

# Tulane Institute on Water Resources Law & Policy

## NAVIGATING THE LEGAL AUTHORITIES OF THE MISSISSIPPI RIVER: AN INTRODUCTION TO KEY PLAYERS AND CONCEPTS

A White Paper by the Tulane Institute on Water Resources Law & Policy<sup>1</sup>

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### OVERVIEW

Few waterbodies measure up to the Mississippi River. It provides drinking water for roughly twenty million people and supports over one and a half million jobs.<sup>2</sup> Beyond that, the Mississippi River Basin drains forty-one percent of the continental United States and supports roughly ninety-two percent of the nation’s agricultural exports.<sup>3</sup> However, record setting droughts and floods over the past decade have highlighted emerging issues that threaten not only communities along the Mississippi River, but also the world economy.<sup>4</sup> The Global Institute for Water Security’s Executive Director recently said, “Water is the messenger bringing the bad news of climate change.”<sup>5</sup> This statement rings especially true for the Mississippi River. As the changing climate alters priorities and needs along the Mississippi River Corridor, new challenges

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<sup>2</sup> Kathryn Youngblood et. al., MISSISSIPPI RIVER PLASTIC POLLUTION INITIATIVE 2021 SCIENCE REPORT, UNIV. OF GA.5- 6 (Sep. 2021).

<sup>3</sup> NAT’L INTEGRATED DROUGHT INFO. SYS., DROUGHT TRADE FOOTPRINT STUDY OF THE MISSISSIPPI RIVER, (Oct. 2019), available at <https://www.drought.gov/sites/default/files/2020-10/DroughtTradeFootprint.pdf>.

<sup>4</sup> Jeff Masters & Bob Henson, *Mississippi River Record-Low Water Levels Ease Some, but Long-Term Forecast is Dry*, YALE CLIMATE CONNECTIONS (Oct. 24, 2022), <https://yaleclimateconnections.org/2022/10/mississippi-river-record-low-water-levels-ease-some-but-long-term-forecast-is-dry/>.

<sup>5</sup> Abraham Lustgarten, *As Colorado River Dries, the U.S. Teeters on the Brink of Larger Water Crisis*, PROPUBLICA (Aug. 25, 2022), <https://www.propublica.org/article/colorado-river-water-shortage-jay-famiglietti>.

and opportunities will arise. Whether and in what manner these issues can be addressed depends on myriad factors, from scientific developments to political will to funding availability. Knowing what entities have authority and where that authority comes from is an essential first step in addressing emerging challenges.

This paper will highlight key actors and management practices on the Mississippi River to better understand these authorities<sup>6</sup> and the laws surrounding them. It serves as a starting point to guide further research to construct a more holistic framework to plan for future water management in the Mississippi River Corridor. While the Mississippi River Basin encompasses over thirty states, this paper limits the scope of state authorities to those on the main stem of the Mississippi River— Minnesota, Wisconsin, Iowa, Illinois, Missouri, Kentucky, Tennessee, Arkansas, Mississippi, and Louisiana (“Corridor States”). Part I provides an overview of the main governmental authorities and their legal frameworks. Part II explores the legal authorities which govern water resource management in the Corridor. Part III discusses laws pertaining to environmental protection of the Mississippi River’s resources. Finally, Part IV concludes by identifying potential future challenges and possibilities under the current system.

## **I. GOVERNANCE IN THE MISSISSIPPI RIVER CORRIDOR**

Under the American legal system, governing authority is shared among the federal government, states, localities, and Native American tribes.<sup>7</sup> Water resource management is no exception. It takes the combined effort from all levels of government to ensure the Mississippi River can continue to meet the nation’s needs. As it flows from its headwaters in Minnesota<sup>8</sup> to

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<sup>6</sup> The term authorities as used in this paper refers to the entities with decision-making powers and responsibilities on aspects related to the Mississippi River. While this discusses the most relevant agencies and statutes, it by no means captures every decision maker or law that could arise in the River’s management.

<sup>7</sup> U.S. CONST. amend. X.

<sup>8</sup> Minn. Pollution Control Ag., *Mississippi River – Headwaters*, <https://www.pca.state.mn.us/watershed-information/mississippi-river-headwaters> (last visited July 26, 2023).

the Gulf of Mexico, the Mississippi River comes under the jurisdiction of at least nine federal agencies, ten states and their respective water authorities, several Tribal nations, and over one hundred localities.<sup>9</sup> And that's just on the main stem of the River. At each level of government are entities which have expressly been given or delegated legal authority over various aspects of water resources, ranging from flood management to water allocation to pollution abatement. Before diving into a discussion of the statutory regimes, this Part introduces background principles and walks through the entities that have authority on the Mississippi River.

#### **a. Federal Authorities**

The federal government's primary mechanism for asserting control over navigable waters stems from Congress's authority to regulate commerce.<sup>10</sup> That power, enumerated in the Constitution, encompasses authority to regulate both foreign and interstate commerce.<sup>11</sup> It then follows that Congress must have authority over navigable waters used as highways of commerce between states.<sup>12</sup> While the definition of navigability changes depending on doctrine or law at hand,<sup>13</sup> it is indisputable that the main stem of the Mississippi River is navigable. This first opened the door for federal authority to regulate the Mississippi River and its tributaries to maintain navigation and facilitate the movement of goods across interstate lines. Expressions of Congress' power to regulate interstate commerce has expanded over time, with the central inquiry now being whether the regulated activity, alone or in the aggregate, substantially affects

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<sup>9</sup> See Scott Siff & David Mears, *The Mississippi River Basin: A National Treasure, A National Challenge*, 12 TUL. ENV'T L. J. 293, 306-07 (1999); Miss. River Cities and Towns Initiative, *What We Do*, <https://www.mrcti.org/about-us> (last visited July 18, 2023).

<sup>10</sup> U.S. CONST. art I, § 8.

<sup>11</sup> *Gibbons v. Ogden*, 22 U.S. 1, 197 (1824) (“The power of Congress, then, comprehends navigation, within the limits of every State in the Union; so far as that navigation may be, in any manner, connected with ‘commerce with foreign nations, or among the several States, or with the Indian tribes’”).

<sup>12</sup> *Id.* at 189-90.

<sup>13</sup> There are at least six definitions of navigability used in water law that apply to the Mississippi River in various contexts, but most are beyond the scope of this publication. See *U.S. v. Willow River Power Co.*, 324 U.S. 499 (1945); *PPL Mont., LLC v. Mont.*, 565 U.S. 576, (2012).

interstate commerce.<sup>14</sup> This provides a pathway to manage waterways for additional related purposes, such as flood control, pollution abatement, and habitat protection.

The important role of water resources in commerce is reflected in the federal navigational servitude, a legal doctrine that protects the federal government’s power to control and regulate navigable waters in the interest of commerce, irrespective of state and private rights.<sup>15</sup> It applies to those lands below the ordinary high-water mark and extends to nonnavigable streams and tributaries of navigable waters.<sup>16</sup> The servitude is dominant, superseding any conflicting rights, usually those of private landowners.<sup>17</sup> If the government asserts the navigational servitude in connection with a project that interferes with private lands, it is not considered a taking under the Fifth Amendment, thus relieving the requirement to provide just compensation, at least for interference with those lands the servitude applies to.<sup>18</sup> However, private property receives a considerable amount of deference in our rights-based systems, and the government may—and has—compensated landowners despite the servitude’s existence.<sup>19</sup>

Several federal statutes address navigation and navigable waters specifically. Some are broadly applicable, while others deal with the Mississippi River in particular. This subpart outlines the roles of the two primary federal entities with authority over affecting the Mississippi River—the U.S. Army Corps of Engineers and Environmental Protection Agency. However, several other federal agencies play important roles in managing the Mississippi River.<sup>20</sup>

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<sup>14</sup> United States v. Lopez, 514 U.S. 549, 559 (1995); Wickard v. Filburn, 317 U.S. 111 (1942).

<sup>15</sup> United States v. Virginia & Elec. Power Co., 365 U.S. 624, 628 (1961).

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

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

<sup>18</sup> U.S. v. Rands, 389 U.S. 121, 123 (1967).

<sup>19</sup> BARTON H. THOMPSON, JR., ET. AL., LEGAL CONTROL OF WATER RESOURCES 613 (6th ed. 2018) (“[t]he Court’s renewed interest . . . in protecting the interests of private property owners has led it to be more skeptical of government claims that the navigation servitude immunizes it from a duty to compensated”).

<sup>20</sup> Other agencies, which will be mentioned throughout, include the Department of Interior through the U.S. Fish and Wildlife Service and National Park Service, the Department of Agriculture, and the Department of Commerce

## i. U.S. Army Corps of Engineers

Federal law provides that the Secretary of the Army has the authority to prescribe regulations for “the use, administration, and navigation of the navigable waters of the United States as in his judgment the public necessity may require for the protection of life and property . . . covering all matters not specifically delegated by law to some other executive department.”<sup>21</sup> Thus, the U.S. Army Corps of Engineers (“Army Corps”) is the main federal agency tasked with managing the nation’s water resources. Congress first authorized the Army Corps as a permanent branch in 1802 and established its civil works mission in 1824, which mainly focused on surveying roads and canal routes.<sup>22</sup> As the nation grew, so did the Army Corps and its responsibilities, particularly over water resources.<sup>23</sup> In 1879, recognizing a greater need for comprehensive water management, Congress established the Mississippi River Commission (“MRC”) to oversee efforts to improve navigation, prevent floods, and promote commerce in the Mississippi River Valley.<sup>24</sup> Headquartered in Vicksburg, Mississippi, the MRC consists of seven members and is tasked with the oversight of navigation and flood control works.<sup>25</sup> MRC’s jurisdiction has expanded over time and now extends across a broader region of the Mississippi River Valley.<sup>26</sup> It serves in an advisory capacity for Army Corps districts along the River, providing guidance and policy recommendations for MR&T works.

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through the National Oceanic and Atmospheric Administration. Scott Siff & David Mears, *The Mississippi River Basin: A National Treasure, A National Challenge*, 12 TUL. ENV'T. L. J. 293, 306 (1999).

<sup>21</sup> 33 U.S.C. § 1.

<sup>22</sup> U.S. GOV’T ACCOUNTABILITY OFFICE, GAO 10-819, ARMY CORPS OF ENGINEERS: ORGANIZATIONAL REALIGNMENT COULD ENHANCE EFFECTIVENESS, BUT SEVERAL CHALLENGES WOULD HAVE TO BE OVERCOME 9 (2010).

<sup>23</sup> *Id.*

<sup>24</sup> U.S. Army Corps of Eng’rs, *MRC History*, <https://www.mvd.usace.army.mil/About/Mississippi-River-Commission-MRC/History/> (last visited May 15, 2023).

<sup>25</sup> 33 U.S.C. § 642 (three are selected from the Army Corps, one from the National Ocean Survey, and the remaining three from civilian life, two of whom must be civil engineers). The MS River and Tributaries Project is discussed in the context of the Flood Control Act, found in the following subsection.

<sup>26</sup> MRC jurisdiction includes much of South Louisiana and the area around Cairo, Illinois. 33 U.S.C. §§ 653, 653a.

For management purposes, the Army Corps separates the Mississippi River into an Upper and Lower Division at the point where the Ohio River merges with the Mississippi, highlighting the unique needs and differences between the two.<sup>27</sup> The Army Corps operates six districts across the Mississippi River: St. Paul, Rock Island, and St. Louis on the Upper River; Memphis, Vicksburg, and New Orleans on the Lower River.<sup>28</sup> Each of these districts works pursuant to the same overarching missions of navigation and flood control, but each office has more specific focus areas that hinge on public need and local risk. For example, the New Orleans District, the largest Army Corps office in the country, devotes substantial resources to ecosystem restoration and enhancement, stormwater management, and its Hurricane Storm Damage Risk Reduction System.<sup>29</sup> Farther upriver, the St. Louis District has a major focus on habitat restoration, as do other Upper River districts.<sup>30</sup> In addition, the districts may be tasked with management of various tributaries in the Mississippi Valley.<sup>31</sup>

## ii. Environmental Protection Agency

Established in 1970, the **U.S. Environmental Protection Agency** (“EPA”) is the primary federal agency tasked with improving environmental quality in the United States.<sup>32</sup> It oversees a wide range of programs, from air pollution permitting to chemical safety to emergency land management.<sup>33</sup> EPA develops and enforces regulations to implement environmental laws,

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<sup>27</sup> See U.S. Army Corps of Eng’rs, *Navigation Charts*,

<https://www.mvr.usace.army.mil/Missions/Navigation/Navigation-Charts/> (last visited Mar. 29, 2023).

