

COMMENT

HOW *ST. BERNARD* IS “TAKING” THE CAUSATION INQUIRY IN FLOODING TAKINGS LITIGATION TOO FAR*

ABSTRACT

Three years after Hurricane Harvey struck Houston, Houstonians have rebuilt and repaired much of the damage that Harvey caused to the city. However, for the many homeowners whose homes were flooded not by Harvey’s rainfall but by the United States Army Corps of Engineers’ construction of and releases from the Addicks and Barker reservoirs, the fight to recover what they lost in Harvey is still underway. The road to recovery for these homeowners has been difficult, thanks to roadblocks imposed by governmental immunity in tort law and by *St. Bernard Parish Government v. United States*’s implications for takings law. Unlike the tort laws pertaining to flooding, whose statutorily enacted provisions are arduous to amend, causation requirements in takings law as it pertains to flooding can and should be changed to provide just compensation to people whose homes are flooded by government actions. If the government is going to continue performing controlled releases and allowing people to purchase homes inside of government-constructed reservoirs like Addicks and Barker without purchasing flowage easements, then it should be held responsible when private property resultingly floods.

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I. INTRODUCTION

Three years after Hurricane Harvey dumped twenty-seven trillion gallons of rainwater over Texas,¹ Houstonians have rebuilt and repaired much of the damage that Harvey caused to the city of Houston. However, for the many homeowners whose homes were flooded not by Harvey's rainfall but by the United States

1. Robert Morast, *Hurricane Harvey by the Numbers*, HOUS. CHRON., <https://www.houstonchronicle.com/life/article/Hurricane-Harvey-by-the-numbers-12172287.php> [https://perma.cc/93XQ-68PC] (Sept. 4, 2017, 5:02 PM).

Army Corps of Engineers’ (USACE)² construction of and releases from the Addicks and Barker reservoirs, the fight to recover what they lost in Harvey is still underway. The government must make right its decision to flood, without any compensation or payment of damages, the homes of upstream and downstream landowners during Hurricane Harvey. Though there were valid public policy arguments to be made for protecting the government from takings and tort liability in past natural disaster situations, storms like Harvey are predicted to increase in both frequency and severity. Thus, the government must be incentivized more strongly now than in the past to think before it floods.

As takings law and tort law currently stand, plaintiffs struggle to recover compensation or damages for government actions that flood private property. Tort law almost always protects the federal government from liability for damages caused by flooding. Takings law, the alternative to tort law, is also unreliable because the Federal Circuit’s decision in *St. Bernard Parish Government v. United States* made proving causation in flooding takings cases much more difficult for plaintiffs. Using the case study of the Addicks and Barker reservoir releases and backups during Hurricane Harvey and the subsequent ongoing litigation, this Comment will demonstrate how current law does not adequately protect private landowners from these types of invasions. If the government is going to continue performing controlled releases and allowing people to purchase homes inside of government-constructed reservoirs like Addicks and Barker without purchasing flowage easements, then it should be held responsible either for takings or for torts when private property resultingly floods.

This Comment calls attention to the potentially hazardous effect of *St. Bernard* on judicial means of recovery for landowners whose property is damaged by government-induced flooding. Part II will give an overview of the relevant facts in the Addicks and Barker reservoir cases, including facts surrounding the reservoirs’ construction, Hurricane Harvey, and the USACE’s critical decisions during Harvey. Part II will also provide a summary of tort law and takings law as applied to cases of government-induced flooding. Part III will examine the merits of the upstream and downstream Addicks and Barker cases on claims of both takings and tort liability. Part III will demonstrate how the court’s

2. Hereinafter, when this Comment refers to “the government,” that phrase includes “USACE.”

decision in *St. Bernard* muddied the causation analysis in flooding takings cases. Part III will also explain how the near impossibility of recovery for flooding under tort law makes it important to get takings law correct. Finally, Part IV will conclude with a call to action for revising causation requirements in takings cases involving government-induced flooding.

