Taken by Storm—Property Rights and Natural Disasters

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I. INTRODUCTION

One of the virtues of the rule of law is that it breeds certainty and predictability. Even as it changes, it hews to lines of precedent and notions of due process to buffer the impacts of its evolution. No place is that more true than in the case of property. We all want to know that what is ours is really ours and will be so tomorrow. And if someone wants what is ours, we expect them to buy it. Should it be necessary to part with it against our will for some public purpose, we still expect to be paid. The latter situation is covered by the "takings" doctrine rooted in the Fifth Amendment of the U.S. Constitution and similar aspects of state law.

But things get messy where land and water meet. Water and the lands beneath and adjacent to it support a combination of public and private rights unlike anything one finds elsewhere. Water, being both dynamic and essential, demands flexibility in those rights and duties that legally exist in it. As society comes to terms with rising seas, climate change, and vast shifts in the balance between supply and demand, the

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lines between water's public and private aspects are going to become more important. Truth be told, it is already happening. That is what this Article is about—it is about understanding that taking law is not merely about governments' rights versus private rights. It must depend, first and foremost, on the nature of the property rights at stake, a question best answered by state law.

This Article holds two truths to be self-evident: Takings law is a mess, and water law is a mess. Neither is surprising, but when the messiness of one contributes to that of the other, the chances for trouble goes way up. This is exactly what is starting to happen thanks to the evolution of takings law into the realm of water law, an area of law that really needs no help in being chaotic. A major impetus for this convergence has been natural disasters, such as Hurricane Katrina and the Mississippi River floods of 2011, and the steps that governments have taken to manage waters to reduce flooding risk. Specifically, the decisions in *Arkansas Game & Fish Commission v. United States*, *St. Bernard Parish Government v. United States,* and *Quebedeaux v. United States* suggest that takings claims will now be countenanced—even found—in cases that would have been surprising not so long ago.[1] The outcomes of these cases are not concerning so much as the apparent trend in the U.S. Court of Claims to decide these disputes on Constitutional grounds even though state water and property law might be perfectly well suited to resolving (or at least informing) those cases.

This matters because takings cases at their heart involve a question of state law—the existence and nature of a property right. Takings law is evolving to the point that a plaintiff's private property right need only be established in the most general of terms without establishing the nature of that property interest.[2] This is fair enough in most cases because there is not much nuance to most estates in property where you have the interest your deed, lease, or succession vests in you. However, it is not a safe threshold in cases where riparian and littoral property rights are involved. In those cases, private rights are encumbered by public rights and subject to both defeasance and enhancement from the dynamics of

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1. *Compare* Ark. Game & Fish Comm'n v. United States, 133 S. Ct. 511, 515 (2012), *and* St. Bernard Par. Gov't v. United States, 121 Fed. Cl. 687, 746 (2015), *and* Quebedeaux v. United States, 112 Fed. Cl. 317 (2013), *with* Sanguinetti v. United States, 264 U.S. 146 (1924) (holding that a takings did not occur when the United States' construction of a canal caused increased flooding on an individual's property), *and* United States v. Mission Rock Co., 189 U.S. 391 (1903) (holding that an executive order reserving an island for naval purposes was not an appropriation after the state of California conveyed title of the same land).

2. *See, e.g.*, *St. Bernard Par.*, 121 Fed. Cl. at 719-20 (discussing the foreseeability of the flood in place of determining the character of the property right).

water itself and by the historical patterns of use and management. This is the realm of water law, a realm where takings law has a place but not primacy—at least it used to be that way. In this Article we will make a case for why that should remain the case. To understand why, it is important to understand some of the basics of water law.

II. WATER LAW: A PRIMER

Water law and water management are not really about water. Indeed, it would be more than fair to say that water law and hydrology are, while acquainted, not on a first name basis. Water law and management are really about power and property. More specifically, water law is about the relationship among water and how it can be used on land and by whom. Its roots are ancient, running to a time when society and commerce were ordered around surface waters.[3] If there are background principles in law then water law is home to some of them.

