108] This is imperative when member states with shared basins are attempting to cooperate and will better facilitate cooperation with non-member states.

The WFD recognizes that the Community and its member states are parties to various international agreements dealing with the protection of international water resources.[109] As such, the WFD is designed and is to be implemented in such a way that these agreements will continue to be honored.[110] Moreover, it goes on to call for programs of measures to be coordinated within transboundary basins so that each basin within the Community has a cohesive program.[111] Further, member states that share basins with non-member states are called on to "endeavor to establish the appropriate coordination with the relevant non-member states" in order to aid the Directive in "contribut[ing] to the implementation of Community obligations under international conventions on water protection and management." It specifically cites the United Nations Convention on the protection and use of transboundary water courses and international lakes.[112] By taking all of these agreements into consideration while developing and implementing the WFD, the EU has

104. *Id.*
105. *See id.*
106. *Id.* at 9.
107. *Id.* at 3, 5.
108. *Id.* at 4.
109. *Id.* at 3.
110. *Id.*
111. *Id.*
112. *Id.* at 4.

taken great steps to install IRBM as the primary water management system in Europe.[113] It has fleshed out this system in subsequent Directives.[114]

Recognizing the importance of groundwater for drinking water supplies within its member states, the European Union adopted Directive 2006/118/EC on the Protection of Groundwater against Pollution and Deterioration in December of 2006 (GWD). Though the WFD included groundwater within its purview, it did not specify how member states should think about and manage groundwater resources. Article 17 of the WFD stated that the European Parliament and the Council were to adopt specific measures to prevent and control groundwater pollution, including criteria for assessing good groundwater chemical status, as well as criteria for the identification of upward trends in pollution and starting points for their reversal.[115] The GWD fulfills this goal. Water quality statistics were to be established by the end of 2008 and measures put in place so that the groundwater would meet the standards set out in the WFD by the 2015 deadline.[116]

The EU's WFD and GWD and subsequent directives concerning water policy in Europe spurred the 30 December 2006 law that forced France to move toward transparency, access to water for all, and climate change considerations.[117] Through its historical structure, and revision spurred by the EU, France has moved toward a true IRBM system. Because Louisiana's law is based on the French Civil Code and there are abundant water resources, it would behoove the state to consider adopting a system similar to the French management system as it moves towards developing a comprehensive water code. Louisiana could then lead as the exemplar of IRBM in the United States.

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113. The WFD was to be implemented within the member states by December 2003, and the European Commission was to publish a report on the implementation within 12 years of this date. Ultimately, the environmental objectives are to be achieved by the end of 2015. *See Watkins*, *supra* note 56, at 1.

114. These Directives include those for Flood Risk Management, Water Scarcity and Droughts, Drinking Water, and Bathing Water. *Environment*, EUR. COMMISSION, http://ec.europa.eu/environment/water/index_en.htm (last visited Oct. 11, 2016).

115. Directive 2000/60 EC of the European Parliament and of the Council of 23 October 2000 Establishing a Framework for Community Action in the Field of Water Policy, art. 17, 2000 O.J. (L 327) 18.

116. Directive 2006/118/EC of the European Parliament and of the Council of 12 December 2006 on the Protection of Groundwater Against Pollution and Deterioration, art. 3 para. 5, 2006 O.J. (L 372) 22.

117. Noël, *supra* note 29, at 1, 5.

V. IRBM IN THE UNITED STATES

In 1868, John Wesley Powell was funded by Congress to explore the Colorado River Basin.[118] Following his expedition, Powell suggested that the only logical way in which to define state boundaries in the West was by basing them on watershed boundaries.[119] This was the only way he believed interstate arguments over water in an arid landscape could be avoided.[120] Obviously, Congress did not heed Powell's warning, and interstate water disputes have become commonplace in the West.[121] This would not be the last time that the United States decidedly refused to implement IRBM. Generally speaking, the United States has been loath to engage in river basin management because it meant ceding power to a federal or independent administrative body.[122] Historically, the United States engaged in a type of IRBM when basins crossed state boundaries and those states were unable to manage their waters independently for fear of inciting a lawsuit from a neighboring state.[123] This generally resulted in compacts that either did too little or created a centralized agency with too much power. Huffman notes:

> [T]he call for river basin management has had only limited success in the United States, and where it has been implemented it results more in greater centralization than it does in decentralization. This reflects the fact that the foundational institution of water allocation throughout the United States remains the private rights that are guaranteed and administered by state governments.[124]

It is these private rights that often interfere with one of the most important tenets of IRBM: the stakeholder vote. It is difficult for the United States to see theoretical rights in water, as discussed above, on the same level as actual private property rights. In the United States, the notion, albeit incorrect, of centralization in IRBM prevents most states from considering the regime. However, should Louisiana be the first state to adopt IRBM, it would not have to fear losing control over its water resources. And in the event the state was ever faced with a

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118. Huffman, *supra* note 8, at 121.

119. *Id.*

120. *Id.*

121. *See, e.g.*, Kansas v. Nebraska, 135 S.Ct. 1042 (2015); Colorado River Water Conservation Dist. V. U.S., 424 U.S. 800 (1976); Oklahoma v. New Mexico, 501 U.S. 221 (1991); Texas v. New Mexico, 482 U.S. 124 (1987).

122. Huffman, *supra* note 8, at 121 (quoting Dan Tarlock, *Reconnecting Property Rights to Watersheds*, 25 WM & MARY ENVTL. L. & POL'Y REV., 69, 71-72 (2009)).

123. The Tennessee Valley Authority, the Delaware River Basin Commission, and the Great Lakes Compact are examples of such arrangements.

124. Huffman, *supra* note 8, at 139.

compact or similar agency structure for an interstate water basin, it would have the upper hand and be far better equipped to come to the bargaining table given its superior knowledge of the water in its basins.

Many states have also adopted statewide and local water management plans, even if they have not contemplated such a plan on a basin-by-basin level.[125] These small steps indicate that as populations grow, water demand increases, water usage shifts from agriculture to urban and industrial use, and the climate continues to change, water management will need to adapt. Louisiana would benefit from combining these small steps and implementing the IRBM system.

The closest the United States has come to true IRBM is major river compacts, the most prominent being the Delaware River Basin Compact. Compacts offer an example of how variations of IRBM may be implemented across state boundaries, but generally suffer from flaws that prevent true IRBM, notably these flaws center around state sovereignty over natural resources.[126] The Delaware River Basin Compact, signed by Delaware, New Jersey, New York, and Pennsylvania, arguably created the most powerful regional agency the United States has ever seen, the Delaware River Basin Commission (DRBC). Unlike other agencies created by compact, such as the Red River Commission, the DRBC "is not limited to setting management goals, accounting for water allocations, and making recommendations; instead it has regulatory, permitting, and enforcement authority."[127] However, it is the greater power allocated to a central agency that creates a flaw in the DRBC's attempt at IRBM. Rhett B. Larson suggests that the DRBC is what he has termed an interstitial federalism institution, or an institution that is founded upon principles of both state and federal law and as such rests somewhere between the two within a management scheme.[128] Because they lie somewhere between a state and federal agency, it is often

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125. For example, Arkansas' water plan contemplates all of its water resources, save the Mississippi River, and enables it to dedicate surplus flows to non-riparian use. Minnesota calls for a statewide management plan which is supported by local county plans. Texas also requires local community plans that are combined to generate a statewide water management plan. Other states that utilize a water management plan include, but are not limited to, Arizona, California, Hawaii, Mississippi, Missouri, and Virginia.

126. For example, The Red River Commission, formed by the Red River Compact, does not have the ability to apportion waters or to issue permits and as such, fails to implement true IRBM. Instead, it simply serves as a venue for communication between the signatory states, but ultimately has no enforcement power, leaving the states with the ability to push environmental costs to their downstream neighbors if that is what best suits their needs. *See generally* Tarrant Reg'l Water Dist. v. Herrmann, 133 S. Ct. 2120 (2013).