<sup>28</sup> U.S. Army Corps of Eng’rs, *Mississippi Valley Division*, <https://www.mvd.usace.army.mil/> (last visited Mar. 27, 2023).

<sup>29</sup> U.S. Army Corps of Eng’rs New Orleans Dist., *Hurricane & Storm Damage Risk Reduction System*, <https://www.mvn.usace.army.mil/Missions/HSDRRS/> (last visited May 8, 2023).

<sup>30</sup> U.S. Army Corps of Eng’rs, *Habitat Restoration*, <https://www.mvr.usace.army.mil/Missions/Environmental-Stewardship/Upper-Mississippi-River-Restoration/Habitat-Restoration/> (last visited May 10, 2023).

<sup>31</sup> For instance, the St. Paul District is tasked with managing St. Croix and Minnesota Rivers; Rock Island manages the Illinois Waterway; Memphis manages the Arkansas River; New Orleans manages a broad coastal program.

<sup>32</sup> Env’t Prot. Ag., *The Origins of EPA*, <https://www.epa.gov/history/origins-epa> (last visited July 18, 2023).

<sup>33</sup> Env’t Prot. Ag., *Our Mission and What We Do*, <https://www.epa.gov/aboutepa/our-mission-and-what-we-do> (last visited May 15, 2023).

administers grant programs to state and local entities, studies emerging challenges, and informs the public of environmental issues.<sup>34</sup> Most federal environmental law is administered through a cooperative federalism model, thus EPA provides technical and financial assistance to state, local, and tribal environmental agencies to implement enforcement of federal programs.<sup>35</sup> The Office of Water is EPA’s main authority over water quality and watershed protection. This includes administering laws that impact the Mississippi River, including the Clean Water Act and Safe Drinking Water Act.<sup>36</sup> EPA has ten regional offices across the country, and several cover the main stem of the Mississippi River, which passes through Regions Four, Five, Six, and Seven.<sup>37</sup>

#### **b. Regional and Multistate Authorities**

Both federal law and multistate initiatives provide frameworks to facilitate collective decision-making and cooperative management. First, the Upper Mississippi River has longstanding cooperative management efforts and guidance. Since 1981, the **Upper Mississippi River Basin Association** (“UMRBA”), a governor-established forum dedicated to interstate water management, has guided the states of Minnesota, Wisconsin, Iowa, Illinois, and Missouri in collaborative efforts on the Mississippi River.<sup>38</sup> Congress then passed the **Upper Mississippi River Management Act** in 1986 “[t]o ensure the coordinated development and enhancement of the Upper Mississippi River system[.]”<sup>39</sup> In its enactment, Congress approved UMRBA’s master

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

<sup>35</sup> *See id.*

<sup>36</sup> Env’t Prot. Ag., *About the Office of Water*, <https://www.epa.gov/aboutepa/about-office-water>, (last visited July 21, 2023).

<sup>37</sup> Env’t Prot. Ag., *Regional and Geographic Offices*, <https://www.epa.gov/aboutepa/regional-and-geographic-offices> (last visited July 13, 2023).

<sup>38</sup> Upper Miss. River Basin Ass’n, *About*, <https://umrba.org/about> (last visited July 11, 2023).

<sup>39</sup> 33 U.S.C. § 652(a)(2). It defines the geographic scope of the Upper Mississippi River system as “river reaches having commercial navigation channels on the Mississippi River main stem north of Cairo, Illinois; the Minnesota River, Minnesota; Black River, Wisconsin; Saint Croix River, Minnesota and Wisconsin; Illinois River and Waterway, Illinois; and Kaskaskia River, Illinois.” 33 U.S.C. § 652 (b)(1).

plan to guide future water policy decisions in the Upper Basin.<sup>40</sup> The provides a pathway for federal agencies and the UMRBA states to implement programs that promote recreation, protect fish and wildlife habitat, and address water quality issues, as well as providing funding.<sup>41</sup> It also lays out a program to encourage “productive uses of dredged material.”<sup>42</sup> It further authorizes the Army Corps to enter into cooperative agreements with UMRBA “to promote and facilitate active State government participation in the river system management, development, and protection.”<sup>43</sup> Its habitat rehabilitation and enhancement program, today known as the Upper Mississippi River Restoration Program, was the first large-scale monitoring program of its kind.<sup>44</sup> Most recently, Congress authorized funding for the Lower Mississippi River Basin demonstration program, which could mirror the Upper River’s program.<sup>45</sup>

As the Mississippi River flows south, excess nutrients from stormwater and agricultural runoff accumulate in its flows which eventually make their way into the Gulf of Mexico and some of its estuaries, resulting in harmful algal blooms that cause a massive dead zone.<sup>46</sup> Much of the action needed to address the problem goes all the way up the river, requiring the efforts of federal agencies, state governments, and farmers. In 1997, EPA formed the **Mississippi**

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<sup>40</sup> 33 U.S.C. § 652(b)(2); UPPER MISS. RIVER BASIN ASS’N, MASTER PLAN FOR THE UPPER MISSISSIPPI RIVER SYSTEM (Jan. 1, 1982).

<sup>41</sup> See 33 U.S.C. § 652(d)-(h). For example, it authorizes the Secretary and Upper Mississippi River states, to undertake “a program for the planning, construction, and evaluation of measures for fish and wildlife habitat rehabilitation and enhancement; and implementation of a long-term resource monitoring, computerized data inventory and analysis, and applied research program, including research on water quality issues affecting the Mississippi River (including elevated nutrient levels) and the development of remediation strategies.” 33 U.S.C. § 653(e)(1)(A)(i)-(ii).

<sup>42</sup> 33 U.S.C. § 652(i).

<sup>43</sup> 33 U.S.C. § 652 (b)(2), (4).

<sup>44</sup> UPPER MISS. RIVER BASIN ASS’N, *supra* note 40.

<sup>45</sup> It will prioritize ecosystem restoration and flood risk reduction projects, providing environmental assistance to non-Federal interests. Water Resources Development Act of 2022, Pub. L. 117-263, § 8145 (2022).

<sup>46</sup> U.S. GEOLOGICAL SURVEY FACT SHEET 2006-3005, GULF OF MEXICO DEAD ZONE—THE LAST 150 YEARS 1 (Mar. 2006).



**River/Gulf of Mexico Hypoxia Task Force** to address the issue.<sup>47</sup> The Task Force consists of federal, state, and tribal departmental representatives that meet periodically to “provide executive level direction and support for coordinating the actions of participating organizations working on nutrient management within the Mississippi River/Gulf of Mexico Watershed.”<sup>48</sup> It has released several strategies and made reports to Congress, but it has not been very effective in achieving reduction goals.<sup>49</sup> However, in 2021 the Infrastructure Investment and Jobs Act dedicated additional federal funds to the furtherance of the Task Force’s Action Plan, so it could be more effective in the coming years.<sup>50</sup>

Not all frameworks are as formal. The **Mississippi Interstate Cooperative Resource Association** (“MICRA”) comprises twenty-eight state and federal agencies/entities which manage interstate water and fish resources.<sup>51</sup> Formed in 1989, MICRA’s mission is “to improve the conservation, management, development and utilization of interjurisdictional fishery resources (both recreational and commercial) in the Mississippi River Basin through improved coordination and communication among the responsible management entities.”<sup>52</sup> MICRA takes a basin-wide approach to interjurisdictional fishery management by serving as an umbrella organization for cooperative research and programs focusing on aquatic invasive species and habitat restoration.<sup>53</sup> The existence of a collaboration like MICRA is important, but it does not have Congressional authorization. Although its individual member agencies possess legal

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<sup>47</sup> Env’t Prot. Ag., *History of the Hypoxia Task Force*, <https://www.epa.gov/ms-htf/history-hypoxia-task-force> (last visited July 21, 2023).

<sup>48</sup> CHARTER OF THE MISSISSIPPI RIVER/GULF OF MEXICO WATERSHED NUTRIENT TASK FORCE (May 1998).

<sup>49</sup> For example, in 2001, the Task Force set an initial reduction goal for the dead zone by 2015. In 2015, the target was not met, and the deadline was extended to 2035. MISSISSIPPI RIVER/GULF OF MEXICO WATERSHED NUTRIENT TASK FORCE 2015 REPORT TO CONGRESS 10 (2015).

<sup>50</sup> Infrastructure Investment and Jobs Act, Pub. L. No. 117-58, 135 Stat. 429.

<sup>51</sup> Miss. Interstate Coop. Resource Ass’n, *Association Members*, <http://micrarivers.org/> (last visited July 13, 2023).

<sup>52</sup> *Id.*

<sup>53</sup> Miss. Interstate Coop. Res. Ass’n, *Aquatic Invasive Species*, <http://micrarivers.org/ais/> (last visited May 8, 2023).

authority in federal, state, or tribal affairs, MICRA by itself lacks authority to enforce law or policy.

### c. State Authorities

While a considerable amount of Mississippi River authority is in the province of the federal government, some aspects of water management are the domain of the states.<sup>54</sup> Various entities at the state level have authority over water resources in the Corridor. States retain ownership of lands underlying navigable waters, which passed from the federal government to the state upon its admission to the Union.<sup>55</sup> This principle comes from the equal footing doctrine, which provided that states admitted to the Union after the original thirteen were given the same rights, sovereignty, and jurisdiction as the original states, putting them on an equal footing with those states.<sup>56</sup> With the passage of title to states came the authority to manage those navigable waters and underlying lands within their borders.

The legal interface between public and private property right heavily influences control over water resources within a state's borders. English common law provided a basic notion that the public retained certain inalienable rights in navigable waters.<sup>57</sup> *Jus publicum* refers to the rights of the public, and *jus privatum* refers to private right by title.<sup>58</sup> Because the public holds an interest in water resources, the *jus privatum*, or private title, is inherently limited by the *jus publicum*.<sup>59</sup> These notions, along with states retaining ownership of navigable waterbottoms, built the foundations of the public trust doctrine ("PTD"). With respect to water, the PTD stands

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<sup>54</sup> Joseph Dellapenna, *The Evolution of Riparianism in the United States*, 95 MARQ. L. REV. 53 (2012).

<sup>55</sup> Pollard v. Hagan, 44 U.S. 212 (1845).

<sup>56</sup> *Id.* at 222.

<sup>57</sup> Joseph Sax, *Changing Conceptions of Property and Sovereignty in Natural Resources: Questioning the Public Trust Doctrine*, 71 IOWA L. REV. 631, 636 (1986).

<sup>58</sup> *Id.*

<sup>59</sup> Shively v. Bowlby, 152 U.S. 1, 12 (1894) ("for the *jus privatum* of the owner or proprietor is charged with and subject to that *jus publicum* which belongs to the king's subjects.")

for the notion that the public's interest in commerce, navigation, and fishing are so important that those resources cannot be alienated by the state.<sup>60</sup> The scope and application of the public trust are matters of state law. At a base level, a state's PTD "outlines public and private rights in water and submerged lands" and how it defines various components of those rights.<sup>61</sup> Common to most states' doctrines is the protection of the public's interest in navigability, fishing, and boating.<sup>62</sup>

Each state takes a unique approach in defining what beds and banks are protected, what boundaries distinguish private from public title, and what public uses are protected.<sup>63</sup> In particular, the definition of navigability for public trust purposes differs by state.<sup>64</sup> Some Corridor States have extended their public trust protections to include ecological values.<sup>65</sup> In Wisconsin, the PTD protects the public use of trust lands for navigation, fishing, recreation, and has even been expanded to include scenic beauty.<sup>66</sup> However, other states have done little with their PTDs. Iowa', for example, only protects public access to waterways on public lands, and other natural resources potentially subject to the public trust doctrine must be on state property as well.<sup>67</sup> Beyond public trust considerations, common and civil law developments in water and property law continue to shape state approaches to water resources management, which will be discussed further in Part II.