In the United States water law is primarily the province of the states, no two of which treat the relationship among water, land, and property in exactly the same way. That said, it is safe to say there are several foundational tenets.

(1) Flowing surface waters and navigable waters (including lakes and coastal waters) are either public or common property. They cannot be owned in their natural states, but private rights of use can be created in them incident to the ownership of land (riparianism)[4] or the use of water on land (prior appropriation).[5]

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3. *See generally* Jerome D. Priscoli, *Water and Civilization: using history to reframe water policy debates and to build a new ecological realism*, 1 Water Pol'y 623-36 (1998) (exploring the modern relevance of historical social organization around river basins and water sheds).

4. Riparianism is a doctrine that defines *water rights in terms of the usage of water in association with the ownership of land*. In short, if you own riparian lands, you have a right to use water for certain purposes. Riparianism is the baseline doctrine that is employed in all states in the eastern United States. Under riparian doctrine, water is a common good. That means it is a good subject to decisions by everyone with legal access to it. Joseph W Dellapenna, *Special Challenges to Water Markets in Riparian States*, 21 GA ST. U. L. REV. 305, 311 (2004). These rights of water usage are not conditioned on any actual usage of water and run with the land. Under riparianism, water use is more of an amenity than an expression of any policy preference among users. Riparianism has been judicially or legislatively modified to accommodate broader and more commercial uses (reasonable use riparianism). In many states it has been supplemented or replaced by permitting systems administered by state agencies (regulated riparianism).

5. Prior appropriation is the second major doctrine underpinning American water law. It holds sway in drier western states. Unlike riparianism, rights to use water have nothing to do with the ownership of land adjacent to water and everything to do with taking water from streams and putting it to productive use on land for reasonable purposes (a term ultimately tied to some public interest determination). Usage confers a right of use that creates "first in time, first in

(2) The beds of navigable water bodies are public things, the alienation of which is restricted if not forbidden.[6]
(3) Private rights in riparian/littoral lands are subject to various express public rights such as those expressed in the federal "paramount interest doctrine,"[7] federal navigational servitude,[8] and state flood control servitudes (e.g., the Louisiana levee servitude that exists in all tracts of land adjacent to navigable streams).[9] In some states it is clear that private rights are subordinate to an overarching "public trust" in water.[10]
(4) Water is dynamic and so must be the alignment between and among private and public rights. It is a given that floods and storms happen that can rapidly alter streams and coasts. It is also a given that slower chronic forces such as erosion, accretion, rising waters, and subsidence are continually reshaping our waterscapes and landscapes. These can turn land to water and water to land while they redraw and redraw again boundaries and borders in ways that, as a matter of law, alter the ownership and use of land. To accommodate these changes, the doctrines of reliction, dereliction, drain, avulsion, and public trust have been called into play to shape the rights, duties, and expectations of private and public property owners.[11] Most of the time, with the exception of drainage law, these doctrines deal with relatively permanent changes to the land/water boundary.

Needless to say, this is a dangerously abbreviated treatment of a very complex body of law. However, if this treatment makes the point that, in water law and the federalism laboratory of the states, we have a robust vehicle for dealing with much of the literally and metaphorically

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right" priority of use that may be asserted against those who acquire their rights of use at a later time. As is the case with riparianism, prior appropriation does not create a private property right in the water itself, which remains the property of the state.

6. *See, e.g.*, Ill. Cent. Ry. v. Illinois, 146 U.S. 1 (1895); Phillips Petroleum v. Mississippi, 484 U.S 469 (1988).

7. United States v. California, 332 U.S. 19 (1947).

8. *See* Boone v. United States, 944 F.2d 1489, 1494 (1991); United States v. Willow River Power, 324 U.S. 499 (1945).

9. LA. CIV. CODE ANN. art. 665. For a more detailed discussion of the evolution of this levee servitude, see John A. Lovett, *Comment: Batture, Ordinary Highwater, and the Louisiana Levee Servitude*, 69 TUL. L. REV. 561 (1994).