127. Rhett B. Larson, *Interstitial Federalism*, 62 UCLA L. REV. 908, 937 (2015).

128. *Id.* at 939-40.

difficult to predict the amount of deference a court should show such an agency. Courts have typically been unwilling to do anything more than enforce compacts by their terms, which in turn gives these interstitial federalism agencies a great deal of deference.[129] This is often problematic when it comes to disputes between signatory states and between the states and the agency itself. In the case of the DRBC, Larson notes, "the interstitial federalism institution begins to usurp state sovereignty without a legal check on an abuse of its power."[130] Consequently, when there is asymmetrical power between jurisdictions and their central agency, it is difficult to answer the question of "whether and how marginalized members of an interstitial federalism institution could seek redress" if the agency is not managing the resource for the benefit of all jurisdictions.[131] Because the DRBC was set up as a centralized agency, rather than a decentralized web of management as is true of IRBM, it gathered too much power and defeats the shareholder management that is integral to IRBM. Though premised on managing an entire river basin's water resources, the centralized power would allow for the most economically beneficial water use decisions to be made, rather than the most holistic.

Though a possible compact for the State of Louisiana and its surrounding neighbors is beyond the scope of this Article, the above is important to consider. Such problems of sovereignty and control, as well as cost shifting at the expense of other states could be better understood and managed if Louisiana were to implement the IRBM system. In a true IRBM system, Louisiana will have a better understanding of its water quality, quantity, and municipal, industrial, and environmental needs. This may help avoid costly litigation in the event water flows become an issue[132] between Louisiana and its neighbors and also avoid federal intervention and unfair results through possible water basin apportionment.

VI. BACKGROUND ON LOUISIANA LAW

Though not covered in depth here, Louisiana's disjointed, often conflicting, and confusing system of code articles and statutory

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129. *Id.* at 940.

130. Referencing the DRBC's decision to lift the hydraulic fracturing ban in the Delaware River Basin and New York's subsequent suit against the Commission. *See* Larson, *supra* note 127, at 941.

131. *Id.*

132. Currently, Arkansas' ANRC is considering a permit application from a company in Texas to build a pipeline and divert water from the Mississippi River to Eastern Texas. This could have implications on continued flows into Louisiana in the future, which may impede the economy, as well as the Coastal Master Plan.

provisions led Louisiana's Water Law Committee to recommend and eventually win the opportunity to draft a new, comprehensive water code for Louisiana. On the most basic level, the Civil Code creates confusion in its traditional classification of things as private, public, and common. The current classification of surface water as a largely public thing and groundwater as a private thing, resulting in separate management regimes, makes managing water holistically virtually impossible. At the very least, uniform classification of all state waters, especially groundwater (as it is not classified until reduced to private possession), will be necessary in order to form a complete statutory basis for water management.

Louisiana groundwater law is murky at best. The keystone of Louisiana law is the Civil Code; however, groundwater has not been referenced directly in the code since 1808. Instead it has been loosely likened to mineral rights and shoehorned into the Mineral Code.[133] The only relevant code article is Article 490, stating that

> [T]he ownership of a tract of land carries with it the ownership of everything that is directly above or under it. The owner may make works on, above, or below the land as he pleases, and draw all the advantages that accrue from them, unless he is restrained by law or by rights of others.[134]

This introduces the rule of capture, in which subsurface water (and minerals) are not owned until reduced to possession through pumping.[135] The rights of others referenced in Article 490 have been tested in Louisiana jurisprudence. Groundwater cases generally turn on the obligations of vicinage or ownership, as is demonstrated in arguably the two most prominent groundwater cases: *Higgins Oil & Fuel Co. v. Guaranty Oil Co.* and *Adams v. Grigsby*.[136] *Higgins* deals with questions of groundwater rights by referencing the obligations of vicinage.[137]

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133. LA. STATE LAW INST., WATER LAW COMM., REPORT IN RESPONSE TO SCR 53 OF THE 2012 REGULAR SESSION: THE USE OF SURFACE WATER VERSUS GROUNDWATER 11 (Apr. 4, 2014), http://www.law.tulane.edu/uploadedFiles/Institutes_and_Centers/Water_Resources_Law_and_Policy/Content/4.04.14,%20Roberson,%20Water%20Law%20Report.pdf. [hereinafter LA. STATE LAW INST., REPORT].

134. LA. CIV. CODE ANN. art. 490.

135. LA. STATE LAW INST., REPORT, *supra* note 133, at 38.

136. Higgins Oil & Fuel Co. v. Guaranty Oil Co., 82 So. 206 (La. 1919); Adams v. Grisby, 152 So.2d 619 (La. App. 2d Cir. 1963), *cert. denied* 153 So.2d 880 (La. 1963).

137. The obligations of vicinage deal with legal servitudes and are found in the Civil Code, articles 667 through 669. Generally speaking, the Civil Code allows for a property owner to do whatever he wishes upon his own property. However, the obligations of vicinage create legal servitudes that act as limitation upon ownership. They dictate the extent to which a property owner may cause inconvenience to his neighbor, and in the event they do cause inconvenience or injury to a neighbor, the articles of vicinage dictate when and how much damages will be awarded. Generally, a property owner will only be answerable to his neighbor when he should

Under article 667, a property owner may do what he wishes with his property but only to the extent that it does not harm his neighbor's use and enjoyment of his own property.[138] In the event that his use damages his neighbor, he will be answerable for damages if it is shown that with reasonable care, the damage could have been prevented and he failed to take such reasonable care.[139] In *Higgins*, the court determined that article 667 is one of the limiting factors on article 491.[140] It ultimately required the defendant to plug an unused and abandoned water well because it markedly reduced the productivity of the neighbor's well.[141]

On the contrary, the court in *Adams* declined to find that article 667 applied to the facts when an oil operator drilled a well that diminished the ability of the neighboring landowners to use their prior-drilled wells.[142] The Louisiana Supreme Court stated that "[i]n the absence of statutory regulation, apportionment or allocation of the amount of water which may be withdrawn from a common reservoir, we conclude that courts are without authority to establish such nature of regulation by judicial pronouncement."[143] The court pointed out that, "[n]either plaintiffs nor defendant own the water percolating into or running through the Wilcox sand which lies beneath their respective properties, but only so much thereof as they withdraw by means of their respective wells."[144] *Adams* succinctly summarizes the rule of capture in Louisiana. Groundwater will not be subject to the reasonable use rules of riparianism but rather is a thing susceptible of private ownership once reduced to possession through pumping.

In terms of surface water, Louisiana is a traditionally riparian state, but in its effort to adhere to tradition while adapting to the present, it has created a confusing array of code articles and statutory provisions. The Civil Code, in the tradition of the Code Napoléon and riparianism, recognizes the right of those owning land bordering running water to use that water. Article 657 provides, "[t]he owner of an estate bordering on running water may use it as it runs for the purpose of watering his estate

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have known of and could have prevented the damage that amounts to more than an inconvenience to his neighbor. If the neighbor is only inconvenienced and not truly damaged and no other servitude has been agreed to, then he has not met the burden of article 667 and may not receive damages.

138. *See Higgins Oil & Fuel Co.*, 82 So.2d at 206.

139. LA. CIV. CODE ANN. art. 667.

140. *Higgins Oil & Fuel Co.*, 82 So.2d at 209.

141. *Id.*

142. Adams v. Grisby, 152 So.2d 619 (La. App. 2d Cir. 1963), *cert. denied* 153 So.2d 880 (La. 1963).

143. *Id.*

144. *Id.*

or for other purposes."[145] Generally speaking, these other purposes are reasonable uses that do not diminish the ability of his neighbor to do the same. Traditional uses include watering gardens and domestic livestock and household uses, such as cooking, bathing, and drinking.[146] Article 658 goes on to clarify (or not, depending on the way it is read) the rights of a riparian owner:

> [T]he owner of an estate through which water runs, whether it originates there or passes from lands above, may make use of it while it runs over his lands. He cannot stop it or give it another direction and is bound to return it to its ordinary channel where it leaves his estate.[147]

Riparians are further not required to allow access for purposes of the public trust through their land; they must, however, allow for the use of the water in front of their property and the shoreline subject to the public trust.[148] The Legislature passed Act 994 in 2010 in an attempt to clarify and supplement the Civil Code provisions on riparian rights.[149] The Act permits a riparian to "assign access rights equal to his own for the surface water adjacent to his riparian land for any agricultural or aquacultural purpose within the state of Louisiana by the non-riparian owner."[150] Importantly, the riparian is assigning rights equal to his own, which means that the assignee must return the water to the natural course of the stream. There is debate about what precisely the phrase "equal to his own" encompasses,[151] but it is obvious that the water may not be used for

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145. LA. CIV. CODE ANN. art. 657 (2015).