#### **d. Tribal Authorities**

Other groups hold inherent powers similar to federal and state entities. Native Americans called the Mississippi River Valley home long before colonial settlers arrived. Despite conflict,

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<sup>60</sup> *Id.* at 49-50.

<sup>61</sup> Robin Kundis Craig, *A Comparative Guide to the Eastern Public Trust Doctrines: Classifications of States, Property Rights, and State Summaries*, 16 PENN ST. L. REV. 1, 4 (2007).

<sup>62</sup> THOMPSON ET. AL., *supra* note 19, at 658.

<sup>63</sup> Craig, *supra* note 61, at 4.

<sup>64</sup> *Id.* at 14.

<sup>65</sup> MINN. STAT. ANN. § 103A.201.

<sup>66</sup> *Muench v. Pub. Serv. Comm'n*, 53 N.W.2d 514, 519-20 (Wis. 1952).

<sup>67</sup> *State v. Sorenson*, 436 N.W.2d 358, 361-63 (Iowa 1989).

oppression, and changes to the ecosystems that sustain these communities, federally recognized tribes remain important authorities on the River, and their rights in water and natural resources cannot be overlooked. Federally recognized tribes are distinct, sovereign entities, possessing many of the same powers as the federal and state governments.<sup>68</sup> Yet it should be noted that some Native American tribes do not have federal recognition and are acknowledged, if at all, at the state level.<sup>69</sup> One potential source of tribal authority comes from specific language in treaties with the federal government, which differs by tribe. Fifteen federally acknowledged tribes reside within a fifty-mile radius of the Mississippi River.<sup>70</sup> Additionally, as provided by law, tribal governments may assume permitting authority over federal environmental programs in the same manner as state governments.<sup>71</sup>

Moreover, some tribes may have authority to claim water through reserved rights. Federal reserved water rights are created and defined by Congress and often conflict with state laws.<sup>72</sup> They typically arise in connection with Native American reservations and national parks, forests, and monuments. The Supreme Court gave life to a reserved rights doctrine in *Winters v. United States*, which held that when Congress reserves land for a certain purpose, it also reserves water sufficient to fulfill that reservation's purpose.<sup>73</sup> In the decision, the Court laid out required elements of necessity, which have been adopted and applied in subsequent cases, that must be shown to assert reserved rights.<sup>74</sup> First, the hydrologic and climatic conditions must be such that

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<sup>68</sup> NAT'L CONG. OF AM. INDIANS, TRIBAL NATIONS AND THE UNITED STATES: AN INTRODUCTION, (Feb. 2019).

<sup>69</sup> Nat'l Conference of State Legislatures, *State Recognition of American Indian Tribes*, <https://www.ncsl.org/quad-caucus/state-recognition-of-american-indian-tribes> (last visited July 12, 2023).

<sup>70</sup> BUREAU OF INDIAN AFFAIRS, U.S. DOMESTIC SOVEREIGN NATIONS: LAND AREAS OF FEDERALLY RECOGNIZED TRIBES, INDIAN LANDS, <https://biamaps.doi.gov/indianlands/> (accessed Apr. 18, 2023).

<sup>71</sup> 33 U.S.C. § 1377(e).

<sup>72</sup> THOMPSON ET. AL., *supra* note 19, at 1042-43.

<sup>73</sup> 207 U.S. 564, 576-77 (1908).

<sup>74</sup> Jacqueline Goodrum, *Taking on Water: Winters, Necessity, and the Riparian East*, 43 WM. & MARY ENV'T L. & POL'Y REV. 807, 817 (2019).

reserved rights are necessary.<sup>75</sup> Second, there must be a showing that applicable state law does not guarantee the tribe sufficient water necessary to fulfill the reservation's purpose.<sup>76</sup>

Although *Winters* has not been asserted successfully in the eastern United States, it has the potential to arise as climate change alters water availability, undermining riparianism's fundamental assumption that water will be sufficient for all users.<sup>77</sup> This is certainly a possibility along the Mississippi River, especially when considering changing precipitation and drought patterns in the region and the number of federal tribes living near the main stem.<sup>78</sup> Several tribes in the Eastern United States have brought suit under *Winters* unsuccessfully.<sup>79</sup> Virginia's Supreme Court did leave open the possibility, however, noting that "the reasoning forming the basis of the *Winters* doctrine has, to present day, been applied only through federal law does not preclude the same reasoning from potentially having force on the state level."<sup>80</sup> Whether state-recognized tribes can assert federal water rights will remain to be seen, but such a possibility adds further considerations quantifying water rights along the Mississippi River. However, any further discussion must consider the impacts of the recent Supreme Court decision in *Arizona v. Navajo Nation*, which held that the U.S. government has no obligation to take steps to identify or secure the water needed for the Tribe's reservation.<sup>81</sup>

#### **e. Local Authorities**

As the Mississippi River makes its way to the Gulf, it comes within the jurisdiction of numerous cities and towns. But the scope of a locality's authority can vary widely. A local

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<sup>75</sup> See *Winters*, 207 U.S. at 576.

<sup>76</sup> *Id.* at 577; Goodrum, *supra* note 74, at 818.

<sup>77</sup> THOMPSON ET. AL., *supra* note 19, at 39.

<sup>78</sup> See generally Goodrum, *supra* note 74; BUREAU OF INDIAN AFFAIRS, *supra* note 70.

<sup>79</sup> *Mattaponi Indian Tribe v. Commonwealth of Va.*, 72 Va. Cir. 444, \*1 (2007); see *Narragansett Indian Tribe v. Guilbert*, 934 F.2d 4, 5 (1991).

<sup>80</sup> *Mattaponi*, at \*10.

<sup>81</sup> *Arizona v. Navajo Nation*, 143 S.Ct. 1804, 1816 (2023).

government's authority on the Mississippi River depends on state constitutional limits and home rule charters, as well as jurisprudential standards pertaining to state preemption of local power.<sup>82</sup> For the most part, local governments lack control over water quality standards and water allocation, which is handled at the state level.<sup>83</sup> Yet it is worth noting that localities may have ordinances or other policies in place that impact certain aspects and uses of the Mississippi River and its tributaries. For example, local zoning ordinances can restrict certain development along waterways or require buffer zones to better protect streams.<sup>84</sup> Moreover, localities often serve as nonfederal sponsors for project and program implementation pursuant to federally funded infrastructure or conservation programs in which they provide financial and operational support.<sup>85</sup> There is an existing forum for local government collaboration. Since 2012, the Mississippi River Cities and Towns Initiative ("MRCTI"), comprised mayors from cities along the Corridor, have worked together to promote policies supporting economic and environmental stewardship in the Corridor.<sup>86</sup> While MRCTI does not have legal authority as a body, it has brought together leaders to push for unified federal management and support responsible local policy, which is an important first step for future collaboration.

Finally, public entities at the local level operate in geographically defined localities and watersheds. Drainage districts typically levy taxes and acquire property to implement systems to manage stormwater runoff, floodwaters, and related matters. These operate pursuant to local authority delegated by state governments, so district organization and management will differ by

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<sup>82</sup> See A. Dan Tarlock, *The Potential Role of Local Governments in Watershed Management*, 20 PACE ENV'T L. REV. 149, 161-65 (2002).

<sup>83</sup> *Id.* at 163-65.

<sup>84</sup> *Id.* at 166.

<sup>85</sup> See e.g., Fed. Emer. Mgmt. Ag., *Flood Mitigation Assistance Grant Program* <https://www.fema.gov/grants/mitigation/floods> (last visited May 17, 2023).

<sup>86</sup> Miss. River Cities and Towns Initiative, *What We Do*, <https://www.mrcti.org/about-us> (last visited July 18, 2023).

state.<sup>87</sup> Also at the local level are soil and water conservation districts which participate in flood risk reduction works,<sup>88</sup> conservation efforts, and other aspects of resource management in forestry, agriculture, and related contexts.<sup>89</sup> There is much more happening at the local level beyond drainage and conservation districts, but they play a central role in the broad range of considerations that come with multi-jurisdictional water management.

## II. WATER MANAGEMENT IN THE MISSISSIPPI RIVER CORRIDOR

Following the Louisiana Purchase, Congress declared that the Mississippi River “shall be and forever remain a public highway.”<sup>90</sup> It follows that the Army Corps’ primary mission is maintaining and improving navigation. As history showed the importance of unifying navigation and flood management, the Army Corps grew into its role as the central authority over the Mississippi River’s water resources. However, other matters of water management, such as allocation and property interests, are governed at the state level. This Part explores both the federal and state management.

### a. Navigation and Flood Control

In 1899, Congress enacted the Refuse Act, which prohibited the discharge of refuse material into navigable waters unless permitted by the Army Corps.<sup>91</sup> It was part of a bigger statute, the **Rivers and Harbors Act** (“RHA”), which gave the Army Corps exclusive authority over a wide range of activities in navigable waters.<sup>92</sup> The Army Corps operates a permitting program pursuant to its RHA authority. Under Sections 9 and 10 of the RHA, any construction

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<sup>87</sup> See e.g., MO. REV. STAT. ANN. § 243.020; 70 ILL. COMP. STAT. ANN. 605 / 3-1-3-31.

<sup>88</sup> Ass’n of State Floodplain Managers, *About ASFMP*, <https://www.floods.org/about/> (last visited May 26, 2023).

<sup>89</sup> See John H. Davidson, *State Soil Erosion Control Laws, Conservation Plans, and Nonpoint Pollution*, 1 GREAT PLAINS NAT. RES. J. 421 (1996).

<sup>90</sup> 33 U.S.C. § 10 (1811).

<sup>91</sup> 33 U.S.C. § 407.

<sup>92</sup> See generally 33 U.S.C. §§ 401-426p.

and obstructions in a navigable water must be permitted by the Army Corps.<sup>93</sup> For RHA purposes, navigable waters are defined as “subject to the ebb and flow of the tide shoreward to the mean high water mark, and/or are presently used, or have been used in the past, or may be susceptible to use to transport interstate or foreign commerce.”<sup>94</sup> Section 9 covers larger structures—specifically dams, dikes, bridges, and causeways—in navigable waters, which require Army Corps approval, while Section 10 gives the Army Corps permitting authority over smaller constructions, as well as the excavations of navigable waterways.<sup>95</sup> The passage of landmark environmental laws in the 1970s and new judicial interpretations of the RHA opened the door for greater environmental considerations in Army Corps operations.<sup>96</sup> Now, the Army Corps administers Section 404 of the Clean Water Act alongside the EPA and state agencies.<sup>97</sup> This originated from the RHA program, but Congress expanded the Army Corps’ jurisdiction in 1977 to regulate the dredging and filling of jurisdictional wetlands and streams in addition to navigable waterways.<sup>98</sup> This regulatory program will be further explored in Part III.

All permit applications before the Army Corps must undergo a public interest review by the corresponding Army Corps District.<sup>99</sup> This process weighs a variety of factors with respect to public and private needs and cumulative effects of a permitted activity.<sup>100</sup> Along with a public

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<sup>93</sup> 33 U.S.C. §§ 401, 403.

<sup>94</sup> 33 C.F.R. §§ 321.2(a), 322.2(a).

<sup>95</sup> *Id.*; 33 C.F.R. § 321.1, 322.3(a).