10. *E.g.*, Marks v. Whitney, 491 P.2d 374 (1971); Nat'l Audubon Soc'y v. Superior Ct., 658 P.2d 709 (1983). *See also* Hudson Cty. Water Co. v. McCarter, 209 U.S. 349 (1908); Georgia v. Tennessee, 206 U.S. 230 (1907).

11. *See generally* State of Nebraska v. State of Iowa, 143 U.S. 359, 360-61 (1892) (holding the boundary follows gradual changes such as accretion but does not follow sudden changes such as avulsion).

fluid boundary between public and private rights without resorting to takings law, then this treatment will suffice and we can move on.

III. WATER, WATER MANAGEMENT, AND TAKINGS LAW

The Takings Clause of the Fifth Amendment of the Constitution (and as applied to the states via the Fourteenth Amendment) prohibits the government from taking private property for public purpose without the payment of just compensation.[12] The reason for this is to prevent some people from having to bear alone "public burdens which, in all fairness and justice, should be borne by public as a whole."[13]

The determination that a taking has taken place, particularly in the case of flooding, is inherently a case and fact specific matter.[14] The U.S. Supreme Court has made clear that the list of "bright line" rules is small, a list that includes the following:

(1) Permanent physical occupation of private property by an authorized governmental action is a compensable taking.[15]
(2) A regulation (or inverse condemnation) that requires a property owner to give up all economically beneficial use of his or her property is a compensable taking.[16]
(3) Under the "doctrine of necessity," when a government acts to take/destroy private property to prevent an imminent danger and actual emergency, no compensable taking has occurred.[17]
(4) When a governmental action is covered by "background principles of law," such as nuisance law, its right to infringe on private property without paying compensation is preserved. In short, no compensation is due here or under item three because the government reserved the right to act in those cases when the private property right was created.[18]

As it turns out, these bright lines are not all that bright, at least where water is concerned. For example, how close a nexus must there be

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12. U.S. CONST. amend. V.

13. *See* Ark. Game & Fish Comm'n v. United States, 133 S. Ct. 511, 515 (2012); Penn Cent. Transp. Co. v. New York City, 438 U.S. 104, 123-25.

14. *Ark. Game & Fish Comm'n*, 133 S. Ct. at 515; Quebedeaux v. United States, 112 Fed. Cl. 317 (2013).

15. *Ark. Game & Fish Comm'n*, 133 S. Ct. at 515; Loretto v. Teleprompter Manhattan CATV Corp., 458 U.S. 419, 426 (1982).

16. *Ark. Game & Fish Comm'n*, 133 S. Ct. at 515; Lucas v. S.C. Coastal Council, 505 U.S. 1003, 1019 (1992).

17. *See, e.g.*, TrinCo Inv. Co. v. United States, 722 F.3d 1375 (Fed. Cir. 2013); *Lucas*, 505 U.S. at 1029.

18. *E.g.*, *Lucas*, 505 U.S. at 1027.

between the flooding of a parcel of land and an authorized governmental action to trigger the duty to compensate? Is the flooding of subsided land (as in coastal Louisiana or Norfolk, Virginia) a compensable taking just because lawful land reclamation and groundwater pumping were significant contributing factors? Does it matter that some of those activities have gone on for hundreds of years?

As a second example, do efforts to counter the effects of sea level rise, climate change, and drought through public works (e.g., reservoirs or land building river diversions) count as acts of necessity? When does the need to act become imminent? And what happens when public works fail? Is the relevant authorized governmental act the initial construction of the project or the failure of government to adaptively manage and maintain the structure to reflect changing knowledge and conditions? We will have to wait for the answers to those questions.