146. For a full discussion of traditional riparianism, see BARTON H. THOMPSON, JR. ET AL., LEGAL CONTROL OF WATER RESOURCES CASES AND MATERIALS, Ch. 2 (5th ed. 2013).

147. LA. CIV. CODE ANN. art. 658 (2015). The Law Institute points out that articles 657 and 658 are rather elliptical in nature and though listed under the servitudes chapter of the Code, it is not clear which is the dominant and servient estate within each and therefore fail to fully explain riparian rights in Louisiana. Louisiana State Law Institute, 27-32.

148. LA. CIV. CODE ANN. art. 452 (2010); *see generally* Warner v. Clarke, 232 So.2d 99 (1970). In reference to Civil Code article 665, the Court held that "riparian servitudes [i.e. the public trust] are not subject to a broad and liberal construction, [. . .] but exist 'only for that which is incident to the nature and navigable character of the stream washing the land of such proprietor.'" Edited.

149. LA. REV. STAT. ANN. 9:1104 (2010).

150. LA. REV. STAT. ANN. 9:1104(B) (2010). It is important to note that this mindless discrimination against interstate use almost certainly violates the Dormant Commerce Clause. *See generally* Sporhase v. Nebraska ex rel. Douglas, 458 U.S. 941 (1982). Though scholars have proposed methods to avoid attacks under the Dormant Commerce Clause, none have been tested in a court of law. *See* Larson, *supra* note 127, at 933-35; *see generally* Mark S. Davis & Michael Pappas, *Escaping the Sporhase Maze: Protecting State Waters Within the Commerce Clause*, 73 LA. L. REV. 175, (2012). Blatant discrimination against interstate water commerce has only been tested, and upheld, in the realm of compacts. *See generally* Tarrant Reg'l Water Dist. v. Herrmann, 133 S. Ct. 2120 (2013).

151. LA. STATE LAW INST., REPORT, *supra* note 133, at 35.

other purposes besides the expressly stated agricultural and aquacultural purposes. Before the riparian may assign his rights, he must ensure that the withdrawal will be environmentally and ecologically sound and be balanced with economic and social benefits as required by the constitution.[152] Though the law is arguably clear on riparian rights, further constitutional and statutory provisions, as well as basic code articles governing property, add confusion to surface water management.

The Civil Code, in the tradition of the Napoleonic Code of France, classifies all things as public, private, or common.[153] Public things may not be owned by private persons but may be owned by the state in its capacity as a public person.[154] Private things are owned privately by individuals or by the state in its capacity as a private person, and common things are not susceptible of ownership.[155] The classification as private or public is highly important in water management. Article 450 states:

> Public things are owned by the state or its political subdivisions in their capacity as public persons. Public things that belong to the state are such as running waters, the waters and bottoms of natural navigable water bodies, the territorial sea, and the seashore. Public things that may belong to political subdivisions of the state are such as streets and public squares.[156]

Further, LSA-RS 9:1101 declares that the state's public waters include all bayous, rivers, streams, lagoons, lakes, and bays that were not under private ownership of any person on August 12, 1910.[157] The statute goes on to include the waters of the Gulf of Mexico and the arms of the Gulf within Louisiana's boundaries.[158] Finally, a revision comment to article 453 states that all other surface waters are classified as private things.[159] The classification of waters does not end at code articles, but rather has been the responsibility of the State since its inception.

The State gained ownership of navigable waters under the equal footing doctrine upon its entry into the Union, in order to hold them in trust for its citizens.[160] This is known as the Public Trust Doctrine and it preserves the rights of citizens of the state to make use of such things.[161]

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152. LA. REV. STAT. ANN. 9:1104(B) (2010).
153. LA. CIV. CODE ANN. art. 448 (2015).
154. LA. CIV. CODE ANN. art. 450 (2010).
155. LA. CIV. CODE ANN. arts. 453, 449.
156. LA. CIV. CODE ANN. art. 450 (2010).
157. LA. REV. STAT. ANN. 9:1101 (2015).
158. LA. REV. STAT. ANN. 49:3 (2015).
159. LA. CIV. CODE art. 453 revision comment (a).
160. LA. STATE LAW INST., REPORT, *supra* note 133, at 15.
161. *Id.*; *see also* Illinois Central Railroad Company v. Illinois, 146 U.S. 387 (1892).

Louisiana has strong Public Trust policies, which have been declared in both the Civil Code and the State Constitution. Article 452 reads:

> Public things and common things are subject to public use in accordance with applicable laws. Everyone has the right to fish in the rivers, ports, roadsteads, and harbors, and the right to land on the seashore, to fish, to shelter himself, to moor ships, to dry nets, and the like, provided that he does not cause injury to the property of adjoining owners.[162]

As a result, the State has the authority and obligation to manage the public waters in its possession.[163]

To enhance this authority, the Louisiana State Constitution provides for preservation of its natural resources, giving the State the duty to manage them. It states:

> The natural resources of the state, including air and water, and the healthful, scenic, historic, and esthetic quality of the environment shall be protected, conserved, and replenished insofar as possible and consistent with the health, safety, and welfare of the people. The legislature shall enact laws to implement this policy.[164]

Importantly, water is included among the list of natural resources to be preserved by the state. Further, as demonstrated above, these waters and beds are public things. Notably, the Civil Code, in a revision comment to article 450, states that:

> Public things may also be subdivided into two categories. The first category consists of things which according to constitutional and legislative provisions are inalienable and necessarily owned by the state or its political subdivisions. The second category consists of things which, though alienable and thus susceptible of ownership by private persons, are applied to some public purpose and are held by the state or its political subdivisions in their capacity as public persons.[165]

As the state owns the beds of navigable water bottoms and the navigable waters of the state in its capacity as a public person, it, in theory, has the ability to alienate, or sell, these things. However, actual practice depends largely on how water and water bottoms as public things are further classified. Despite a confusing jurisprudential history, the Louisiana Supreme Court decided in *Gulf Oil Corp. v. State Mineral Board* that

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162. LA. CIV. CODE ANN. art. 452.

163. However, as has been pointed out in the a report to the Legislature by the Water Law Committee, there is much ambiguity in what exactly is considered running waters, running surface water, navigable waters, and private waters. LA. STATE LAW INST., REPORT, *supra* note 133, at 12-15.

164. LA. CONST. art. IX, § 1 (1974).

165. LA. CIV. CODE ANN. art. 450 revision comment (c).

navigable water bottoms were inalienable.[166] The 1921 State Constitution mandated the inalienability of the beds of navigable water bodies, and it remains so today.[167] As of today, the only constitutionally mandated inalienable things are the beds of natural navigable water bodies and mineral rights on property sold by the state. As such, the waters themselves appear to be susceptible to alienation. However, there is a caveat. The Constitution provides that "the funds, credit, property, or things of value of the state or of any political subdivision shall not be loaned, pledged, or donated to or for any person, association, or corporation, public or private."[168] In order for the State to transfer ownership of any of these things, it must enter into a cooperative endeavor agreement (CEA) and receive fair compensation.[169] In the case of water, any user that wishes to purchase water of the state must enter into a CEA with the Louisiana Department of Natural Resources.[170]

In order to avoid conflict regarding the alienation of surface water, Act 955 was adopted in 2010. This legislation authorizes, but does not require, "the Secretary of Natural Resources . . . to enter into cooperative endeavor agreements permitting the withdrawal of surface water upon 'ensuring that the state receives fair market value for any water removed.'"[171] In the event that the Secretary enters into a CEA with another entity, he must ensure that such an agreement is in the public interest (based on best management practices and sound science) and is consistent with the required balancing of environmental and ecological impacts with social benefits as required by the State Constitution.[172] Such CEAs are only required for the "running surface waters of the state."[173] The Act defines these as "the waters of navigable water bodies and state owned lakes."[174] Importantly, as is discussed at length in the Water Law Committee's Report to the Legislature, "running surface waters" is not a term defined by the Civil Code, rather it was a term coined for the purposes of this Act.[175] The Committee has taken it to

166. Gulf Oil Corp. v. State Mineral Board, 317 So.2d 576, 583 (La. 1974).

167. LA. CONST. art. IX, § 3.

168. LA. CONST. art. VII, § 14. Notably, this section has been amended ten times since 1974. Louisiana State Law Institute, 62.