<sup>96</sup> For example, in *Zabel v. Tabb*, the Army Corps denied a dredge and fill permit due to concerns that it would conflict with Congress’s goals outlined in the Fish & Wildlife Coordination Act. 430 F.2d 199, 202 (5th Cir. 1970). Also during this time, Congress passed several landmark environmental laws that still serve as permitting authorities for today’s environmental programs. *See e.g.*, National Environmental Policy Act, Pub. L. No. 91-190, 83 Stat. 852 (1969); Clean Air Act, Pub. L. No. 91-604, 84 Stat. 1676 (1970); Clean Water Act, Pub. L. No. 92-500, 86 Stat. 816 (1972).

<sup>97</sup> 33 U.S.C. § 1344(d).

<sup>98</sup> Pub. L. No. 95-217 (1977) (codified at 33 U.S.C. § 1344).

<sup>99</sup> *See* 33 C.F.R. §§ 320.4(a), 323.2(g), (h).

<sup>100</sup> Factors potentially include “conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shore erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production,



interest review, applications must be reviewed for their effects on wetlands; fish and wildlife; water quality; cultural, historic, scenic and recreational values; effects on limits to territorial seas; activities affecting coastal zones; as well as considerations of property ownership.<sup>101</sup> When granting a permit, the corresponding district may impose special conditions to satisfy public interest requirements or comply with other federal law.<sup>102</sup> At the request of a permittee, third party, or on their own motion, a district engineer may reevaluate a permit and determine whether to “modify, suspend, or revoke a permit as may be made necessary by considerations of the public interest.”<sup>103</sup> The Army Corps also issues general permits for activities with minimal adverse environmental impacts.<sup>104</sup> These nationwide permits, which are reissued every five years, cover a wide range of ordinary activities that do not require individualized review—such as fish and wildlife harvesting, aquatic habitat restoration, temporary recreational structures, and various infrastructure-related maintenance.<sup>105</sup>

Following the RHA of 1899, additional legislation expanded Army Corps operations beyond navigation. In 1927, major flooding events along the Mississippi River highlighted the need for unified stormwater management throughout the lower Mississippi River Valley. Up until this point, levees could only be constructed on the condition that control would be turned over to levee districts for maintenance.<sup>106</sup> The following year, Congress enacted the **Flood Control Act of 1928**, solidifying federal responsibility for flood control by authorizing the Army

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mineral needs, considerations of property ownership and, in general, the needs and welfare of the people.” 33 C.F.R. § 320.4(a)(1)-(3).

<sup>101</sup> See generally 33 C.F.R. § 320.4. It is unclear how *Sackett v. EPA* will impact the public interest review process.

<sup>102</sup> 33 C.F.R. § 325.4.

<sup>103</sup> 33 CFR § 325.7(a).

<sup>104</sup> See U.S. ARMY CORPS OF ENG’RS NATIONWIDE PERMIT REISSUANCE (Jan. 2022), <https://usace.contentdm.oclc.org/utis/getfile/collection/p16021coll7/id/19764>.

<sup>105</sup> 33 U.S.C. § 330.6(b); see U.S. ARMY CORPS OF ENG’RS, INDEX OF 2021 NATIONWIDE PERMITS, CONDITIONS, DISTRICT ENGINEER’S DECISION, FURTHER INFORMATION, AND DEFINITIONS, available at <https://usace.contentdm.oclc.org/utis/getfile/collection/p16021coll7/id/20099>.

<sup>106</sup> 33 U.S.C. § 702c.

Corps to perform comprehensive work in the Mississippi River Valley.<sup>107</sup> This law, which is regularly reauthorized,<sup>108</sup> provided for extensive levee construction, diversion channels, spillways, and other risk reduction infrastructure to minimize flood risk from major storm events. Within this statute, Congress created the Mississippi River and Tributaries Project (“MR&T”), which charged the Army Corps, under MRC’s oversight, with holistic flood management on the Lower River and its alluvial valley.<sup>109</sup> The MR&T consists of four main focus areas: levees and floodwalls, channel improvement and stabilization, tributary basin improvements, and floodways.<sup>110</sup> The MR&T currently encompasses 3,787 miles of authorized levees and floodwalls, with remaining works to be completed.<sup>111</sup>

The Army Corps is bound by other mandates as it carries out projects on the Mississippi River. Enacted in 1990, the **Coastal Wetlands Planning, Protection, and Restoration Act** (“CWPPRA”) gave the Army Corps new duties focused on coastal restoration.<sup>112</sup> The law provides funding for large-scale coastal restoration in Louisiana.<sup>113</sup> While it has a specific geographic focus and programmatic scope, it must be read in conjunction with other federal statutes. For instance, CWPPRA contains a provision requiring the Army Corps to ensure all navigation and flood control activities are consistent with the purposes of Louisiana’s restoration plan submitted pursuant to the law, requiring consultation with EPA and U.S. Fish and Wildlife

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<sup>107</sup> Flood Control Act of 1928, 45 Stat. 534 (codified at 33 U.S.C. §§ 702-702o).

<sup>108</sup> Flood Control Act of 1936, Pub. L. No. 74-738, 49 Stat. 1570; Flood Control Act of 1944; Pub. L. No. 78-534, 58 Stat. 887; Flood Control Act of 1970, Pub. L. No. 91-611, 84 Stat. 1818.

<sup>109</sup> The term “main stem” refers to the Lower Mississippi River from Cape Girardeau, Missouri, to the mouth of the River at the Gulf of Mexico. 33 U.S.C. § 702a.

<sup>110</sup> U.S. Army Corps of Eng’rs, *Mississippi River and Tributaries Project*, <https://www.mvd.usace.army.mil/About/Mississippi-River-Commission-MRC/Mississippi-River-Tributaries-Project-MR-T/> (last visited July 26, 2023).

<sup>111</sup> U.S. ARMY CORPS OF ENG’RS MISS. VALLEY DIV., *LEVEE SYSTEM EVALUATION REPORT FOR THE NATIONAL FLOOD INSURANCE PROGRAM 1* (Apr. 2014).

<sup>112</sup> 16 U.S.C. § 3956.

<sup>113</sup> 16 U.S.C. §§ 3951-3953.

Service.<sup>114</sup> As such, it appears the mandate could apply to other Army Corps authorities, such as CWA permitting and work under the MR&T.<sup>115</sup> However, the last restoration plan pursuant to CWPPRA was submitted in 1999.<sup>116</sup> Ongoing state and federal work in Louisiana now follow plans developed under WRDA and Louisiana’s Comprehensive Master Plan for a Sustainable Coast.<sup>117</sup> Thus, what plan the consistency requirement provision refers to, and the extent of its enforceability is not altogether settled.<sup>118</sup> Nevertheless, it is something that arguably has wide application.

### b. Project Delivery

In the decades following 1928, congressional authorization and financing of flood management works prioritized large-scale, holistic planning and management. However, Congress ultimately abandoned this practice of financing large-scale, basin-level projects in favor of episodic reauthorizations known as the **Water Resources Development Acts** (“WRDAs”).<sup>119</sup> WRDAs are legislative packages typically reauthorized every two years which dictates the Army Corps’ public works agenda by commissioning studies, creating water programs, and authorizing project construction.<sup>120</sup> Considering that WRDAs incorporate proposals from individual members of Congress, House and Senate committees, and other executive sources, it is as much a politically-driven process as it is science- and data-driven.<sup>121</sup>

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<sup>114</sup> 16 U.S.C. § 3952(d)(1).

<sup>115</sup> See Devin Lowell, *Ensuring Consistency: Louisiana Coastal Restoration Through the Lens of the Ram Terminal and the Mid-Barataria Sediment Diversion*, 27 TUL. ENV’T L. J. 299, 315-16 (2014).

<sup>116</sup> WETLANDS CONSERVATION AND RESTORATION AUTHORITY OF LA., COASTAL WETLANDS AND CONSERVATION PLAN FISCAL YEAR 1999-00 (Mar. 29, 1999).

<sup>117</sup> COASTAL PROT. AND RESTORATION AUTH. OF LA., LOUISIANA’S COMPREHENSIVE MASTER PLAN FOR A SUSTAINABLE COAST (4th ed. 2023).

<sup>118</sup> Lowell, *supra* note 115, at 316.

<sup>119</sup> See A. Dan Tarlock, *United States Flood Control Policy: The Incomplete Transition from the Illusion of Total Protection to Risk Management*, 23 DUKE ENV’T L. & POL’Y F. 151, 175 (2012).

<sup>120</sup> See generally U.S. Army Corps of Eng’rs, *Water Resources Development Act*, <https://www.usace.army.mil/Missions/Civil-Works/Water-Resources-Development-Act/#Additional> (last visited May 17, 2023).

<sup>121</sup> Helen Ingram, *Reason and Rationality in Water Politics*, 116 J. OF CONTEMPORARY WATER RES. 50 (1990).

The 1986 WRDA cemented this fragmented planning approach by imposing “a variety of cost-sharing formulas for new projects, accepting the post-New Deal argument that small projects were only of local importance.”<sup>122</sup> This process still dominates the civil works program.

Normally, the Army Corps cannot undertake projects without first having authorization and funding from Congress, which often begins with WRDA or in one-time legislative packages.<sup>123</sup> Before Congress can authorize a project or appropriate funds, Congress must first authorize a feasibility study, based on a reconnaissance report, to investigate the water resource problem or opportunity. Feasibility studies include scientific analyses, formulation of alternatives and selection process, as well as costs and benefit analyses.<sup>124</sup> Depending on the findings in the feasibility phase, the next step is for Congress to authorize the project itself. While the Corps oversees the majority of responsibilities, authorizations typically require a state or local sponsor as well.<sup>125</sup> These include cost-share provisions, for both construction and operations, which control the percentage of funds the Army Corps must contribute, with the remaining costs to be paid by the local sponsor. Cost-share ratios vary across project type and may be subsequently altered via legislation.<sup>126</sup> Unsurprisingly, financial restraints at the state and local level may hinder execution and completion of a study or project. Finally, once the non-federal cost-share is secured, construction can begin if and when funds are appropriated, which is done through

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<sup>122</sup> Tarlock, *supra* note 119, at 175.

<sup>123</sup> For example, the Infrastructure Investment and Jobs Act authorized various Army Corps projects. *See* Pub. L. No. 117-58, 135 Stat. 429 (2021); *see also* CONG. RES. SERV. N11723 INFRASTRUCTURE INVESTMENT AND JOBS ACT (IIJA) FUNDING FOR U.S. ARMY CORPS OF ENGINEERS (USACE) CIVIL WORKS: POLICY PRIMER (Apr. 18, 2023).

<sup>124</sup> These economic analyses substantially influence water resource project decision-making at the federal level, so the formula for calculating present costs and future benefits is of great importance, as these projects typically have high up-front costs but accrue significant benefits once completed. *See* CONG. RES. SERV. R44594, DISCOUNT RATES IN THE ECONOMIC EVALUATION OF U.S. ARMY CORPS OF ENGINEERS PROJECTS 1 (Aug. 15, 2016).

<sup>125</sup> NICOLE T. CARTER, CONG. RES. SERV., R45185, ARMY CORPS OF ENGINEERS: WATER RESOURCE AUTHORIZATION AND PROJECT DELIVERY PROCESS 10 (Apr. 19, 2019).

<sup>126</sup> The recent WRDA established a permanent 65/35 (federal/state) cost-share formula for inland waterway projects. Pub. L. No. 117-263, § 8157(a) (2022); Jay Landers, *WRDA 2022 Act Revises Levee Safety, Inland Waterway Projects*, AM. SOC’Y OF CIVIL ENG’RS (Jan. 5, 2023), <https://www.asce.org/publications-and-news/civil-engineering-source/civil-engineering-magazine/article/2023/01/wrda-2022-act-revises-levee-safety-inland-waterway-programs>.

annual energy and water resources appropriations.<sup>127</sup> There are additional regular streams of revenue dedicated to Army Corps projects.<sup>128</sup> An exception to the typical project delivery process is the Army Corps' continuing authorities program, which refers to a group of legislative authorizations through which the Army Corps can carry out certain types of water resources projects without having to get specific congressional approval.<sup>129</sup> This applies to ongoing regular programs, including aquatic ecosystem restoration, regional sediment management projects, and shore damage prevention, to name a few.<sup>130</sup>

As reflected by WRDA authorizations over the past decade, the various civil works projects carried out by the Army Corps do not operate in a vacuum; in fact, many authorizations now incorporate multiple objectives in one project.<sup>131</sup> The Army Corps is often tasked with aquatic ecosystem restoration projects in conjunction with improving navigation and reducing flood and storm risk.<sup>132</sup> The Army Corps supports a variety of these types of projects along the Mississippi River, and that work is expanding.<sup>133</sup>

### **c. Water Allocation and Management at the State Level**

Federal management is essential to the health of the Mississippi River, but it is important to recognize the role states play. As discussed previously with respect to the public trust, the beds

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<sup>127</sup> CARTER, *supra* note 125, at 8.