IV. *ARKANSAS GAME & FISH COMMISSION V. UNITED STATES*

This is a temporary inundation case. The possibility that the federal government might be liable for flood damages under takings theory seemed bleak in 2011 after The United States Court of Appeals for the Federal Circuit reversed the Court of Claims decision in *Arkansas Game & Fish*[19] that found the United States liable for a temporary taking of forest lands caused by induced flooding.[20] According to the Federal Circuit Court, the U.S. Army Corps of Engineers could not be liable for temporary flooding caused by unconventional water releases from the Clearwater Dam on the Black River, or so it seemed until the U.S. Supreme Court weighed in on the *Arkansas Game & Fish*[21] case in December 2012. The Court changed the landscape for takings claims and, in the process, sent a message about the importance of fully framing cases early. In other words: the case one argues is the case one is stuck with.

In reversing the Federal Circuit Court, a united Supreme Court rejected a bright line exemption from takings exposure in cases where government action induces temporary flooding.[22] Since this was a departure from or at least a clarification of prior jurisprudence, the case is noteworthy. However, its importance runs deeper, at least where water is involved. The Court's opinion reaffirmed, unsurprisingly, the basic

19. Ark. Game & Fish Comm'n v. United States, 87 Fed. Cl. 594 (2009).

20. Ark. Game & Fish Comm'n v. United States, 87 Fed. Cl. 594 (2009) *rev'd*, 637 F.3d 1366 (Fed. Cir. 2011).

21. *Ark. Game & Fish Comm'n*, 133 S. Ct. at 515.

22. *Id.* at 522. The decision was 8-0 with Justice Kagen not participating.

elements of a takings claim in temporary takings cases, cases that continue to be heavily dependent on their context. These elements include the following[23]:

(1) A protectable property right under state law;
(2) The character of the property and the owner's reasonable investment-backed expectations;
(3) Foreseeability;
(4) Causation; and
(5) Substantiality.

Of special interest to us are the first two elements. The requirements that there be a protectable property interest under state law and that the character of the property reflects the owner's "reasonable investment-backed expectations" are foundational to the claim. The first is expressly a question of state law, and the second is "often informed by the law of the State in which the property is located."[24] Plainly if one's property right is qualified or subordinate under state law, as it just as plainly can be under traditional water law, it can be decisive as to whether the right has been injured. Yet, as the Court noted, the issues of state law were barely raised by the parties, except for an extensive amicus curiae brief filed by Professors of Law Teaching in the Property and Water Rights Fields.[25] The Court expressly declined to take those matters into consideration, leaving them to the Federal Circuit on remand.

On remand, the Federal Circuit affirmed the original Court of Claims decision while specifically declining to consider the issues of Arkansas law because they had not been brought up below.[26] So we are left with a decision in which the fundamental issues of the character and nature of the property right at issue and the nature and extent of the investment-backed expectations were finessed away, left to a notice pleading level[27] of development. If this approach extends beyond this case, it will not be a good thing.

Subsequent rulings from the Court of Claims reinforce the vulnerability of the federal government to takings claims resulting from flooding induced by governmental projects and actions. This brings us to our next case.

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23. *See* St. Bernard Par. Gov't v. United States, 121 Fed. Cl. 687, 719-720 (2015) (citing *Ark. Game & Fish Comm'n*, 736 F.3d at 522-23).
24. *Ark. Game & Fish Comm'n*, 133 S. Ct. at 522.
25. *Id.* at 522, note 1.
26. Ark. Game & Fish Comm'n v. United States, 736 F.3d 1364 (Fed. Cir. 2013).
27. Bell Atlantic Corp. v. Twombly, 550 U.S. 570, 570 (2007).

V. *ST. BERNARD PARISH GOVERNMENT V. UNITED STATES*

This is a 2015 Court of Claims temporary inundation case, stemming from the flooding associated with Hurricane Katrina in 2005. It is a prime example of a disaster-driven taking claim. To oversimplify, this case was brought by persons who were flooded when the federally designed and constructed levees and floodwalls were overwhelmed and failed. Central to the case is the claim that the flooding was entirely foreseeable, a fact relevant to both the governments exposure and the reasonable investment-backed expectations of the property owners.

Holding the federal government liable for damages stemming from its water management efforts has never been easy. It has been broadly shielded by legal immunities, servitudes, and defenses to the point that accountability and recourse have been left to the political sphere.