169. LA. CONST. art. VII, § 14 (C).

170. LA. REV. STAT. ANN. 30:961-30:962 (2010).

171. LA. STATE LAW INST., REPORT, *supra* note 133, at 8 (citing LA. REV. STAT. ANN. 30:961(C) (2010)).

172. *Id.*

173. LA. REV. STAT. ANN. 30:961(A) (2010).

174. LA. REV. STAT. ANN. 30:962(1) (2010).

175 LA. STATE LAW INST., REPORT, *supra* note 133, at 12.

mean any of the surface water that is owned by the state.[176] As a new water code is developed and perhaps IRBM considered, it will be important to develop concise and universal terms and definitions for water resources. Though this Act covers the running surface waters of the state, it has no effect on riparian rights, which are again, addressed in Act 994.[177] Though this summary is brief, it illustrates the confusion propagated by Louisiana's current water management policies.

VII. LOUISIANA ADOPTS THE FRENCH SYSTEM

Louisiana is in prime position to consider adopting a new water management regime. In 2012, the Louisiana Legislature issued Senate Concurrent Resolution No. 53 requesting that the Louisiana State Law Institute "study legal issues surrounding groundwater and surface water law and any needs for revision to current law."[178] To date, Louisiana's legal regime surrounding the treatment of surface and groundwater has yielded confusing and conflicting rules. Currently, navigable surface waters belong to the state and, with the exception of riparians, require compensation to be paid to the state for consumptive use.[179] However, groundwater is treated in a completely different code and is subject to the rule of capture, meaning that once it is reduced to possession, it is privately owned and free of charge.[180] Indeed, prior to the adoption of the Louisiana Mineral Code, a strict reading of Louisiana's Civil Code and statutes would have suggested that groundwater was owned by the overlying landowners. Louisiana does not have a single code that treats all water. In fact, water regulations are spread out across the Civil Code, the Mineral Code, and a plethora of Revised Statutes, often with conflicting terms with no clear definition. In 2012, the Louisiana State Legislature expanded the Groundwater Resources Commission's responsibilities to include surface water and changed its name to the Louisiana Water Resources Commission, charging them with the "duty to develop a comprehensive plan for both groundwater and surface water."[181]

The Water Resources Commission issued two reports concerning their charge. Following the April 2014 report calling for water law

176. *Id.* at 13.

177. LA. REV. STAT. ANN. 30:961(A) (2010).

178. La. S.C.R. 53 (2012).

179. *See generally* LA. REV. STAT. 30:961-30:963 (2010).

180. LA. REV. STAT. ANN. 31:4; *see generally* Adams v. Grisby, 152 So.2d 619 (La. App. 2d Cir. 1963), *cert. denied* 153 So.2d 880 (La. 1963).

181. LA. STATE LAW INST., REPORT, *supra* note 133, at 11; La. Acts, No. 471, § 2, eff. Aug. 1, 2012.

reform, the Louisiana Senate adopted Senate Resolution No. 171 urging and requesting that the Louisiana State Law Institute create a Water Code Committee.[182] The Committee is to be an interdisciplinary committee including academics, practitioners, landowners, hydrologists, and government representatives who will "develop proposed legislation establishing a comprehensive Water Code that integrates all of Louisiana's water Resources."[183] Dan Tarlock states:

> [T]he major legal problem with bioregionalism or ecosystem management is that it often has no statutory basis. Ecosystem or watershed management is a scientific rather than legal concept, and at present it must be super-imposed over existing statutes that recognize political jurisdictions justified more by history than reason and the specific federal and state agency missions that history has produced.[184]

Given the current regulatory structure, Louisiana is in a unique position with less legislation to undo, allowing it to create a statutory basis that will work with IRBM rather than against it. The Water Code Committee has an array of consulting resources, including government, legal experts, scientists, and public interest organizations. Such a position allows for consideration of a multitude of management systems, including IRBM.

Central to the implementation of IRBM in Louisiana would be the establishment of political subdivisions, most easily accomplished through reorganization of current agencies, which would be placed in charge of a given basin. In fact, with the reorganization of the Groundwater Resources Commission into the Water Resources Commission, the Legislature granted the Commission the authority to "promulgate rules and regulations for the appointment or designation of up to five regional bodies based on the general location of major aquifer systems and water sources of the state and composed of local stakeholders who are representative of current users."[185] The stakeholders referenced have the authority to gather data and provide local input to the Commission and Commissioner.[186] Though these regional bodies may not rise to the level of political subdivision and have not been granted the regulatory authority contemplated in IRBM, the fact remains that the state has not adopted some form of regional management. However, the state currently has one such political subdivision in the form of the

182. S. Res. 171, 2014 Leg. Reg. Sess. (La. 2014).
183. *Id.*
184. Tarlock, *supra* note 9, at 192.
185. LA. REV. STAT. ANN. 38:3097.4 (2012).
186. *Id.*

Sabine River Authority. Because each organization would be charged with maintaining the waters of a given basin and regulating them based on the ecological, environmental, social, and economic needs of the area, they would need to be given broad authority over the public water property of the state. In essence, the state would need to delegate regulatory authority over specific basins to these new political subdivisions. This may very well cause great confusion about the extent of the authority of each basin agency and questions of whether or not it is legal within the context of the Civil Code.

The Water Law Committee's Report to the Legislature illustrates numerous issues and ambiguities throughout the current water governance scheme in Louisiana. One such issue is the inalienability of public things. If the State were to designate new basin management agencies, giving them broad authority over the water resources found there, they may face challenges in their decisions to alienate surplus water, either through sales or interbasin transfers. As noted above, Civil Code article 450 classifies running water and navigable water as a public thing owned by the state in its public capacity. Public things are not susceptible to private ownership and as such, the Civil Code guarantees the inalienability of such public things by the state so long as they are being used by the public. In the event that public things are no longer needed by the public, Louisiana jurisprudence has declared that public things may be alienated by a political subdivision upon formal determination that the thing is no longer needed by the public and is alienated in accordance to applicable law.[187] As navigable waters are held in trust by the State for the use of the public, it would follow that any legislation that allowed political subdivisions to alienate portions of water would be contrary to the Civil Code, but in line with statutory interpretation in Louisiana jurisprudence. The courts have not yet been asked to address the alienability of public waters by political subdivisions; however, recent Attorney General opinions offer guidance consistent with this jurisprudence and suggest that if the principle of statutory construction is used, the conflicting codal provisions would be

187. *See generally* Coliseum Square Ass'n v. City of New Orleans, 544 So.2d 351 (La. 1989); *see generally* Walker v. Coleman, 540 So.2d 983 (La. App. 2 Cir. 1989). Each case deals with the ability of a political subdivision and police jury respectively to alienate roads. It is important to note that there are two more specific statutes dealing directly with police juries that grant them the power to alienate public things no longer needed by the public, but this does not change the fact that jurisprudential analysis of the alienability of public things rests largely on statutory authority. In each case, the political subdivision and the police jury had the statutory authority to make the determination that the public thing was no longer needed by the public and as such was available for alienation.

impliedly repealed by the passing of legislation establishing basin agencies.[188] According to the Water Law Committee, the enactment of legislation expressly authorizing a designated political subdivision the ability to alienate running surface water "would result in a reclassification of the specific sources of running surface water identified in the later legislation as a private thing."[189]

This does not mean that the public trust would be voided. As an arm of the state, each political subdivision given authority to govern a basin would be subject to legislative oversight and charged with the same responsibilities the state had in terms of maintaining the constitution and Civil Code. The court in *Save Ourselves, Inc. v. Louisiana Environmental Control Commission* stated, "the Natural Resources article of the 1974 Louisiana Constitution imposes a duty of environmental protection on all state agencies and officials, establishes a standard of environmental protection, and mandates the legislature to enact laws to implement fully this policy."[190] In an opinion issued by the Attorney General to the Sabine River Authority regarding its authority to enter into contracts of sale of running surface water, he points to *Save Ourselves* and notes that all political subdivisions are charged with maintaining the public trust.[191] Important judicial precedent in the State suggests that before alienating public things, a political subdivision must determine that such property is surplus and no longer needed by the public in order to comply with LSA-R.S. 33:4711.[192] In this way, a basin agency will have both the authority to regulate the waters in its basin, but also the constitutional and statutory duty to weigh environmental consequences and the public interest. It is important to note that when a political subdivision is given the legislative authority to alienate running waters, it will not be required to abide by Act 955, as the Act states in multiple places, "unless otherwise provided by law."[193] However, in the same opinion, the Attorney General recommended that the SRA work with DNR in order to ensure that all state resources are being managed in line with the constitution.[194] Importantly, because each subdivision will have authority only over the water found within its basin, it will have extensive knowledge of the quantity and quality of the resources and

188. LA. STATE LAW INST., REPORT, *supra* note 133, at 26-27.

189. *Id.* at 27.