<sup>128</sup> Many of these sources apply to specific states or regions and not the Army Corps as a whole. 16 U.S.C. § 3952(e) (annual funding under the Coastal Wetlands Planning, Protection and Restoration Act); 43 U.S.C. § 1337(g) (revenue stream from offshore oil and gas leases for Gulf states).

<sup>129</sup> There are nine programs in total under CAP. U.S. ARMY CORPS OF ENG'RS EP 1105-2-58: CONTINUING AUTHORITIES PROGRAM (Mar. 2019).

<sup>130</sup> U.S. Army Corps Eng'rs, *Continuing Authorities Program*, <https://www.nae.usace.army.mil/missions/public-services/continuing-authorities-program/> (last visited May 26, 2023).

<sup>131</sup> For example, Congress recently authorized construction funds for the Navigation and Ecosystem Sustainability Program which includes small scale projects for navigation improvement and wildlife habitat restoration on the Upper Mississippi River.

<sup>132</sup> CARTER *supra* note 125, at 1.

<sup>133</sup> See U.S. Army Corp's of Eng'rs Rock Island Dist, *Habitat Restoration*, <https://www.mvr.usace.army.mil/Missions/Environmental-Stewardship/Upper-Mississippi-River-Restoration/Habitat-Restoration/> (last visited July 11, 2023).

of navigable rivers and lakes are subject to certain public rights and uses, but state private property regimes overwhelmingly shape water allocation and supply. In the Eastern United States, the foundation of these systems comes from riparianism, a historic legal doctrine with roots in civil law and common law. Riparian rights arise from the ownership of land abutting natural watercourses, giving such landowners the right to make use of water as it passes through their property, so long as the use does not cause unreasonable harm to other riparian owners.<sup>134</sup> Originally, riparianism in the United States followed the natural flow theory, which precluded any use of water by any riparian owner that would change the water from its natural, unaltered state.<sup>135</sup> Yet American jurisprudence shaped a unique doctrine over time.<sup>136</sup> Reasonable use, rather than natural flow, became the cornerstone of riparian water use, and states took varying approaches to refining and increasingly regulating reasonable use standards within their borders.<sup>137</sup> As is the case with public trust, riparian systems differ by state, but these systems considered together necessarily influence regional project planning. Riparian rights must be evaluated when a project or government activity might interfere with them, which often comes up in the context of navigation and flood projects. They also play an important role in planning future water supply and emergency management.

Each of the Mississippi River Corridor States embraces aspects of riparianism.

Minnesota,<sup>138</sup> Wisconsin,<sup>139</sup> Iowa,<sup>140</sup> Kentucky,<sup>141</sup> Arkansas,<sup>142</sup> and Mississippi<sup>143</sup> employ

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<sup>134</sup> Dellapenna, *supra* note 54, at 55.

<sup>135</sup> Merritt v. Parker, 1 N.J. 460, 463 (1795).

<sup>136</sup> See Dellapenna, *supra* note 54, at 53.

<sup>137</sup> See Red River Roller Mills v. Wright, 15 N.W. 167, 168-69 (Minn. 1883).

<sup>138</sup> MINN. STAT. ANN. §§ 103G.255-413.

<sup>139</sup> WISC. STAT. ANN. §§ 30.132, 30.18, 30.195.

<sup>140</sup> IOWA CODE ANN. § 455B.267.

<sup>141</sup> KY. REV. STAT. ANN. §§ 151.125, 151.230.

<sup>142</sup> ARK. CODE ANN. § 15-22-215, ARK. NAT. RES. CODE §§ 301.1, 304.1.

<sup>143</sup> MISS CODE ANN. §§ 51-3-1–51-3-55.

regulated riparian systems of some variety. This kind of system differs from traditional riparianism in several ways, primarily in that it is administered by a state agency that analyzes proposed water uses and potential impacts before allowing new uses.<sup>144</sup> Regulated riparianism typically ranks uses and can better manage resources in times of shortage or other emergencies. Permits may be required for consumptive uses, diversions, and other constructions. The remaining four Corridor States— Illinois, Missouri, Tennessee, and Louisiana—take a more hybrid approach.<sup>145</sup> While these states adhere to similar principles as regulated riparian states, they lack holistic regulatory oversight and normally water withdrawals, diversions, and various uses.<sup>146</sup> Centralized decision-making and state administration under a regulated riparian system can inform state water policies and initiatives, thereby impacting water availability and allowable uses in the River and its tributaries.<sup>147</sup> These systems could become more important as proposals to divert Mississippi River water out West come up more frequently with climate change and worsening drought conditions.<sup>148</sup> A comprehensive regulated riparian system can consider a wide range of factors that will aid in future planning for individual states and perhaps broader regions.

Unsurprisingly, the main stem of the Mississippi River is seen by most people, and the law, as a surface stream. In fact, it is more than that; it is connected to a series of aquifers— or groundwater reservoirs— that are part of its system of tributaries and distributaries. Accordingly, it would be illogical to cast aside a discussion of groundwater statutes and regulations, as

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<sup>144</sup> Dellapenna, *supra* note 54, at 87-88.

<sup>145</sup> 615 ILL. COMP. STAT. ANN. 5/18; MO. REV. STAT. ANN. § 256.410; TENN. CODE ANN. § 69-7-301–69-7-309; LA. CIV. CODE arts. 657, 658. While Louisiana’s system has nuanced differences as it is not a common law state, its jurisprudence tracks the common law riparian doctrine of reasonable use. Mark Davis, *A Toe in the Water: A Primer on Louisiana Riparian Law and Emerging Issues*, ANNUAL INST. ON MINERAL L. 261, 268 (2009).

<sup>146</sup> THOMPSON ET. AL. *supra* note 19, at 140.

<sup>147</sup> Robert Abrams, *Water Allocation by Comprehensive Permit Systems in the Eastern United States: Considering a Move Away from Orthodoxy*, 9 VA. ENV’T L. J. 255, 262-63 (1990).

<sup>148</sup> Brittney J. Miller, *Pumping Mississippi River Water West: Solution or Dream?* AP NEWS (Feb. 2, 2023), <https://apnews.com/article/science-arizona-state-government-california-disaster-planning-and-response-automated-insights-earnings-be28e7e022007c82cdee63ca2b9ed555>.

interaction between surface water and groundwater is significant.<sup>149</sup> This is a reality that state water laws and federal authorizations like MR&T are beginning to recognize. While the U.S. Supreme Court has held that groundwater is an article of commerce, meaning it is subject to congressional regulations, there is no federal law governing groundwater.<sup>150</sup> Thus, groundwater management is largely a matter of state law, and it varies widely throughout the Mississippi River Corridor. It has historically been considered a separate entity from surface water, and the laws surrounding groundwater developed separately as well. Five legal doctrines<sup>151</sup> guide state approaches to groundwater law, which have changed further as states merge groundwater with surface water programs and pass new groundwater laws.

Most corridor states' groundwater regimes follow either American reasonable use or regulated riparianism.<sup>152</sup> These doctrines both utilize reasonable use principles, where groundwater is shared among users, to varying extents.<sup>153</sup> In the past, the traditional reasonable use approach did not limit groundwater withdrawal amounts but geographically limited the use of pumped water to land overlying the aquifer.<sup>154</sup> It has been molded over time into the American reasonable use rule, which directs courts to resolve disputes by allocating groundwater “on the basis of the reasonableness of the competing uses,” moving away from previous rules allowing unlimited pumping.<sup>155</sup>

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<sup>149</sup> U.S. GEOLOGICAL SURVEY, USGS CIRCULAR 1139 NATURAL PROCESSES OF GROUND-WATER AND SURFACE-WATER INTERACTION, [https://pubs.usgs.gov/circ/circ1139/htdocs/natural\\_processes\\_of\\_ground.htm](https://pubs.usgs.gov/circ/circ1139/htdocs/natural_processes_of_ground.htm)

<sup>150</sup> *Sporhase v. Nebraska*, 458 U.S. 941, 953-54 (1982).

<sup>151</sup> The five doctrines are absolute dominion, correlative rights, reasonable use, appropriative rights, and regulated riparianism. Joseph Dellapenna, *A Primer on Groundwater Law*, 49 *IDA. L. REV.* 265, 269 (2013).

<sup>152</sup> There are some exceptions. For example, some claim Tennessee uses more of a correlative rights, or proportional sharing, approach than reasonable use. *Id.* at n.192. Further, Louisiana is an outlier from the rest of the Corridor States in that it follows rule of capture, as groundwater is governed by the state's mineral code. *See* LA. CIV. CODE art. 490.

<sup>153</sup> Dellapenna, *supra* note 151, at 285.

<sup>154</sup> *Id.* at 292.

<sup>155</sup> *Id.* at 286.



Other Corridor States which previously employed reasonable use have transitioned to a regulated riparian groundwater model, similar to riparian surface water management.<sup>156</sup> Riparian rights do not actually attach to percolating groundwater, but permitting considerations and preferred uses are weighed in a similar manner as surface waters within states that follow this approach.<sup>157</sup> Each state takes a different approach to groundwater management, and the details of such programs are beyond the scope of this paper. A brief overview of Corridor States' groundwater laws is included in the Index.

### **III. ENVIRONMENTAL PROTECTION**

Given its massive geographic scope and multiple uses, preventing environmental degradation of the Mississippi River and its surrounding ecosystems is of significant national interest.<sup>158</sup> There is a wide of range of federal environmental programs that are implemented at various levels of government. Some statutes contain enforceable regulatory standards, some establish voluntary programs, while others authorize public works and appropriate related funds. The following Part covers federal laws that pertain to water quality and environmental protection more broadly. It begins with an overview of regulatory federal laws then proceeds with an overview of federal laws establishing programs, funding, or projects.

#### **a. Federal Regulation and Enforcement Regimes**

A foundational piece of federal environmental law is the **National Environmental Policy Act** (“NEPA”), which governs procedural requirements for environmental considerations in “proposals for legislation and other major Federal actions significantly affecting the quality of

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<sup>156</sup> *Id.* at 303.

<sup>157</sup> *Id.*

<sup>158</sup> U.S. GEOLOGICAL SURVEY, USGS CIRCULAR 1133, CONTAMINANTS IN THE MISSISSIPPI RIVER: 1987-92 at 10 (R.H. Meade ed. 1995).

the human environment...”<sup>159</sup> At a base level, it imposes certain thresholds that trigger an in-depth review of various actions and requires federal agencies to provide detailed statements on adverse environmental impacts and alternatives.<sup>160</sup> Because the federal government is heavily involved in Mississippi River management, NEPA applies to most Army Corps or other federal activities on the River. When an environmental review must be undertaken, it typically consists of a study detailing adverse environmental effects, an overview of alternative actions, grounds for project selection, and potential mitigation provisions.<sup>161</sup> NEPA also requires an analyses of compliance with other federal laws implicated by the type of activity as well as impacted area.<sup>162</sup> Moreover, the scope of subject matter covered in a NEPA review depends on implementing regulations from the White House Council on Environmental Quality.<sup>163</sup> However, NEPA is a procedural statute, meaning it governs the decision-making process rather than the outcome. So, while NEPA cannot be used to achieve a specific outcome, it does require public participation, and federal agencies can be liable if they do not comply NEPA’s requirements.