II. BACKGROUND

A. *The Facts: Harvey and the Addicks/Barker Reservoir Releases*

1. *The Reservoirs.* On a typical day in the Energy Corridor, Addicks Reservoir and Barker Reservoir look like ordinary parks, largely devoid of water, save for a few ponds and streams.³ During heavy rain events, these reservoirs serve a higher purpose than beautifying Houston's bustling Energy Corridor; the reservoirs store rainwater to prevent flooding of the Buffalo Bayou and certain key economic areas in the city of Houston.⁴ USACE constructed the reservoirs in the 1940s as part of the Buffalo Bayou and Tributaries Project.⁵ The reservoirs were intended to be part of a larger flood-control system that included other flood-control projects, but these other projects were never

3. See *Parks & Recreation, ENERGY CORRIDOR*, <https://www.energycorridor.org/amenities/parks-recreation/> [<https://perma.cc/8PKZ-E2YL>] (last visited Mar. 10, 2020); Kiah Collier, *In Harvey's Wake: In Win for Harvey Victims, Federal Judge Finds Government Liable for Reservoir Flooding*, TEX. TRIB. (Dec. 17, 2019, 6:00 PM), <https://www.texastribune.org/2019/12/17/hurricane-harvey-flood-victims-barker-addicks-reservoirs-win-lawsuit/> [<https://perma.cc/7NQ8-FATZ>].

4. *Briefing Document #2: How Do Addicks & Barker Reservoirs Work?*, GREATER HOUS. FLOOD MITIGATION CONSORTIUM 1, 3, <https://capitol.texas.gov/tlodocs/85R/handouts/C2102018020609151/ae8f145c-a2d8-4766-921f-1f8d86fb3cc9.PDF> [<https://perma.cc/VV6S-CH39>] (last visited Feb. 9, 2020) [hereinafter *Briefing Document #2*]. Among other areas, the reservoirs protect against flooding in Downtown, Memorial, River Oaks, Washington Avenue, Montrose, Fourth Ward, and the East End. *Id.* at 1.

5. *Buffalo Bayou and Tributaries Resiliency Study*, U.S. ARMY CORPS ENG'RS GALVESTON DIST. 1, 1 (Jan. 2020), <https://www.swg.usace.army.mil/Portals/26/Buffalo%20Bayou%20and%20Tributaries%20January%20Newsletter.pdf> [<https://perma.cc/DE8L-B44M>]. The Buffalo Bayou and Tributaries Project was authorized by the Rivers and Harbors Act of 1938, and its major (if not only) accomplishment was the construction of the Addicks and Barker reservoirs. *About the Reservoirs*, U.S. ARMY CORPS ENG'RS GALVESTON DIST., <https://www.swg.usace.army.mil/Missions/Dam-Safety-Program/About-The-Reservoirs/> [<https://perma.cc/E673-MUN4>] (last visited Mar. 2, 2021).

actualized.⁶ Today, USACE still owns and operates the reservoirs.⁷ At the time of construction, USACE acquired title to most, but not all, of the land that the reservoirs would flood in the event of a larger-than-100-year flood event.⁸ Addicks Reservoir can fill up to about 112 feet before water will spill over its spillway, and Barker Reservoir can fill up to 106 feet before water will spill over its spillway.⁹

2. *The Storm.* On August 26, 2017, Hurricane Harvey made landfall on the coast of Texas.¹⁰ The Category 4 storm brought storm surges of up to ten feet and wind speeds above 100 knots, or approximately 115 miles per hour.¹¹ For Houstonians, however, the most damaging feature of the storm was neither the storm surge nor the high-speed winds, but the rain. In fact, according to a National Hurricane Center Report, Hurricane Harvey was “the most significant tropical cyclone rainfall event in United States history, both in scope and peak rainfall amounts, since reliable rainfall records began around the 1880s.”¹² After making its initial landfall, Harvey lingered over southeastern Texas for several days, dumping five feet of rain in parts of the region.¹³ As the rain continued to fall, the Addicks and Barker reservoirs swelled and

6. *Briefing Document #2, supra* note 4, at 1. Other proposed projects included: levees to prevent floodwaters from the upstream Cypress Creek watershed from draining into the Addicks reservoir, another reservoir in the upper White Oak Bayou watershed, and bypass channels to reroute water released from the Addicks and Barker reservoirs out of the Buffalo Bayou and distribute it around the city. *Id.*

7. *See Flooding Impacts in Connection with the Reservoirs*, HARRIS CNTY. FLOOD CONTROL DIST., <https://www.hcfcd.org/hurricane-harvey/countywide-impacts/flooding-impacts-in-connection-with-the-reservoirs/> [<https://perma.cc/XU9J-94UW>] (last visited Mar. 14, 2021).