190. Save Ourselves, Inc. v. Louisiana Envtl. Control Comm'n, 452 So.2d 1152, 1156 (La. 1984).

191. Op. La. Att'y Gen. 10-0297 (2011).

192. *Walker*, 540 So.2d at 983.

193. *See generally* LA. REV. STAT. ANN. 30:961-30:963 (2010).

194. Op. La. Att'y Gen. 10-0297 (2011).

thereby be able to make an intelligent decision about the amount of water it is capable of contracting away. Because it must still maintain the public trust, only surplus water will be available for such contracts. In the event that an agency chooses to sell or transfer surplus water, it will likely be held to the three-prong test articulated by courts based on the *Save Ourselves* decision.[195]

Despite the Attorney General recognizing that given proper legislative authorization an entity need not comply directly with Act 955, it is important to note that the constitution has an exception that allows for the transfer, through donation or exchange, of surplus movables[196] between or among political subdivisions of the state whose functions include public safety.[197] As an entity responsible for water supply and flood control, these new basin agencies would undoubtedly have a public safety function, and as such this exception would apply to them. This would allow for the transfer of water between basins, subject to the surplus evaluation, which would likely (and should) involve a balancing of social and environmental need. In the event that Louisiana adopts IRBM, new agencies will be key to implementing effective management. These agencies, as has been demonstrated, will not have an issue operating within the bounds of the constitution as their statutory designation will give them control of state property and shield them from liability under article 450 and article 7 section 14 of the Louisiana Constitution. Further, as the new water code is developed, it will be easy to structure the new agencies around the clarified rules and regulations of water management. The clean slate of a new water code against the backdrop of a constitution with a strong public trust provision will allow Louisiana to be the first to fully implement IRBM successfully.

Depending on how sophisticated and developed a country's current water management scheme is, the World Bank has offered four ways in which to effectively implement IRBM. These options are a river basin coordinating committee or council, a river basin commission, or a river basin authority.[198] The first exists in an area that is already rather

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195. The prongs include avoiding to the maximum extent possible potential and real adverse environmental effects, a cost benefit analysis of the environmental impact against the social and economic benefits, and whether there are alternatives or mitigating measures that would better protect the environment without unduly curtailing the non-environmental benefits. Louisiana State Law Institute, 55.

196. The Louisiana Civil Code 448 also categorizes things as movable or immovable property. In the above mentioned opinion to the SRA, the Attorney General declared that water, given its propensity to move from place to place, is undoubtedly a movable for the sake of classification within the Civil Code.

197. LA. CONST. art. VII, § 14(E).

198. Millington et al., *supra* note 12, at 6-9.

developed, the second where there is an optimal environment for development, and the third in an area that has little to no development.[199] These methods, however, are not the only ways in which such systems can be implemented, but rather general guidelines that can and should be modified to match the social, cultural, political, economic, and environmental needs of the region. Louisiana, unlike a developing nation, already has some form of water management agencies in place.[200] The State can be broken up into seven basins, and each would be managed by a political subdivision of the state. As in France, the Department of Environmental Quality may serve as the main state environmental agency, while the Water Resources Committee will steer policy decisions. However, the vast majority of management must be found at the basin level. For this reason, the river basin commission is likely the best option for Louisiana, perhaps incorporating aspects of the river basin coordinating committee or council.

The river basin commission model is ideal for Louisiana in many respects. The World Bank notes that the commission model is appropriate in areas where there are significant development options to be considered; there are significant conflicting uses; information and policy development is still necessary to ensure equitable sharing and to limit harmful environmental impacts; there is little to no water resource planning and management already in place in a given basin; and simulation models, systems, and data are not available or need further development.[201] Though Louisiana does have water development per se (i.e., drinking water and sanitation, hydropower, etc.), there is much development left to be done on the coast. Though these projects have largely been selected in the Coastal Master Plan, planning and implementation is an ongoing process. Further, Louisiana does not currently utilize water resource planning, and its simulation models are still in development. However, the most significant reason the commission model is necessary in Louisiana is the fact that there are significant conflicting uses throughout the state.

A vast majority of Louisiana's economy is based in highly water-dependent industries, particularly the oil and gas industry. However, this results in inequitable sharing of water resources, as well as inequitable burdens of water quality maintenance. Often these industries have a

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199. *Id.*

200. The Louisiana Department of Natural Resources, the Louisiana Department of Environmental Quality, the Louisiana Department of Health and Hospitals, and the Louisiana Department of Agriculture are some of these agencies.

201. Millington et al., *supra* note 12, at 7-8.

stronger voice in policy development. If such a trend were to continue under a new statutory scheme, IRBM would be impossible. If Louisiana were to engage in the less structured river basin coordinating committee or council, it runs the risk of a powerless entity attempting to direct deeply rooted industry preferences towards equitable sharing. Such a committee would be founded, like others before it, "upon the admirable but naïve idea that dozens, if not hundreds, of self-interested actors would somehow put interests aside and agree to do the right thing for the people and the planet."[202] Even if industry groups were to agree to a commission with equitable sharing of shareholder power, without structural oversight, inevitably one actor would shift back towards the industry-centric culture Louisiana has come to know. The more rigid backstop of a river basin commission is necessary to ensure the longevity of the IRBM system.

A commission is more formally constituted than a committee due to its foundation in statutory authority and decision-making power. Committees generally are based on letters of agreement between participating agencies and organizations and do not have binding decision-making authority but rather advisory capacity. Generally a commission would include a management board given authority to set policy and goals and be supported by an office combining experts specializing in water, natural resources, and economic and municipal planning.[203] Such experts are usually taken from the agencies and offices operating in the basin.[204] The World Bank suggests that the management board be made up of senior water resource and environmental officials from the top-level government agencies located in the basin.[205] The board will be responsible for ensuring that the management plans and regulations the commission adopts will be implemented effectively by the various offices operating within the basin.[206] Unlike the support offices, the board holds a managerial position, and as such, will not be responsible for day-to-day management, issuance of permits, or collection of fees and taxes.[207] Occasionally, there is a ministerial council that will oversee the work of the commission.[208] Some of its responsibility could include endorsing policy and planning endeavors, as

202. Huffman, *supra* note 8, at 130.
203. Millington et al., *supra* note 12, at 7-8.
204. *Id.*
205. *Id.*, at 8.
206. *Id.*
207. *Id.*
208. *Id.*

well as deciding on the yearly basin-wide budget. France's Water Agencies and River Basin Committees exemplify this structure.

As seen in French water management, the strongest feature of a river basin commission system is the equal partnership amongst the central and local government and private actors and users. The formalized structure of a commission and overseeing council ensures that there is dialogue across sectors and that such dialogue produces holistic management policy and plans. Importantly, within this structure, all stakeholders and administrators have equal rights. All of this is made possible through statutory dedication. As noted above, Louisiana would be able to statutorily dedicate political subdivisions to oversee each delineated basin. Each statute can enumerate the powers and responsibility of each basin agency, including the structure of their boards and councils. Once again, the time is nigh for Louisiana to adopt this model of water management as it moves forward with a comprehensive water code.

VIII. WHAT WOULD IT LOOK LIKE?

Just as France has the Ministry of Ecology, Louisiana will need a general state body charged with water management. Currently, the Louisiana Department of Environmental Quality (DEQ) is responsible for administering the Clean Water Act (CWA) throughout the state.[209] The Department of Natural Resources (DNR) is responsible for underground injection control, monitoring of groundwater resources, and issuing coastal use permits, as well as approving and entering into CEAs.[210] Ideally, water quality and quantity management would be consolidated into one of these agencies to avoid confusion and redundancy. Given its federal mandate to administer the Clean Water Act and its technical ability to monitor pollution throughout the state, DEQ is likely the best choice. DEQ would be assisted by a policy advisory board just as the Ministry in France is assisted by the CNE. Louisiana already

209. *LPDES Permits*, DEQ LA., http://www.deq.louisiana.gov/portal/Default.aspx?tabid=243 (last visited Oct. 18, 2016).