For a short while it appeared that there was a prospect for accountability[28] through tort law when a District Court opinion in favor of flood injured plaintiffs was upheld by the Fifth Circuit Court of Appeals.[29] The Fifth Circuit abruptly vacated that opinion and ruled in the opposite direction effectively shutting that door.[30]

The prospects were bleak for finding the federal government liable for any of the devastation it helped author through the design and maintenance of the levee and navigation canal system around New Orleans. Then came the decision of the Court of Claims in *St. Bernard Parish Government v. United States*. In a decision rooted both in the *Arkansas Game & Fish* and the fact findings developed in the tort litigation,[31] the Court of Claims found that the federal government was liable for taking the property of the plaintiffs.

This opinion is particularly illuminating because it walks through the facts and the elements of a temporary taking with refreshing clarity. This is particularly the case on the issue of foreseeability. In the case of a temporary taking, it is essential that the invasion of the property be intended or foreseeable if the government is to be found liable. The flip side of that coin is that if flooding was so foreseeable should it be

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28. Some even speculated about the opening of flood gates of governmental exposure. *See* Rob Young & Andrew Coburn, Guest Opinion, *Ruling Scapegoats Corps for Flooding*, TIMES-PICAYUNE (Nov. 25, 2009), http://www.nola.com/opinions/index.ssf/2009/11/ruling_scapegoats_corps_for_fl.html.

29. Robinson v. United States (*In re* Katrina Breaches Litig.), 673 F.3d 381 (5th Cir. 2012).

30. Robinson v. United States (*In re* Katrina Breaches Litig.), 696 F.3d 436 (5th Cir. 2012).

31. *See Robinson*, 673 F.3d at 384; St. Bernard Par. Gov't v. United States, 121 Fed. Cl. 687, 719-20 (2015).

something the property owners should have expected. We will deal with latter point first.

New Orleans has always been flood prone and always will be, with hurricanes being just one of the sources. In defending against the suit, the federal government argued that, especially following Hurricane Betsy in 1965, the risks of living in a coastal flood plain were well known. But knowing there are risks is not the same thing as knowing there are specific risks, and the Court of Claims concluded that the risk of flooding had changed significantly from that which shaped the plaintiff's reasonable investment-backed expectations. Importantly, the Army Corps of Engineers was found to have been responsible for shaping those changes. The court pointed to two specific factors. The first was the hurricane levee system Congress directed the Corp to build following Hurricane Betsy. The Corps represented that system as being a "protection" system, but time and improvements in hurricane science had rendered the "protection" less robust and more problematic—changes the community had not been advised of.

The second factor was that although flooding is a fact of life, the flooding following Katrina's breaches was not comparable to the flooding they had experienced before (citing *Arkansas Game & Fish*). With respect to what the Corps foresaw, the Court focused on the consequences of the Mississippi River Gulf Outlet (MRGO), a shipping channel dredged and maintained by the Corps (albeit at the behest of locals). Citing reports dating to the late 1950s, the court found that the Corps knew that the channel was degrading the wetland ecosystem and the storm buffering it provided. It also found that the Corps knew that erosion was widening the MRGO and that combination of levees and channels created a "funnel" that conveyed storm waters into St. Bernard Parish. In the court's mind, this translated into foreseeing the risk of flooding that actually occurred in 2005. Just what the Corps could have done, or been allowed to do, with this knowledge is not really explored by the court because that is largely a matter of its project authorizations and budget, matters controlled by Congress and federal budgeters. Nonetheless, the court's message seems to be that foreseeability is not measured exclusively at the time the act is authorized.

This is not likely to be the last word on this case, but at the least, it demonstrates how takings cases are sensitive to their facts. It also may indicate a greater willingness by the courts to finding takings in cases where the extent and nature of the damage begs for some sort of accounting.