Recent changes to NEPA have narrowed its traditional scope of review in several ways.<sup>164</sup> First, the threshold determination of whether NEPA applies has been changed and now only requires consideration of only reasonably foreseeable environmental impacts and effects.<sup>165</sup> Next, where previously an agency would have an independent list of actions routinely excluded from NEPA for its own purposes, an agency may now adopt any other federal agency’s categorical exclusions to avoid NEPA’s requirements.<sup>166</sup> Further, the recent changes impose time

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<sup>159</sup> 42 U.S.C § 4332(2)(C).

<sup>160</sup> *Id.*

<sup>161</sup> *Id.*

<sup>162</sup> The National Historic Preservation Act, Marine Mammals Act, and the Coastal Zone Management Act are a few examples.

<sup>163</sup> *See generally* 40 C.F.R. §§ 1501.1-1501.12.

<sup>164</sup> Builder Act, Pub. L. No. 188-5, § 321 (2023).

<sup>165</sup> Pub. L. No. 188-5, § 102(2) (to be codified at 42 U.S.C. § 4332(2)).

<sup>166</sup> Pub. L. No. 188-5, § 109 (to be codified at 42 U.S.C. § 4336c).

and page limit for reviews.<sup>167</sup> Last, the new NEPA changes provides that an agency “is not required to undertake new scientific or technical research unless the new scientific or technical research is essential to a reasoned choice...”<sup>168</sup> Given these changes came in June of 2023, it is too early to analyze the impacts, but they may be significant across all sectors, especially for projects dealing with water resources.

### **i. Water quality statutes**

Water quality in interstate bodies of water is governed primarily by federal law but is often implemented by corresponding state agencies. Since 1972, the **Clean Water Act** (“CWA”), has been the primary national regulatory law protecting water quality.<sup>169</sup> Essentially, the CWA prohibits unpermitted pollutant discharges into Waters of the United States (“WOTUS”). In using a broad and undefined term like WOTUS, Congress left the task of defining the term to the Army Corps and EPA via rulemaking.<sup>170</sup> The CWA sets minimum pollutant standards that apply nationwide, but implementation authority is shared among federal, state, and Tribal agencies. Its two main programs are permitting regimes that serve as the primary mechanism for enforcement. The EPA administers the National Pollutant Discharge Elimination System (“NPDES”) in Section 402, which regulates point source pollution—direct discharges of pollutants into WOTUS.<sup>171</sup> This includes industrial discharges, wastewater, and municipal effluent.<sup>172</sup> The Army Corps administers the dredge and fill program in Section 404, which was incorporated into the CWA in 1977.<sup>173</sup> Under this Section, the Army Corps

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<sup>167</sup> Pub. L. No. 188-5, § 107(e) (to be codified at 42 U.S.C. § 4336a(e)).

<sup>168</sup> Pub. L. No. 188-5, § 106(b)(3)(B) (to be codified at 42 U.S.C. § 4336(b)(3)(B)).

<sup>169</sup> 33 U.S.C. § 1362(7).

<sup>170</sup> 33 U.S.C. § 1361(a).

<sup>171</sup> 33 U.S.C. §§ 1342(a)(1), 1344(a).

<sup>172</sup> The CWA defines pollutants as “dredged spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water.” 33 U.S.C. § 1362(6).

<sup>173</sup> See 33 U.S.C. § 1344.

administers a compensatory mitigation program.<sup>174</sup> These enforceable permitting conditions require the permittee to offset impacts resulting from the loss of wetlands to ensure drainage capacity and other ecosystem services are maintained.<sup>175</sup> While the Army Corps handles most aspects of Section 404, EPA plays several important roles as well. Under Section 404(e), EPA can review and veto an Army Corps permitting decision.<sup>176</sup> Further, EPA has enforcement authority and determines whether a state may assume responsibility for the Section 404 program.<sup>177</sup>

As is common in U.S. environmental regulation, the CWA employs a cooperative federalism framework, with shared authority between federal and state in program implementation. States and tribes can assume administrative responsibility for CWA permitting upon demonstration that their program complies with the minimum federal standards.<sup>178</sup> Certain aspects of CWA administration are exclusively reserved to states, a key one being Section 401 water quality certification. Before any federal permit impacting water quality may be issued, a state must first either grant, deny, or waive certification.<sup>179</sup> In addition, Section 303 of the CWA, which deals with nonpoint source pollution, requires states to identify impaired water bodies within their boundaries where existing discharge limits are not stringent enough to achieve overall water quality standards.<sup>180</sup> Following this process, states then set total maximum daily

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<sup>174</sup> See 33 C.F.R. §§ 332.1-332.8.

<sup>175</sup> 33 C.F.R. § 332.3.

<sup>176</sup> 33 U.S.C. § 1344(g).

<sup>177</sup> 33 U.S.C. § 1344(h)(1).

<sup>178</sup> 33 U.S.C. §§ 1342(b); 1344(g). All but three states have assumed authority and administer their own section 402 programs; yet only three states and one Tribe run their own section 404 program. Env't Prot. Ag., *NPDES State Program Authority*, <https://www.epa.gov/npdes/npdes-state-program-authority> (last visited Mar. 27, 2022).

<sup>179</sup> 33 U.S.C. § 1341.

<sup>180</sup> 33 U.S.C. § 1313(d).

loads, or TMDLs, to achieve waterbody-specific effluent requirements, and from there implement a plan to meet the standard.<sup>181</sup>

Federal jurisdiction under the CWA has changed over time and was recently limited in *Sackett v. Environmental Protection Agency*.<sup>182</sup> Previously, if a wetland had a significant nexus to navigable body of water, it was subject to federal regulation.<sup>183</sup> However, the Supreme Court in *Sackett* held that “the CWA extends to only those wetlands that are ‘as a practical matter indistinguishable from waters of the United States.’”<sup>184</sup> As the case was brought pursuant to a Section 404 challenge, its potential impact on other CWA programs is unclear. What this means for the wetlands along the Mississippi River and its tributaries will depend on Army Corps and EPA interpretations of the ruling. In any event, the main stem of the Mississippi River and its main tributaries are indisputably covered by the law.<sup>185</sup>

Pollutant discharges are not the only aspect of water quality regulation—water sources for public use and consumption are also regulated. Because the Mississippi River serves as a major source of drinking water for communities across the country, the **Safe Drinking Water Act** (“SDWA”) comes into play. The SDWA is a regulatory statute, administered by the EPA, that works alongside the CWA to protect water quality, but it applies specifically to public water systems and not waterbodies themselves.<sup>186</sup> The EPA sets monitoring requirements and treatment standards that are enforceable nationwide. National Primary Drinking Water Regulations set

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<sup>181</sup> *Id.*

<sup>182</sup> 143 S.Ct. 1322 (2023).

<sup>183</sup> *Rapanos v. United States*, 547 U.S. 715, 780-82 (Kennedy, J., concurring).

<sup>184</sup> *Id.* at 1341 (citing *Rapanos*, 547 U.S. at 755 (2006) (plurality opinion)).

<sup>185</sup> The debate typically centers on what tributaries, wetlands, and other nonnavigable features may be regulated. The Supreme Court recently narrowed the CWA’s coverage of wetlands. *Sackett v. Env’t Prot. Agency*, 143 S.Ct. 1322 (2023).

<sup>186</sup> A public water system is defined as “a system for the provision to the public of water for human consumption through pipes or other constructed conveyances, if such system has at least fifteen service connections or regularly serves at least twenty-five individuals.” 42 U.S.C. § 300f(4)(A).

enforcement standards for various contaminants and treatment requirements that are protective of public health.<sup>187</sup> As of now, EPA regulates ninety contaminants.<sup>188</sup> Unlike the CWA, the implementation of the SDWA falls on a broader spectrum of actors, from state public health agencies to municipal providers and private companies operating public water systems.<sup>189</sup> Enforcement actions may be brought by both the EPA and those states that have assumed SDWA implementation.<sup>190</sup>

## ii. Other environmental statutes

Many other federal laws impact Mississippi River management, even if they do not deal with water resource management specifically. Sometimes, the threat of contamination can trigger other legal mechanisms. Depending on the risk of harm, the **Comprehensive Environmental Response, Compensation, and Liability Act** (“CERCLA”), known more commonly as Superfund, provides for federal response to actual or threatened releases of hazardous materials that endanger public health and the environment.<sup>191</sup> While it applies in limited circumstances, as only those sites that meet CERCLA’s criteria can be placed on the national list for cleanup and remediation, it nevertheless impacts the Mississippi River. While the EPA has primary authority over Superfund, the Army Corps provides technical assistance to EPA if water resources are impacted.<sup>192</sup> According to EPA’s National Priorities List map of Superfund sites, there are

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<sup>187</sup> 42 U.S.C. § 300g-1.

<sup>188</sup> Env’t Prot. Ag., *Drinking Water Regulations*, <https://www.epa.gov/dwreginfo/drinking-water-regulations> (last visited Apr. 6, 2023).

<sup>189</sup> ENV’T PROT. AG. 816-F-04-030, UNDERSTANDING THE SAFE DRINKING WATER ACT (June 2004), available at <https://www.epa.gov/sites/default/files/2015-04/documents/epa816f04030.pdf>.

<sup>190</sup> See 40 C.F.R. §§ 142.10-142.34.

<sup>191</sup> 42 U.S.C. §§ 9601-9628.

<sup>192</sup> U.S. Army Corps of Eng’rs, *Superfund*, <https://www.usace.army.mil/Missions/Environmental/Superfund.aspx> (last visited May 9, 2023).

roughly thirty-three active sites within twenty miles of the Mississippi River.<sup>193</sup> Federal, state, and local governments share remediation responsibilities—but liability is supposed to be imposed on parties responsible for contamination and who could thus be liable for government cleanup costs, resource damages, and health assessments.<sup>194</sup> Many states in the Corridor also have their own laws that mirror Superfund which could come into play. Natural Resource Damage Assessments (“NRDAs”) play a central role in CERCLA. An NRDA allows for designated trustees to assess damages to natural resources resulting from discharge of oil or a release of a hazardous substance and develop the public’s claim to recover damages.<sup>195</sup> Funds recovered from NRDs under CERCLA must be spent on restoration or replacement of injured resources.<sup>196</sup>

Federal protections for certain fish and wildlife species regularly impact civil works projects and other water management decisions. In terms of ecological importance, the Mississippi River Basin supports “critical habitat for more than 300 candidate species of rare, threatened or endangered plants and animals listed by state or federal agencies.”<sup>197</sup> The **Endangered Species Act** (“ESA”), administered by the U.S. Fish & Wildlife Service through the Secretary of the Interior, prohibits the taking of endangered or threatened species of fish, wildlife, and plants and provides habitat protection measures through a regulatory enforcement regime.<sup>198</sup> It applies to both public and private actors. The law defines the taking of a species as any means to “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to

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<sup>193</sup> Env’t Prot. Ag., *Superfund National Priorities List Map*, <https://epa.maps.arcgis.com/apps/webappviewer/index.html?id=33cebcdfdd1b4c3a8b51d416956c41f1> (last visited May 9, 2023).

<sup>194</sup> 42 U.S.C. § 9607(a).

<sup>195</sup> 43 C.F.R. § 11.10. NRDAs are also provided for in the Oil Pollution Act. 33 U.S.C. § 2706.

<sup>196</sup> 42 U.S.C. § 9607(f)(1).

<sup>197</sup> Am. Rivers, *Mississippi River*, <https://www.americanrivers.org/river/mississippi-river/> (last visited July 11, 2023).