210. *Underground Injection Control (UIC) Section*, ST. LA. DEP'T NAT. RESOURCES, http://dnr.louisiana.gov/index.cfm?md=pagebuilder&tmp=home&pid=141 (last visited Sept. 30 2016); *Groundwater Resources Program*, ST. LA. DEP'T NAT. RESOURCES, http://dnr.louisiana.gov/index.cfm?md=pagebuilder&tmp=home&pid=455&pnid=0&nid=173 (last visited Oct. 1, 2016); *Office of Coastal Management*, ST. LA. DEP'T NAT. RESOURCES, http://dnr.louisiana.gov/index.cfm?md=pagebuilder&tmp=home&pid=85&ngid=5 (last visited Oct. 17, 2016); LA. REV. STAT. ANN. 30:961 (2010).

has such a body in the Water Resources Commission (WRC).[211] It is a cross-sectoral group of water users, managers, and attorneys that would function well in an advisory capacity to DEQ. With this structure, DEQ would be responsible for setting statewide pollution reduction goals and policy requirements; however, it would not be responsible for administering or setting management plans in the basins. The basin commissions would be responsible for creating regulations to carry out DEQ requirements in each basin, as well as developing comprehensive management plans.

Louisiana, given its vast network of surface water, is easily delineated into seven main river basins. These would act as the jurisdictional boundaries for the basin commissions and include the groundwater found beneath them.[212] The hypothetical basin delineations are: Pontchartrain in the southeast, the Mississippi in the east and northeast, the Atchafalaya in southcentral, the Mermentau in southcentral, Calcasieu in the southwest, the Sabine in the west, and the Red in the northwest. The Sabine and Red basins will already have the advantage of a compact to aid in setting basin goals. However, the Red River Compact, as was seen in *Tarrant Regional*, leaves much to be desired in terms of setting regulations.[213] It will be important for the basins affected by compacts to be mindful of their requirements, but still maintain the integrity of IRBM by allowing for open communication and equal voting among all of the stakeholders within the basin. The Sabine River Authority and Red River Compact Commission will be important members in their respective basin commissions to ensure that the federal standards set by the compacts are adhered to.

Each basin commission would have a management office that would be responsible for developing a basin wide management plan, administering permits, collecting fees, and enforcing regulations. These offices should be staffed with relevant stakeholders such as industry experts, agriculture experts, sewage and water board managers, ecologists, hydrologists, and state representatives from the agencies affected by water such as the Department of Health and Hospitals and the Department of Agriculture and Forestry. The management office should be considered the technical hub of the basin commission and as such should only be staffed with qualified personnel. Each agency would

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211. *Water Resources Commission*, LA. ST. LEGIS., https://www.legis.la.gov/legis/BoardMembers.aspx?boardId=740 (last visited Oct. 9, 2016).

212. In the event that Louisiana adopts IRBM, these are not the only options for basin division, hydrologists are much better equipped to determine logical hydrological bounds.

213. *See generally* Tarrant Reg'l Water Dist. v. Herrmann, 133 S. Ct. 2120 (2013).

likely be required to appoint the best candidate to the staff of the management office. This will be a career position and as such should not be positions that are governor-appointed or voted on. The basin commission will also have an Advisory council, which can be modeled after the French Water Commissions and would consist of forty percent local representation such as mayors and city council representatives; forty percent users such as industry, agriculture, environmental groups, and domestic users; and twenty percent state representation. This Council could be voted on or appointed by the various stakeholders needing representation. The Council will assist in making policy determinations and oversee the management office. It will also be responsible for approving the management plan. While the Council will perhaps not be made up of technical experts as would be needed in the management office, they should be representative of the interests of their various groups, and as such voting would be a good avenue for appointment. Once approved by the Council, the management plans would be submitted to DEQ for final approval.

The Basin Management Plans should set goals for basin wide quality and quantity concerns and comprehensively manage surface and groundwater. In order to develop a comprehensive plan, each sector needs to be adequately represented in the management office. Once again, the quality that makes IRBM unique is the ability of each basin to develop a plan based on that basin's needs. This decentralized approach allows for the most comprehensive management of water throughout the state. The technical abilities of the management office will ensure that the plans address economic, environmental, and social needs unique to the basin. The plans will need to incorporate at the very least the already regulated pollutant limitations imposed by the CWA, however they may also include more regionally specific pollutant levels, as well as anything that DEQ and the Water Resources Commission deem a state priority. Further, they should set clear plans for implementing basin goals. For example, saltwater intrusion is an issue that will need to be addressed in the Mississippi Basin, particularly around Baton Rouge, and in the Pontchartrain basin in the coastal parishes; however, the ways in which they are addressed will likely vary greatly. The plans should also incorporate, where relevant, efforts already put forth by the state and its cities such as Louisiana's Comprehensive Master Plan for a Sustainable Coast and New Orleans' Urban Water Plan. Because water resources are ever evolving, it will be necessary to set a review schedule for the plans, preferably in the three to five year range. If developed properly, these plans will be comprehensive and cross-sectoral, giving all stakeholders a

say in the management of the water resources in the basin. Open communication and collaboration is the only way in which to implement IRBM, and holistically manage water.

In order for the State and the basin commissions to develop comprehensive management plans, it is important for them to understand the nature of the water within each basin, both quantity and quality, and current and future needs. Louisiana currently has a few projects underway that will create a platform for a comprehensive model. With a truly comprehensive model, the state will be able to manipulate data sets in order to understand the effects that certain actions and nonactions will have on the supply of water, as well as determine the amount of water needed to sustain the coast, which will be important for the implementation of the Coastal Master Plan. Current models are able to map portions of the state and its water systems, but a truly comprehensive model will exemplify the cohesive combination of surface water and groundwater and take into consideration ecological, environmental, and economic needs. The model system will safeguard our waters from thirsty states that may see any water reaching the Mississippi Delta and the Gulf of Mexico as gluttonous waste.[214] Unless Louisiana can show that Mississippi flows are necessary to sustain our coast, it will have a difficult time combating efforts to pipe its water elsewhere. This modelling system will be a key feature of basin management. As discussed above, each basin will be able to develop extensive knowledge of its resources and predict the amount of water it will need for various uses in the future and what water can scientifically be declared a surplus, which in turn will perhaps enable a water market to be developed. It is crucial to know the quantity and quality of Louisiana's water, but also the needs of the people and environment-which is why stakeholder involvement in the basin commissions will be vital.

Arguably, the most important feature of IRBM is stakeholder participation. As noted above, representatives of various stakeholder sectors will have a place in both the management offices and the advisory councils. The likely industrial sector participants include oil and gas, paper, timber, shipping, electric utilities, and chemical manufacturing. Agriculture and silviculture will also bring unique perspectives, as will the fishing industry, both commercial and recreational. All of these things make up the heritage of Louisiana to

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214. Historically, parched states have seen the Mississippi as a viable solution to their water shortages. *See*, *e.g.*, TEX. WATER DEV. BD., THE TEXAS WATER PLAN (Nov. 1968) http://www.twdb.texas.gov/publications/State_Water_Plan/1968/1968_Water_Plan.pdf.

some extent and therefore need to be given a stake in managing the waters of their respective basins. Municipalities will be integral in identifying the needs of the populations in each basin. If France is to be the model, it would be reasonable to delegate municipal supply and sanitation to the cities given their already developed infrastructure. Cities closer to the coast may also have offices dedicated to coastal resiliency similar to the Chief Resilience Officer position created by the City of New Orleans. These offices will be crucial when attempting to integrate the Coastal Master Plan into management plans, as well as identifying areas in which resiliency could be improved. Further, municipalities, and even some parishes,[215] have promulgated development and infrastructure plans in the face of climate change. The Greater New Orleans Urban Water Plan[216] emphasizes living with water in a city accustomed to pumping it out as fast as possible. Such plans will change the way the people in each basin live with, work in, and use water; this will need to be reflected in the basin management plan.