VI. COASTAL COLLAPSE, SEA LEVEL RISE, AND TAKINGS

Up to this point, all of the takings cases we have discussed involved temporary and/or acute events. However, what happens when private land becomes open navigable water from chronic and (mostly) permanent forces such as sea level rise, erosion, or subsidence? And does it matter that at least some of the private land loss is induced by human actions? Such a case could be complicated if it occurred in a state like Louisiana where the ownership of subsurface minerals are linked to the ownership of the surface, thus triggering a shift in potentially high value mineral rights from private to public hands. These are not just questions for classrooms and coffeehouses, they are the subject of lawsuits now in the courts.[32]

At least one such case has been brought by landowners who once owned land in coastal Louisiana but who have seen those lands become part of a coastal system of bays that are claimed by the State of Louisiana as navigable sovereign waters. Under normal Louisiana water law, the state automatically takes ownership of navigable water bottoms and not incidentally the minerals (oil and gas) beneath them.

The premise of the case is that sea level rise, land loss, and erosion, which have claimed their lands, are not naturally caused; that the state has effectively taken their property without any due process or compensation; and that the state is receiving oil and gas royalties that should be going to the plaintiffs. If this case goes forward on its merits, it will have to clear significant evidentiary, timing, and legal hurdles. But this case illustrates and connects to many issues facing Louisiana's coastal restoration and protection efforts, the state's limited budget, and the very nature of property in the face of climate change and sea level rise. However, many of these issues are not isolated to Louisiana. Indeed, when one considers how much stands to be lost in coastal regions to sea level rise, the only surprise would be for the largest transfer of private property into public hands in our nation's history to go unchallenged.

Specifically, plaintiffs in the case are seeking ownership of and royalties from approximately forty acres that were once land but are currently under the sea. They claim these are due to them because their land disappeared as a result of shell dredging, canal construction, and other water management activities—not because of natural forces. Additionally, these were not state activities but activities of other private actors that may or may not have been regulated by the state.

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32. *See, e.g.*, Miques v. State of La. & Petroquest Energy, LLC, filed in December 2014 in the 15th Judicial District of Louisiana (Vermilion Parish), Docket 99694.

At the heart of this case is a basic tenant of Louisiana property law—waterbottoms under navigable waters are owned by the state as public things on behalf of the people of Louisiana.[33] This applies in both riparian and littoral situations. For riparian owners, part of the bargain of having riparian rights is an inherently mobile property boundary at the bank of the navigable stream. And, although a stream can erode the owner's property away, it is just as likely to add to the riparian's property through alluvion or dereliction.[34] So, for these properties, the boundary has simply never been fixed. Admittedly, the littoral landowner, unlike the riparian landowner, cannot add to their property via alluvion or dereliction,[35] and so they do not enjoy the "even odds" like a riparian might, but it does not change the fact that their littoral property boundary was never set in place.

In order to have a successful case, plaintiffs need the court to declare a fundamental element of water law—that the bed of navigable waters is owned by the state—is unconstitutional and to use the greatly expanded concept of takings forwarded by the Court of Claims in the *St. Bernard Parish* case. The plaintiffs claim an interest in promoting judicial efficiency.

Such cases will take disaster takings to new place, but with projections for sea level rise and induced subsidence being what they are, they are worth taking note of because they bring the matter of disaster takings to the table in full and reveal the importance of recognizing the line between water law and takings law.

VII. DISASTER TAKINGS: A QUESTION OF EXPECTATIONS OR PROPERTY LAW?

We know this much: Storms, sea level rise, and changes to our nation's water resources are going to move the boundaries between land and water and what is public and private. Oftentimes, these changes will come to notice as the result of a disaster, human, or natural. Specifically, some of this will be directly induced by human actions, some will be only indirectly induced by human actions, and some will be entirely natural. Regardless of the cause, it is increasingly likely that some governmental program or action will be implicated. That is the legacy of the growth of governmental involvement in water management and use that our nation has seen over the past 100 years. Does that change what