<sup>198</sup> 16 U.S.C. § 1538.

attempt to engage in any such conduct.”<sup>199</sup> However, it allows takings of protected species under certain circumstances that require a permit.<sup>200</sup> Thus, whether the ESA applies to Mississippi River activities depends on the presence of endangered or threatened species’ habitat along the Mississippi River and its tributaries. This often arises with respect to projects involving damming or diversions and must be considered in the respective agency’s planning process.<sup>201</sup> If a protected species relies on the River or tributary within a project area, additionally procedural requirements and protections must be followed to minimize adverse impacts to species.<sup>202</sup> In addition to the federal ESA, each of the Corridor States has its own additional legislation further addressing endangered and threatened wildlife.<sup>203</sup>

Further, the **Lacey Act** is one of the nation’s oldest wildlife and conservation enforcement statutes. It makes unlawful for any person “to import, export, transport, sell, receive, acquire, or purchase any fish or wildlife or plant taken, possessed, transported, or sold in violation of any law, treaty, or regulation of the United States or in violation of any Indian tribal law.”<sup>204</sup> To trigger the Lacey Act’s enforcement provisions, there must be first be an underlying violation of some other law. These predicate violations are often based on ESA claims but can also be based on violations of state or foreign law.<sup>205</sup> In terms of enforcement, the penalty provisions distinguish criminal from civil violations by requiring that the offender knowingly

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<sup>199</sup> 16 U.S.C. § 1532(19).

<sup>200</sup> 16 U.S.C. § 1539.

<sup>201</sup> Endangered species analyses often accompany environmental impact statements pursuant to NEPA. For an example, see U.S. ARMY CORPS OF ENG’RS NEW ORLEANS DIST., FINAL EIS FOR THE PROPOSED MID BARATARIA SEDIMENT DIVERSION PROJECT, at 4-502.

<sup>202</sup> 16 C.F.R. § 451.02.

<sup>203</sup> See MINN. STAT. ANN. § 84.0895; WIS. STAT. ANN. § 29.604; IOWA CODE ANN. § 481B.1-B.10; 520 ILL. COMP. STAT. ANN. 10/1-10/11; MO. REV. STAT. ANN. § 252.240; TENN. CODE ANN. § 70-8-101; ARK. CODE ANN. §§ 15-45-301–15-45-306; MISS. CODE ANN. §§ 49-5-101–49-5-119; LA. REV. STAT. ANN. § 56:1901. Kentucky does not have comprehensive state but addresses endangered species compliance. KY. REV. STAT. ANN. § 150.183.

<sup>204</sup> 16 U.S.C. § 3372(a)(1)-(2).

<sup>205</sup> While this is not the only basis, ESA violations as a predicate are common, as both laws cover individual species and prohibit takings of plant and wildlife.



engaged in conduct prohibited by the Act.<sup>206</sup> While it can serve as a mechanism to protect native species in the Mississippi River, it is not a vehicle to drive federal action for species management.<sup>207</sup>

### **b. Voluntary Programs Under Federal Law**

Beyond its wildlife and fisheries resources, the Mississippi River and its Basin support roughly ninety-two percent of U.S. agricultural exports and seventy-eight percent of global exports in feed grains and soybeans.<sup>208</sup> Thus, federal law that shapes agricultural policy and farming practices will certainly impact the Mississippi River. The **Farm Bill**, an omnibus federal law typically renewed every five years, addresses major aspects of agriculture and food production. It covers export programs, nutrition assistance, forestry, crop insurance, and conservation programs, to name a few.<sup>209</sup> These conservation programs, while voluntary, can greatly impact the water quality and overall health of the Mississippi River. Conservation programs are administered by the Natural Resource Conservation Service (“NRCS”), an agency within the Department of Agriculture.<sup>210</sup> It oversees landscape conservation initiatives such as the Mississippi River Basin Healthy Watershed Initiative which includes the ten Corridor States, plus Indiana and Ohio.<sup>211</sup> This initiative promotes and accelerates “voluntary, on-farm conservation investments and focused water quality monitoring and assessment” in the River’s

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<sup>206</sup> 16 U.S.C. § 3373(d).

<sup>207</sup> *Michigan v. U.S. Army Corps of Eng’rs*, 911 F.Supp. 2d 739, 765 (N.D. Ill. 2021) (holding that the Army Corps could not have violated the Lacey Act by its decision not to build barriers to prevent Asian carp from migrating from the Mississippi River Basin into Lake Michigan).

<sup>208</sup> NAT’L INTEGRATED DROUGHT INFO. SYS. *supra* note 3.

<sup>209</sup> U.S. Dep’t of Agric., *Farm Bill Home*, <https://www.fsa.usda.gov/programs-and-services/farm-bill/index> (last visited May 8, 2023).

<sup>210</sup> Nat. Res. Conservation Serv., *About NRCS*, <https://www.nrcs.usda.gov/about> (last visited July 23, 2023).

<sup>211</sup> Nat. Res. Conservation Serv., *Mississippi River Basin Healthy Watershed Initiative Map of Watersheds for FY2023*, available at [https://www.nrcs.usda.gov/sites/default/files/2023-01/MRBI-Map-of-FY23-Watersheds\\_0.pdf](https://www.nrcs.usda.gov/sites/default/files/2023-01/MRBI-Map-of-FY23-Watersheds_0.pdf).

watershed.<sup>212</sup> It includes an Environmental Quality Incentives Program to promote voluntary land conservation to “improve water quality, restore wetlands, and enhance wildlife habitat while ensuring economic viability of agricultural lands.”<sup>213</sup> These programs have been successful in reducing sediment loss and nutrient runoff, but their nature as voluntary programs limit the impact such initiatives may have in a broader context.

On a smaller scale is the **Watershed Protection and Flood Prevention Act**, which allows for watershed protection and conservation measures by providing federal financial and technical assistance to project sponsors, such as a state, local community, or tribe.<sup>214</sup> It is a nonregulatory federal program administered by the U.S. Department of Agriculture.<sup>215</sup> It provides a framework for governments, nonprofits, Tribes, and other entities to enter into watershed restoration and enhancement agreements to improve fish and wildlife habitats.<sup>216</sup>

For general wildlife management, the **Fish and Wildlife Coordination Act** applies when any proposal to divert, impound, or dredge a water resource is authorized, irrespective of preexisting species protections.<sup>217</sup> It requires the Army Corps, or other lead project agency, to consult with the U.S. Fish and Wildlife Service before it undertakes such works to prevent loss and damage to aquatic wildlife resources.<sup>218</sup> Since nearly 200 species of freshwater fish live in the main stem of the Mississippi River alone, this law helps to protect the viability of aquatic

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<sup>212</sup> Nat. Res. Conservation Serv., *Mississippi River Basin Healthy Watersheds Initiative*, <https://www.nrcs.usda.gov/programs-initiatives/mississippi-river-basin-healthy-watersheds-initiative> (last visited July 17, 2023).

<sup>213</sup> *Id.*

<sup>214</sup> 16 U.S.C. § 1001.

<sup>215</sup> 16 U.S.C. § 1002.

<sup>216</sup> 16 U.S.C. § 1011a.

<sup>217</sup> 16 U.S.C. § 662. There is an exception for impoundment authorizations that have a maximum impact on less than 10 acres of surface water). 16 U.S.C. § 662(h).

<sup>218</sup> It contains an Upper Mississippi River-specific provision, providing that the “[Army Corps] is directed to give full consideration and recognition to the needs of fish and other wildlife resources and their habitat dependent on such waters . . .” 16 U.S.C. § 665a.

wildlife.<sup>219</sup> Furthermore, federal law promotes conservation of lands in surrounding the Mississippi River in parts of Minnesota and Illinois through the establishment of the Upper Mississippi River National Wildlife and Fish Refuge.<sup>220</sup> It covers 261 miles of the Mississippi River between Wabasha, Minnesota, and Rock Island, Illinois, protecting roughly 240,000 acres of floodplain.<sup>221</sup>

#### **IV. LIMITATIONS AND SHORTCOMINGS OF EXISTING AUTHORITIES**

Balancing regulatory power, private property, and public rights in water resources highlights the complexities of legal considerations in water resource management. No single statute can comprehensively address all governance aspects of the Mississippi River, and the shared management and cooperation of federal agencies, states, local, and other bodies is essential. The sheer number of governmental authorities and legislative programs affecting the Mississippi River render efficient and consistent management nearly impossible. In addition, emerging issues in the Mississippi River Corridor have highlighted urgent needs with no legal pathways to address them. This Part briefly discusses conflicts between existing authorities and some of the challenges ahead that may test the efficacy of the existing approaches.

##### **a. Administrative Inconsistencies**

A major shortcoming facing water resource projects comes from various hurdles in the project approval and delivery process. First, the procedure for carrying out civil works projects imposes timing and funding restraints. A project may be authorized one year, but funding may not be appropriated until several years later, raising issues of inflation, changes in policy, or updates to construction standards that may have changed since the authorization and feasibility

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<sup>219</sup> Nat'l Park Serv., *Mississippi River Facts*, <https://www.nps.gov/miss/riverfacts.htm> (last visited May 10, 2023).

<sup>220</sup> 16 U.S.C. § 721.

<sup>221</sup> U.S. Fish & Wildlife Serv., *Upper Mississippi River National Wildlife and Fish Refuge*, <https://www.fws.gov/refuge/upper-mississippi-river> (last visited May 22, 2023).

study. To illustrate, in 2007, Congress authorized a mitigation project to address damages from Hurricane Katrina caused by the Mississippi River Gulf Outlet carrying saltwater and storm surge into New Orleans.<sup>222</sup> It then directed the Army Corps to prepare a feasibility report recommending modifications and restoration of the area.<sup>223</sup> Army Corps leadership submitted its report in 2012 but recommended no further action until a nonfederal sponsor was identified.<sup>224</sup> Debates over cost-share stalled implementation for a decade, until the 2022 WRDA prescribed the project at full federal cost.<sup>225</sup> In the interim, inflation and other changes have altered cost and feasibility beyond the details reflected in the 2012 report, raising hurdles in the process that are still being addressed.

Another issue facing the Army Corps faces are costs and equipment availability for standard dredging projects. In 1978, Congress first directed the Army Corps to contract out dredging projects to private industry where feasible and reduce the federal fleet.<sup>226</sup> Subsequent WRDAs continued to impose more stringent requirements for the use of private dredge firms, which has resulted in further increased costs to the Army Corps because of consolidation of companies in the private dredging market and resulting reduction in competitive bidding.<sup>227</sup>

#### **b. Lack of Enforceable Standards and Mechanisms**

Beyond conflicts between various levels of government, many of these agencies and their governing laws lack the appropriate scope and language to exercise all necessary authority pursuant to established purpose and policy. As to regulatory statutes, the CWA exempts various

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<sup>222</sup> Water Resources Development Act of 2007, Pub. L. No. 110-114, § 7013(a), 121 Stat. 1041, 1280.

<sup>223</sup> *Id.*

<sup>224</sup> U.S. ARMY CORPS OF ENG'RS NEW ORLEANS DIST., MISSISSIPPI RIVER-GULF OUTLET ECOSYSTEM RESTORATION PLAN FINAL FEASIBILITY REPORT (June 2012).

<sup>225</sup> Water Resources Development Act of 2022, Pub. L. No. 117-263, § 8341, 136 Stat. 2395, 3795.

<sup>226</sup> Pub. L. No. 95-269 (1978) (codified at 33 U.S.C. § 622(a)); 33 U.S.C. § 622(b).

<sup>227</sup> U.S. GOV'T ACCOUNTABILITY OFFICE, GAO 14-290 CORPS OF ENGINEERS: ACTIONS NEEDED TO FURTHER IMPROVEMENT MANAGEMENT OF HOPPER DREDGING 8 (Apr. 10, 2014).

significant activities from permitting.<sup>228</sup> For example, the NPDES program only addresses discharges from point sources, specifically stating that the term point source “does not include agricultural stormwater discharges and return flows from irrigated agriculture.”<sup>229</sup> Thus, those pollutants, and pollutants not directly discharged from a discrete source in a waterbody, go largely unregulated except through the aforementioned Section 303 program. Because the Mississippi River drains a substantial portion of the nation’s agriculturally productive lands, pollutants from agricultural runoff continue to accumulate and threaten aquatic ecosystems.