The advisory council will have the capacity to approve any management plan that is developed by the management office. It is here that stakeholder voting will play a prominent role. Though the management office will be staffed with the relevant talent necessary to develop a comprehensive and scientifically sound management plan, the advisory council will be responsible for ensuring that such plan is equitable to all parties affected by water use and management. To ensure that each stakeholder group is adequately represented in the vote, clear lines of communication must remain open between the advisory council members and their constituents. Prior to any voting, it will be important that the council members ensure that the constituents understand and are amenable to the proposed master plan. Collaboration among all stakeholder groups will be key and not limited to the representatives of the Advisory council. As noted previously, operating agreements serve commissions well in declaring stakeholder rights. They can also be used to describe the exact process in which Council members must

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215. Lafourche Parish is just one example of a parish that has developed resiliency and master plans. *See, e.g.*, LAFOURCHE PAR. GOV'T, LAFOURCHE PARISH COMPREHENSIVE RESILIENCY PLAN (Apr. 8, 2014), http://lafourchegov.org/home/showdocument?id=2418.

216. The Greater New Orleans Urban Water Plan is described as "a resiliency planning strategy to develop sustainable strategies for managing the water resources of St. Bernard and the East Banks of Jefferson and Orleans Parishes." It would be wise of the basin commissions to consider these plans as small scale examples of what water management at a basin-wide level could look like. Waggoner & Ball, *Greater New Orleans Urban Water Plan*, LIVING WITH WATER: A NEW VISION FOR DELTA CITIES, http://livingwithwater.com (last visited Oct. 19, 2016).

communicate with their constituents and the extent of their power. Some groups may abdicate decision-making power to the elected representative, while others may require extensive consultation amongst themselves. It is important, however, to ensure that one group does not have the ability to hinder a final vote by dragging out the consultation process. As such, the agreement should state the framework for communication, the extent of the power of each representative, and a strict timeframe in which to consult and vote.

As noted previously, a unanimous voting scheme is likely not the most efficient option given that it lends itself to voter deadlock. Instead, a majoritarian or super-majoritarian voting scheme would likely better serve the basin. It is important to remember that IRBM gives all stakeholders a cognizable right in the waters of the basin, which includes everything from industrial users, municipal users, riparians, and environmental groups interested in preserving water. IRBM encourages open communication in this way and by allotting each stakeholder the same rights, and therefore same avenue to redress, namely in the courts, each stakeholder has more incentive to participate in the compromise driven management plans. It would not be difficult for Louisiana to begin to recognize nonuse related stakeholder rights given its strong public trust. As it stands, the Constitution and the Civil Code provide that the state holds public property in trust for the use of the public. Further, the attorney general has stated that political subdivisions have the responsibility to uphold this trust. IRBM emphasizes transparency, which would enable stakeholders to stay well informed about the status of the water in the basin. Basin commissions will be required to balance social, economic, and environmental needs before alienating waters of the state. This transparency will allow stakeholders to meaningfully comment on whether or not water should be used in a proposed manner, if it is still needed for public use, or if it is qualified to be alienated. In the event that a stakeholder feels that the commission has overstepped its bounds or failed to uphold the management plan, IRBM will give them an avenue for redress. However, it is important to ensure that courts are not overwhelmed by an influx of water related claims. For this reason, it will be imperative to outline the exact parameters by which someone may submit a claim. Further, having a dispute resolution process established within a basin commission would lessen the burden on courts and allow stakeholders to settle their differences in front of experts on the matter.

This description is meant to be an outline of how IRBM could function in Louisiana, a more precise and detailed description of the

exact parameters of basins and their commissions will require extensive consultation with scientists and policy experts, which is beyond the scope of this paper. Once again the important factors in an IRBM system are decentralization, deconcentration, stakeholder involvement, and cross-sectoral cooperation. Louisiana has all of these tools available, as well as the promise of a code that can incorporate these values. Despite its historical negative reception in the United States, due largely to misunderstanding, IRBM is one of the premier examples of comprehensive water management and should be seriously considered as the needs of an ever growing population and an ever more endangered water supply continue to change. A new era calls for new options for water management.

IX. POSSIBLE PROBLEMS

Despite its success in Europe, IRBM is not politically favored in the United States and emphasizes a few policy points that will likely face harsh criticism in Louisiana. Further, given our federal structure, IRBM would need to fit Louisiana law as well as United State Constitutional and Federal requirements. This is not to say that it cannot, as varieties of IRBM have been adopted in various compact commissions, it will simply be a more contentious process. The following are Louisiana specific and constitutional issues that may plague IRBM.

The Mississippi River is a giant amongst nature's wonders. It is one of the longest and largest rivers, both in terms of size and deltaic regions, in the world. It drains forty percent of the United States, which includes a large portion of the nation's agriculture, and serves a shipping industry which, for example, carries an average of over 250 million tons through the Port of South Louisiana alone each year.[217] For this reason, it will be difficult to form one basin commission in Louisiana. The coordination will be extensive and the effect that management in Louisiana may have on the rest of the country will be profound. It may be in the state's interest to separate the Mississippi into two basin commissions that will be responsible for coordinating amongst themselves, but will have less to manage on a day-to-day basis. It is not recommended that Louisiana does as Arkansas does and leave the Mississippi out of all accounting entirely.[218] It is imperative that the Mississippi be managed in Louisiana. Unfortunately, Louisiana bears the brunt of the rest of the basin's runoff,

217. James A. Richardson, *The Economic Impact of the Ports of Louisiana*, PORT ASS'N LA. 5 (Mar. 2012), http://portsoflouisiana.org/wp-content/uploads/2012-final-report.pdf.

218. ARK. NAT. RES. COMM'N, THE ARKANSAS WATER PLAN 54 (2014) http://arkansaswaterplan.org/plan/ArkansasWaterPlan/2014AWPWaterPlan/AWPFinalExecutiveSumm.pdf.

and must deal with the resulting dead zone in the Gulf of Mexico.[219] The more that Louisiana can do to mitigate its own negative effects on this important ecosystem, the better off the delta and the Gulf will be. Further, more so than any other state, Louisiana depends on the river for not only economics, but for drinking water and coastal sustainability.[220] The Louisiana Coastal Master Plan depends heavily on sufficient quantities of water existing and its signature mud reaching the planned diversions and rebuilding the delta's ever shrinking wetlands.[221] For this reason, though daunting, the Mississippi needs to have skilled basin commissions safeguarding its waters.

Given its effect on the rest of the nation, it is likely that a compact is in the Mississippi's future. It would behoove Louisiana to be party to this compact. Fortunately, the technical and comprehensive nature of IRBM will equip Louisiana with extensive knowledge of its needs, therefore giving it significant bargaining power. As Arkansas grapples with the possibility of piping Mississippi water to east Texas, Louisiana is likely seeing the first of many attempts to move its sustaining water elsewhere. Until Louisiana can show that it needs the flows it is accustomed to, it will have a difficult time demonstrating why it should continue to receive them. As water scarcity becomes a more persistent issue, arguments over the Mississippi will become more frequent. A compact will ensure that federal law protects the states that need it the most. Further, it will spare Louisiana the exorbitant costs of an apportionment battle in the Supreme Court. A compact, but not just any compact, will likely be Louisiana's best chance at maintaining historic flows and preserving its delta.

Preserving water resources is the primary goal of IRBM, however this may come at the expense of property rights. This is not to say that IRBM destroys private property interests, in fact it often encourages public-private partnerships; however it does make sure that all water is accounted for in order to maintain comprehensive water management. Such accounting may mean that waters previously not touched by regulations are under an IRBM system. This could easily lead to conflicts and opposition as Louisiana would need to assert and clarify its jurisdiction over all waters of the state. Such assertion may trigger

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219. *2015 Gulf of Mexico Dead Zone 'Above Average*,*'* NOAA (Aug. 4, 2015) http://www.noaanews.noaa.gov/stories2015/080415-gulf-of-mexico-dead-zone-above-average.html.