33. LA CIV. CODE ANN. art. 450.
34. LA CIV. CODE ANN. art. 499.
35. LA CIV. CODE ANN. art. 500.

was once accepted as part of the natural dynamics of water and land governed by water law into takings? Have our expectations of tamed waters and storm protection changed the rules of the game? Despite what some of the cases discussed earlier might suggest, we do not believe they have or should. The rules governing erosion, reliction, avulsion, accretion, and alluvion are flexible and long standing for good reasons. They were developed to accommodate both natural changes and induced ones. They are rooted in the practical reality that to live near water is to live dynamically. They are also rooted in the practical necessity that navigable waters and their bottoms be owned as public things to accommodate the public and the nation's needs. The central expectation where water is concerned is to expect change. When a river changes course, there needs to be quick certainty about who owns what. That is foundational to water law. To be sure, that expectation has limits and does not cover negligence or the intentional flooding of private property to create a reservoir, canal, or the like, but that does not negate the role of water law in the broader fields of property law and takings law.

Specifically, it is one thing to find the government liable for a taking when it intentionally floods land for a reservoir, but it is quite another to hold government liable for a taking when seas rise, land sinks, or when a levee is overtopped or fails. Those are all foreseeable events but that does not make them the intended or foreseeable consequences of a given state action. Relative sea level rise in Louisiana is perhaps the best example of this.

Much of the land in the lower third of Louisiana is the product of rivers building, sculpting, and then abandoning land. It is not so much a place as it is a process—a process of land being built and then destroyed. To make the area livable and exploit its riches, at least by European standards, it was essential to wall the land off from the river and to tame the waters. This is a background principle of our law and our society. Whether it was a good idea or whether its impacts were understood at the time is beside the point. The authors of those actions were initially not the national government or state government, though they were without doubt supportive. Most of the early levees and drainage canals were the work of private landowners and local governments and were intended to carve developable land from a landscape that was hardly land in the conventional sense. By the late nineteenth and early twentieth centuries, the impacts were clear—the delta was dying.[36] Land was yielding to

36. *See, e.g.*, E.L. Corthell, *The Delta of the Mississippi River*, 7 NAT'L GEOGRAPHIC MAG., 1897, at 351; Percy Viosca, Jr., *Louisiana Wet Lands and Value of Their Wild Life and Fishery Resources*, 9 ECOLOGY 216, 229 (Apr. 1928).

water and not being replaced by new land. The culprits in this story are natural—erosion, storms, compaction, subsidence, and sea level rise—and human inflicted—induced erosion, induced compaction, induced subsidence, induced sea level rise, salt water intrusion, dredging, and the disconnection of the land building rivers from their flood plains. The result has been the destruction of over 1.5 million acres of land, land that once was subject to private ownership that is now a water bottom and subject to ownership by the state. Has there been a shift of the land/water boundary? Yes. Has private land been inundated? Yes. Does the state now own what was once private land? Yes. Has there been a taking? We would argue that there has not been, at least in most cases. First, cases like these are well within the scope of dynamic property rights covered by state water law, so much so that they might even be considered background principles of law. Water law acknowledges that boundaries can shift slowly, suddenly, and repeatedly and that they can injure or benefit any number of private and public persons. These are not so much cases of public versus private rights as they are about balancing the relative interests and expectations of riparian and littoral property owners and users.

Second, impairments of private property rights from chronic and acute natural events are particularly ill suited to takings analyses. There are several explanations for that including the general remoteness of natural events from identifiable governmental actions. This is true even acknowledging the profound degree to which our waters are managed and manipulated by governmental actions and governmentally permitted actions. Indeed, when a natural event is tinged by such a plethora of human and governmental factors, it is extremely difficult, if not impossible, to say that the natural event (flood, storm, drought, sea change) was the intended or foreseeable result of an authorized governmental act, a connection that is essential at least for temporary or regulatory takings.