Voluntary conservation and watershed improvement programs are critically important for the health of the Mississippi River, but the absence of unified management and enforceable standards within the programs hinder meaningful progress towards overarching goals. For example, NRCS administers conservation programs and grants for farmers, ranchers, soil and water conservation districts, and other private landowners.<sup>230</sup> These programs have made progress in addressing nutrient pollution but are largely implemented through public and private partnerships. This model makes it difficult to track progress, achieve standards, and collect much-needed data on pollution sources. Further, existing partnership frameworks and regional entities along the Mississippi River lack effective legal authority. While efforts like UMBRA have resulted in more comprehensive planning and cooperation among Upper Mississippi River states, it has “no direct land management or regulatory functions.”<sup>231</sup>

### **c. Conflicts Among Authorities**

Stark differences between federal and state environmental policy, along with the continued shifting of political priorities inherent to the election cycle, often muddle and

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<sup>228</sup> 33 U.S.C. § 1362(14).

<sup>229</sup> 33 U.S.C. § 1362.

<sup>230</sup> Nat. Res. Conservation Serv., *About Us*, <https://www.nrcs.usda.gov/about> (last visited May 16, 2023).

<sup>231</sup> Upper Miss. River Basin Ass’n, *About UMRBA* <https://umrba.org/about> (last visited July 12, 2023).

undermine the effective use of these legal authorities. Nowhere is this more apparent than with rulemaking and litigation over the Clean Water Act. The scope of the CWA is determined by implementing regulations that define Waters of the United States.<sup>232</sup> As discussed previously, a recent challenge to wetland regulation in *Sackett v. EPA* raises fundamental questions of the future administration of the CWA and the increasing role that state agencies will have in quality control.<sup>233</sup> In ruling on the *Sackett* challenge, the Supreme Court gave WOTUS a very restrictive definition curtailing the scope of CWA permitting.<sup>234</sup> While states typically have the power to implement and enforce water quality laws that go beyond base federal requirements, many do not—in fact, some states have laws prohibiting the enactment of any environmental law or regulation that is more stringent than its federal counterpart.<sup>235</sup> Because twenty-four states tie their CWA programs to the federal definition, any federal changes create gaps in protection and inconsistencies at the state level.<sup>236</sup> The expected loss of protection of wetlands and streams within the Mississippi River’s watershed will undeniably impact water quality and drainage.

Other challenges limit the efficiency of other regulatory programs. Promulgating regulations for various classes of chemicals presents administrative challenges at the federal level and cost-barriers at the municipal level. When EPA updates drinking water standards or require treatment of new chemicals, it often requires updates to municipal treatment facilities, and affordability for such public entities becomes a central issue. Recent efforts to begin regulating and treating PFAS in public drinking water highlight this problem. While the EPA has announced regulations for treatment of certain PFAS, the cost to construct PFAS treatment

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<sup>232</sup> See 33 C.F.R. §§ 328.1-328.5; 40 C.F.R. §§ 120.1-120.2.

<sup>233</sup> E.A. Crunden, *Sackett Fallout Leaves Wetlands’ Fates to the States*, E&E NEWS (Jun. 28, 2023), <https://www.eenews.net/articles/sackett-fallout-leaves-wetlands-fate-to-states/>.

<sup>234</sup> *Sackett v. Env’t Prot. Agency*, 143 S.Ct. 1322, 1340 (2023).

<sup>235</sup> See ARIZ. REV. STAT. ANN. § 49-104(A)(16); KY. REV. STAT. ANN. § 13A.120(1); S.D. CODIFIED LAWS § 1-41-3.4.

<sup>236</sup> James McElfish, *State Protection of Nonfederal Waters: Turbidity Continues*, 52 ENV’T L. INST. 10679 (2022).

facilities may range from three million to 100 million dollars, costs which likely will fall largely on state and local entities.<sup>237</sup> The differences between federal, state, and local regulatory coverage and standards obscure the very nature of watersheds, which recognize no political boundaries. Conflicting provisions and priorities between Corridor states' laws and programs can hinder collaborative efforts and undermine progress made up or downstream.

## V. CONCLUSION

Coordinating the management of a resource as enormous as the Mississippi River is no easy task. At each level of government are multiple entities with jurisdiction over various aspects of the Mississippi River that often conflict with one another. At the federal level, mandates conflict across agencies, and agencies themselves may differ geographically as regional offices take their own approaches to enforcement. Then there is the issue of states' priorities clashing with one another, or localities clash with state governments. This paper merely scratches the surface of the complexities. Future research will build on tribal water rights in the Corridor as well as the balance of power between states and their local governments. Understanding who has rights along the Mississippi River, who makes decisions, and who those decisions impact will be increasingly important as climate change erodes weather norms and raises new demands of such an important shared resource.

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<sup>237</sup> David. K. McCay, *Public Water Systems Finally Get Federal Help with PFAS*, BLOOMBERG LAW (Dec. 22, 2021), <https://news.bloomberglaw.com/environment-and-energy/public-water-systems-finally-get-federal-help-with-pfas>.

## INDEX OF AUTHORITIES

<b>Federal</b>			
Name	Type	Agency	Law
Rivers and Harbors Act	Regulatory	Army Corps	33 U.S.C. §§ 401-426p
Upper Mississippi River Management Act	Authorizing	U.S. Fish & Wildlife Service	33 U.S.C. § 652
Coastal Wetlands Planning, Protection, and Restoration Act	Authorizing / Procedural	Army Corps	16 U.S.C. §§ 3951-3957
Flood Control Act	Authorizing	Army Corps	33 U.S.C. §§ 701-709c (as amended)
Water Resources Development Act	Authorizing	Army Corps (mostly)	33 U.S.C. §§ 2201-2356 (as amended)
National Environmental Policy Act	Procedural	Council of Environmental Quality	42 U.S.C. §§ 4331-4336e
Clean Water Act	Regulatory	EPA; Army Corps	33 U.S.C. §§ 1251-1389
Watershed Protection and Flood Prevention Act	Voluntary	U.S. Department of Agriculture	16 U.S.C. §§ 1001-1012a
Endangered Species Act	Regulatory	U.S. Fish & Wildlife Service	16 U.S.C. §§ 1531-1544
Lacey Act	Regulatory	U.S. Fish & Wildlife Service	16 U.S.C. §§ 3371-3378
Fish and Wildlife Coordination Act	Voluntary	U.S. Fish & Wildlife Service; Army Corps	16 U.S.C. §§ 661-666
CERCLA	Regulatory	EPA	42 U.S.C. §§ 9601-9628
Safe Drinking Water Act	Regulatory	EPA	42 U.S.C. §§ 300f-300j-27

<b>Public Trust Authorities</b>		
State	Application	Law
Minnesota	Applies to navigable waterbottoms and wetlands  Protects navigation, fishing, recreation, boating	MINN. CONST. art. XI, § 10 MINN. CONST. art. XI, § 14 MINN. STAT. ANN. § 103A.201
Wisconsin	Applies to navigable waterbottoms, recreational waters, wetlands, wildlife, and some uplands  Protects navigation, fishing, recreation, scenic beauty	WIS. STAT. ANN. §§ 30.01-99 WIS. STAT. ANN. § 29.011 WIS. CONST. art 9 § 1



Iowa	Applies to navigable waterbottoms  Protects public access for navigation, recreation, fishing, commerce	IOWA CODE ANN. §§ 462A.3A; 462A.69 IOWA CODE ANN. § 161A.2
Illinois	Applies to parks, conservation areas, and submerged lands  Protects navigation, commerce, fishing, but has potential for expansion	ILL. CONST. art. 11, § 1 ILL. CONST. art. 11, § 2
Missouri	Applies to navigable waterbottoms and public park lands  Protects navigation, fishing	No statute or constitutional provision, only in case law
Kentucky	Applies to navigable waterbottoms  Protects navigation, recreation, boating, fishing	KY. REV. STAT. ANN. § 146.220 KY. REV. STAT. ANN. § 151.120
Tennessee	Applies to navigable waterbottoms  Protects navigation, fishing, hunting	TENN. CONST. art. 1, sec. 29
Arkansas	Applies to navigable waterbottoms  Protects navigation, fishing, recreation, commerce	ARK. CODE ANN. § 22-5-301
Mississippi	Applies to navigable waterbottoms, coastal wetlands, tidal waters  Protects navigation, fishing, recreation, commerce, development of resources, environmental preservation	MISS. CONST. art 4, § 81 MISS. CODE ANN. § 49-27-3 MISS. CODE ANN. §§ 29-15-1–29-15-23
Louisiana	Applies to navigable waterbottoms, running waters, the territorial sea, wetlands, groundwater, wildlife, and some uplands  Protects boating, fishing, and other public uses	LA. CONST. art 9, § 1. LA. CIV. CODE arts. 450-52; 455-56

### Riparian Authorities

State	Overview	Administering Body	Law
Minnesota	Regulated	<a href="#">Minnesota Department of Natural Resources</a>	MINN. STAT. ANN. §§ 103G.255-413
Wisconsin	Regulated	<a href="#">Wisconsin Department of Natural Resources</a>	WISC. STAT. ANN. §§ 30.132, 30.18, 30.195.
Iowa	Regulated	<a href="#">Iowa Department of Natural Resources</a>	IOWA CODE ANN. § 455B.267
Illinois	Hybrid	<a href="#">Illinois Department of Natural Resources, Division of Water Resources Management</a>	615 ILL. COMP. STAT. ANN. 5/18

Missouri	Hybrid	<a href="#">Missouri Department of Natural Resources</a>	MO. REV. STAT. ANN. § 256.410
Kentucky	Regulated	<a href="#">Kentucky Energy and Environment Cabinet</a>	KY. REV. STAT. §§ 151.125, 151.230
Tennessee	Hybrid	<a href="#">Tennessee Department of Environment &amp; Conservation</a>	TENN. CODE ANN. § 69-7-301-309
Arkansas	Regulated	<a href="#">Arkansas Department of Agriculture: Natural Resources Division</a>	ARK. CODE ANN. § 15-22-215, ARK. NAT. RES. CODE §§ 301.1, 304.1
Mississippi	Regulated	<a href="#">Mississippi Department of Environmental Quality: Office of Land and Water Resources</a>	MISS CODE ANN. §§ 51-3-1–51-3-55
Louisiana	Hybrid	N/A	LA. CIV. CODE arts. 657, 658

### Groundwater Authorities

State	Overview	Administering Body	Law
Minnesota	Regulated riparianism	<a href="#">Minnesota Department of Natural Resources</a>	MINN STAT. ANN. §§ 103G.005, 103G.271
Wisconsin	Reasonable use	<a href="#">Wisconsin Department of Natural Resources</a>	WISC. STAT. ANN. §§ 281.34-35
Iowa	Regulated riparianism	<a href="#">Iowa Department Natural Resources</a>	IOWA CODE ANN. §§ 455B.264(1), 268(1)(a)
Illinois	Reasonable use	<a href="#">Illinois Environmental Protection Agency</a>	525 ILL. COMP. STAT. ANN. 45/1- 45/7
Missouri	Comparative reasonable use with correlative rights limitations	<a href="#">Missouri Department of Natural Resources</a>	MO. REV. STAT. ANN. §§ 256.200, 256.605
Kentucky	Reasonable use for underground streams; American rule (modified) – percolating groundwater	<a href="#">Kentucky Energy and Environment Cabinet</a>	KY. REV. STAT. ANN. §§ 151.010-320.
Tennessee	Reasonable use with correlative rights (no permitting)	<a href="#">Tennessee Department of Environment and Conservation</a>	TENN. CODE ANN. §§ 69-7-101, 69-10-107
Arkansas	Comparative reasonable use	<a href="#">Arkansas Department of Agriculture</a>	ARK. CODE ANN. §§ 15-22-901–15-22-914
Mississippi	Regulated riparianism	<a href="#">Mississippi Department of Environmental Quality</a>	MISS. CODE. ANN. §§ 51-3-5; 51-3-13
Louisiana	Rule of capture (no permitting)	<a href="#">Louisiana Department of Natural Resources</a>	LA CIV. CODE art. 490