8. U.S. Army Corps of Eng'rs, *Addicks and Barker Reservoirs Legal Takings Analysis for Inclusion into Section 216 Reconnaissance Study*, SCRIBD 1, 8–9 (Feb. 28, 2018), <https://www.scribd.com/document/372578165/Addicks-and-Barker-Reservoirs-Legal-Takings-Analysis> [<https://perma.cc/V3G2-TBBW>].

9. *Briefing Document #2, supra* note 4, at 2. A spillway is an emergency feature on a reservoir that allows some water to flow out of reservoirs once the reservoir pool reaches a certain height to prevent a complete breach of the dam. *Id.* Neighborhoods of privately owned homes and commercial developments lie downstream of all of the Addicks and Barker reservoir spillways. *Id.*

10. Eric S. Blake & David A. Zelinsky, *National Hurricane Center Tropical Cyclone Report: Hurricane Harvey*, NAT'L HURRICANE CTR. 1, 3 (May 9, 2018), https://www.nhc.noaa.gov/data/tcr/AL092017_Harvey.pdf [<https://perma.cc/GC3V-D3GQ>].

11. *Id.* at 3–5.

12. *Id.* at 6.

13. *Id.* at 1.

their water levels crept closer and closer to the upstream plaintiffs' neighborhoods.¹⁴

3. *The Releases and the Flooding.* On August 27, 2017, USACE published a press release warning that it might have to resort to controlled reservoir releases to avoid a breach of the reservoirs.¹⁵ Such a breach would almost certainly have flooded downtown Houston and the Houston Ship Channel, two of Houston's critical economic centers for which the reservoirs were constructed to protect.¹⁶ By August 28, 2017, water levels in the Addicks and Barker reservoirs were rising at a rate of more than half a foot per hour, so USACE began the first of its controlled releases from the reservoirs.¹⁷ At first, USACE released water from each reservoir at a rate of about 800 cubic feet per second, or a combined total of 1,600 cubic feet per second.¹⁸ After several hours, USACE increased the rate of release to a combined total of 8,000 cubic feet per second.¹⁹ On August 30, 2017, USACE again increased the rate of release to 13,000 cubic feet per second—more than eight times the initial rate of release.²⁰ Ultimately, the rate of release exceeded 15,000 cubic feet per second.²¹ Such rapid releases are unprecedented in Houston; historically, combined releases from the Addicks and Barker reservoirs have almost never exceeded 2,000 cubic feet per second.²²

In a matter of days, homeowners downstream of the reservoirs, most of whom “had not flooded one drop” from Hurricane Harvey until that point, were flooded out of their

14. See *USACE Harvey Timeline*, DEF. VISUAL INFO. DISTRIB. SERV., at 00:31 (Sept. 4, 2017), <https://www.dvidshub.net/video/548079/usace-harvey-timeline> [<https://perma.cc/C E2S-HH9G>] (visualizing release of water from the reservoirs to the upstream and downstream neighborhoods).

15. *USACE Galveston District to Make Intermittent Releases at Addicks and Barker Dams*, U.S. ARMY CORPS ENG'RS GALVESTON DIST. (Aug. 27, 2017), <https://www.swg.usace.army.mil/Media/News-Releases/Article/1291256/usace-galveston-district-to-make-intermittent-releases-at-addicks-and-barker-da/> [<https://perma.cc/R8U4-PFNS>].

16. *Id.*

17. *Corps Releases at Addicks and Barker Dams to Begin*, U.S. ARMY CORPS OF ENG'RS GALVESTON DIST. (Aug. 28, 2017), <https://www.swg.usace.army.mil/Media/News-Releases/Article/1291369/corps-releases-at-addicks-and-barker-dams-to-begin/> [<https://perma.cc/B85L-YEZ7>].

18. *Id.*

19. *Id.*

20. *USACE Makes Unexpected Releases from Addicks and Barker Dams*, U.S. ARMY CORPS ENG'RS GALVESTON DIST. (Aug. 30, 2017), <https://www.swg.usace.army.mil/Media/News-Releases/Article/1294566/usace-makes-unexpected-releases-from-addicks-and-barker-dams/> [<https://perma.cc/ALE7-PQAM>].

21. *Briefing Document #2*, *supra* note 4, at 4.