220. The Greater New Orleans drinking water supply comes directly from the Mississippi River.

221. COASTAL PROT. & RESTORATION AUTH., LOUISIANA'S COMPREHENSIVE MASTER PLAN FOR A SUSTAINABLE COAST 134 (2012) https://issuu.com/coastalmasterplan/docs/coastal_master_plan-v2?e=3722998/2447530.

takings claims. As Professor Dan Tarlock notes, there has recently been hostility towards comprehensive environmental regulations.[222]

Louisiana may have begun this process with the adoption of the Coastal Master Plan, its groundwater management program, and its Cooperative Endeavor Agreement Process. Additionally, with the development of a comprehensive water code, it would be logical to adopt such concepts, or at the very least provide for the adoption of management plans that will allow regulation of traditionally private rights. Otherwise, it is likely that the state would be able to withstand a takings challenge because possible water regulations, especially in the coastal parishes, would be in the public interest. This is true because it is an attempt to restore the coast, which goes directly to the character of the state action.[223] Though a newly regulated property owner may face economic impacts, the state as a whole will face catastrophic economic, social, and environmental impacts if the Coastal Master Plan is thwarted. Louisiana may also consider adopting mitigation banks or substitute forms of compensation as other states have done.[224] Tarlock notes that such mitigation allowances have been shown considerable deference in state courts because "the right to create an environmental hazard is not constitutionally protected" and have supported mitigation schemes.[225] Currently, Louisiana has rules regarding wetland mitigation banks, overseen by the Office of Coastal Management of the Department of Natural Resources.[226] Should Louisiana adopt IRBM and manage all waters of the state in a comprehensive fashion, it may be prudent to continue to use and develop compensatory mitigation, not only for wetlands but also water sources. In the instance that groundwater, or

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222. A detailed discussion of takings is beyond the scope of this Article. *See also*, Tarlock, *supra* note 9, at 185.

223. The Penn Central Test weighs the investment-backed expectations and economic damage of the property owner against the character of the state action. State action always needs to be in the public interest to justify the harm to private property rights. Penn Central Transportation Co. v. New York City, 438 U.S. 104, 124 (1978).

224. The New Jersey Supreme Court has upheld development credits in the Pinelands of New Jersey. Transferable development rights were used by the Tahoe Regional Planning Agency in a Stream Environmental Zone and challenged in the Ninth Circuit, which dismissed the claim as unripe. It was appealed to the Supreme Court which declined to decide whether or not TDRs may be considered in deciding whether there has been a taking. Tarlock, *supra* note 9, at 187.

225. *Id.* at 186.

226. Louisiana requires compensatory mitigation for impacts to coastal resources located with the Louisiana Coastal Zone. Landowners may purchase habitat credits from any OCM approved mitigation bank, build their own mitigation project, or purchase credits from any approved in-lieu fee mitigation program. STATE OF LA. DEP'T OF NAT. RES. OFFICE OF COASTAL MGMT., IN-LIEU FEE MITIGATION PROGRAM 4 (Jan. 16, 2014), http://dnr.louisiana.gov/assets/OCM/permits/FINAL_ILF_INSTRUMENT_1_16_14.pdf.

conversely surface water, is imperiled in a region, permits may be issued for alternative sources of water for various users. In this way, a takings claim may be preempted by the possibility of an alternative right to water.

With the adoption of new regulations, takings will not be the only possible constitutional issue Louisiana would face. The state's strong public trust iterated in numerous places above will need to be upheld by the new basin commissions. The public trust would likely be a boon and a hindrance to a newly created basin commission. One of the enumerated goals of the new water code is to clarify the exact nature of waters of the state.[227] IRBM would require that all water be comprehensively managed. Should this be adopted, the Commissions' responsibility to protect the public trust would be expanded to include all water included in the trust. In fact, with such a strong public trust doctrine, Louisiana may be obligated to extend its oversight and management to all waters of the state. Such extension would likely assist the Commission in defending any takings challenges mentioned above. However, the public trust may also limit the authority of the Commissions. Recently, the Sabine River Authority attempted to contract with Texas to sell a portion of Toledo Bend Reservoir's water. Despite the Attorney General declaring that SRA had the authority to sell the waters in its charge, the sale was suspended until Louisiana develops a comprehensive water management plan.[228] There were concerns that the contract was too long and there were no safeguards to prevent the continued transfer of water should the reservoir levels fall, as well as the fact that there were no scientifically based long range projections of future Louisiana water needs.[229] Louisiana's strong public trust supports all of these arguments. SRA may very well have faced public trust violation challenges given the uncertainty in the contract, especially in terms of its failure to consider broader impacts geographically, ecologically, and temporally. What may comply with the public trust today may not in the future. As noted above, it will be integral to any possible alienation of state waters that the Commissions ensure that the water is no longer needed for the public use and that economic and environmental issues are weighed. *Save Ourselves* ensures that the public trust becomes part of any considerations for alienation of state property. The SRA sale was suspended pending a comprehensive water management plan. IRBM provides that plan and more through water

227. S. Res. 171, 2014 Leg. Reg. Sess. (La. 2014).
228. LA. STATE LAW INST., REPORT, *supra* note 133, at 10.
229. *Id.* at 11.

quality and quantity monitoring and modeling. For this reason, though the public trust may be strengthened further by a new code and IRBM, it will also be easier for each Commission to comply with the complete and accurate picture of water resources in each basin.

Finally, there is the issue of the polluter pays principle. Fundamental to the concept of polluter pays is "that those who generate pollution, not the government, should bear pollution costs."[230] Those that would feel the burden of such a requirement, namely industry and agriculture, also happen to have a lot of lobbying power and have shown great opposition to this and similar regimes such as pollution trading allowances. France, and the entirety of the EU, have adopted the polluter pays principle and cycle the payments back into the management system in order to maintain it. As noted above, this encourages polluters to use best management practice and develop new technologies in order to limit the amount of pollution discharge and water consumed, thereby reducing the amount that they will be required to pay. Despite its purported inclusion in the Clean Water Act through the requirement that companies meet standards at their expense, and in the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), polluter pays has been manipulated in the U.S. to conform to the traditionally reactionary character of regulations.[231] Requiring compliance with standards and clean up liability post-disaster is not the same as requiring money to be paid upfront to be used in the event that a disaster happens or to develop new technologies to reduce costs. Currently, U.S. companies have no incentive to do anything more than meet the minimum standards and hope that they do not suffer from a disaster. The polluter pays principle is not only a main tenant of IRBM, it will also ensure that the system can be maintained and that users make the most environmentally sound decisions.

Aside from simply writing polluter pays into the code and waiting for the legal challenges and lobbying to begin, Louisiana may have another avenue to explore to gradually reach the ideals of the polluter pays principle. Similar to the wetland mitigation banks, a pollution allowance trading scheme has worked at the federal level to reduce air emissions, notably the lead and sulfur dioxide trading programs under the Clean Air Act.[232] Companies would be allotted pollution or withdrawal allowances and would have the ability to trade them with other

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230. Nash, *supra* note 31, at 466.

231. 33 U.S.C. §§ 1251-1387 (1994 & Supp. III 1997); CERCLA § 107, 42 U.S.C. § 9607 (1994).

232. Discussion of these programs is beyond the scope of this Article.

companies through sales. This allows a company to explore its best financial option. It may be more economical for an older facility to simply purchase pollution allowances from another company rather than upgrade its facilities with new technology. The facility from which the allowances were purchased will now have fewer allowances and be required to upgrade. Though it will not achieve the same effects as the polluter pays principle, a pollution trading program will put the state on the road to corporate accountability. Though this will be a step in the right direction, if Louisiana wishes to adopt IRBM fully, it would do well to adopt the polluter pays principle. The polluter pays principle would be a boon to the coast and save a financially strapped state government millions of dollars in enforcement and pollution subsidies.

X. CONCLUSION

Louisiana water law is on the brink of change. Whether or not the new water code adopts IRBM, one thing is certain, water will be managed in an entirely new way simply by virtue of being managed. The state is in a unique position, with very little to undo as it moves forward with a water code, a Coastal Master Plan in place to forge a new future for coastal Louisiana, and abundant water resources with which to fulfill and achieve both of these things. Given its history with France and its distinct, arguably European, culture, it would not be impossible, and would be beneficial to adopt IRBM. As demand for water increases throughout the country, Louisiana will face more frequent requests and even legal challenges for the water that many see as going to waste. It is imperative that whatever new management system Louisiana adopts will be poised to handle the ever more volatile water environment. France and the European Union lead as examples of effective IRBM. The comprehensive nature of this system would equip Louisiana with all of the tools necessary to protect its public trust, the economic, social, and environmental needs of its people and ecosystems, and start to rebuild a coast that is integral to the economy of the nation. If Louisiana were to follow its French heritage and adopt IRBM, it would be a shining example of comprehensive water management in the United States and perhaps lead the nation in the water revolution it so desperately needs.