The difficulty is knowing which category of taking one is talking about. Takings jurisprudence likes to draw lines between permanent and temporary governmental occupations of private property and between physical and regulatory impositions on private property rights. Water, even thoroughly managed water, tends to have a mind of its own and to work in ways that are both continuous and episodic. Consider again the example of coastal Louisiana. Sea level rise, erosion, subsidence, compaction, and sediment starvation had gradually turned over 1.5 million acres of south Louisiana wetlands into water (largely tidal) over the twentieth century. Some of that was natural, much of it was induced

or accelerated by scores of private and governmental actions, some dating back to colonial days. On the other hand, Hurricanes Katrina and Rita alone changed more than 210 square miles of land into water in 2010.[37] Most of this was unintended, and almost all of it was foreseeable. It has been in progress for centuries, and the inundation usually begins with temporary and hard-to-measure episodes and progresses until the land is gone. For most of the past half century, the bulk of the public and private actions that are contributing to the loss of land to water have been subject to regulatory oversight and public exposure by way of laws such as the National Environmental Policy Act, the Rivers and Harbors Act of 1899, the Clean Water Act, the Coastal Zone Management Act, and Louisiana's Public Trust Doctrine.

The tragedy of those laws is that they have done so little to abate the collapse of the coast. What they have done, however, is inform the public and government, if they cared to pay attention, about what is happening in our coast and what is happening to it. Within some limits, they also afford an opportunity for concerned persons—including property owners—to challenge those acts and permits. Few ever did, a fact that has to factor into the economic expectations of anyone who owns or holds property here.

These several factors combine to make rejecting background principles of law and applying takings law to water overly burdensome. The multitude of intertwined causes for coastal land loss—from chronic to acute, from local to global—make proving causation nearly impossible. The location, such as in the coastal Louisiana example, is often remote, and so the timing of the taking or occupation is not readily apparent. The burden on the court system would greatly increase as well. In most cases, with the movement of the waterline moves the property line, and there is no need to involve the judicial system. Any move away from water law's background principles creates the need to prove in court these very difficult and technical facts of timing and causation. Given the climate change projections for the rest of this century, the sheer volume of these cases that could follow is staggering enough to imagine court systems completely overloaded with these water-based takings claims.

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37. John A. Barras, *Land Area Changes in Coastal Louisiana After Hurricanes Katrina and Rita*, *in* U.S. Geological Survey, Science and the Storms: The USGS response to the Hurricanes Land area change in coastal Louisiana after the 2005 hurricanes—a series of three maps: U.S. Geological Survey Open-File Report 06-1274 (Oct. 1, 2006), https://pubs.usgs.gov/circ/1306/pdf/c1306_ch5_b.pdf.

VIII. CONCLUSION

The general rule is that when governments take private property they must, and should, make private property owners whole for their loss. Recent cases have clarified, properly in our view, that governments have no immunity from takings claims when a landowner is deprived of the use of his or her property because of a governmental action that causes his or her land to be temporarily inundated. Nevertheless, not being immune to takings claims does not mean that inundation, even that affecting a change of ownership, equals a taking. When takings law intersects with state water law, special care is called for. Water law doctrines have brought a measure of essential order to the dynamic and unpredictable (but often entirely foreseeable) boundaries between land and water, one legal estate and another, and what is public and what is private. Recent federal takings decisions have undervalued both the potentially decisive nature of water law and the degree to which it must inform the critical questions of whether a protected property right has been taken for public use and whether that right is backed by a reasonable investment backed expectation.

In individual cases like *Arkansas Game & Fish v. United States,* where the facts more clearly link governmental actions to unexpected inundations, the potential for getting things wrong are very limited. However, when one gets into the realities of storms, climate change, sea level rise, and adaptive water management, the prospect goes way up that ignoring or downplaying state water law might inject unnecessary and costly uncertainty to the publically vital and publically funded task of water management.

In recent years, we have learned volumes of new and important things about the nature and value of our water resources and about the profound risks we run by not applying that knowledge. It would be a tragic irony if our ability to manage for what may be the existential environmental and economic challenge of our time turns out to be preempted by an ignorance or misunderstanding of one of our most basic areas of natural resource and property law.

It cannot be assumed that the courts hearing takings claims are conversant or even aware of basic water law doctrines. Because of that, the risk is real that federal takings jurisprudence will depart from and diminish the importance of traditional water law. Should that occur, the cost will be measured in much more than the size of compensation awards.