22. *Id.*

homes.²³ The releases flooded an estimated 4,000 homes downstream of the reservoirs,²⁴ hitting the neighborhoods between State Highway 6 and Beltway 8 particularly hard.²⁵ These releases were historically unprecedented; the Harris County Flood Control District said of the releases that this was the first time “this has happened” in seventy years.²⁶

Hurricane Harvey was also the first storm during which homes upstream of the reservoirs flooded due to rising water backing up in the reservoirs.²⁷ The water levels in the reservoirs began to rise when Harvey first made landfall and continued rising even after the controlled releases began.²⁸ On August 30, 2017, the water levels in both reservoirs “were at or near their peaks.”²⁹ Because USACE had only acquired title to some of the land that the reservoirs would flood in the event of a larger-than-100-year flood event,³⁰ streets and homes that had been built upstream of the reservoirs but within the reservoirs’ flood zone were inundated with water.³¹ The Greater Houston Flood Mitigation Consortium estimates that 10,000 homes outside of the government-owned property, but within the reservoirs, flooded as a result of the backup.³²

4. *The Lawsuits.* Not long after the floodwaters subsided, upstream and downstream landowners alike filed suit in the Court of Federal Claims.³³ The “upstream” cases are the claims brought by property owners whose homes are located upstream of the Addicks and Barker reservoirs while inside the reservoirs’

23. CHRIS JOHNS & ASHLEY CROSWELL, GOVERNMENTAL LIABILITY FOR FLOODING: THE TEST AND A CASE STUDY 1, 6 (2018), Westlaw SZ005 ALI-CLE 243.

24. *Briefing Document #2, supra* note 4, at 4.

25. *Id.*

26. *Flooding Impacts in Connection with the Reservoirs, supra* note 7.

27. *Id.*

28. *Id.* Water levels in reservoirs like Addicks and Barker do not necessarily decline the moment that controlled releases begin. *Id.* Water levels in reservoirs continue to rise “when the stormwater inflow rate exceeds the stormwater release rate.” *Id.* Thus, even though the controlled releases began on August 28, the water levels in both reservoirs continued to rise “due to tremendous inflow rates from bayous draining into the reservoir[s].” *Id.*

29. *Id.*

30. *See Briefing Document #2, supra* note 4, at 3.

31. *Id.*

32. *Id.*

33. *See* Class Action Complaint, *Micu v. United States*, No. 17-1277L (Fed. Cl. filed Sept. 15, 2017); Complaint, *Bruzos v. United States*, No. 17-1408L (Fed. Cl. filed Oct. 2, 2017).

maximum potential flood zones.³⁴ Upstream homes were flooded when the floodwaters that accumulated in the reservoirs pooled beyond the government-owned part of the reservoir and onto privately owned property.³⁵ The “downstream” cases are the claims brought by property owners whose homes lie downstream of the reservoirs and were flooded when USACE released floodwaters from the reservoirs.³⁶ The upstream landowners alleged four causes of action against the federal government under the Fifth Amendment, including: (i) temporary taking of a flowage easement, (ii) temporary taking of other property interests, (iii) permanent taking of damaged and destroyed property, and (iv) permanent taking of a flowage easement.³⁷ The downstream plaintiffs alleged that under the Fifth Amendment, the government was liable for takings of both real and personal property.³⁸

B. *The Law*

1. *Why Tort Law Is an Illusory Route to Recovery for Government-Induced Flooding.* Though the property owners affected by the Addicks and Barker reservoir releases did not do so in the complaints they have filed against the federal government,³⁹ they could have alleged tort claims of negligence, trespass, or even conversion.⁴⁰ In general, under the doctrine of sovereign immunity, the government is immune from tort liability unless it permits people to sue it.⁴¹ The Federal Tort Claims Act (FTCA) provides such permission, allowing people to recover from

34. Amended Individual Upstream Master Complaint at 1–2, *In re Upstream Addicks and Barker (Texas) Flood-Control Reservoirs*, 146 Fed. Cl. 219 (2019) (No. 17-9001L).

35. *Id.*

36. *See* Complaint (Downstream) at 2, *Abbas v. United States*, No. 17-1882L (Fed. Cl. filed Dec. 5, 2017).

37. Amended Individual Upstream Master Complaint, *supra* note 34, at 30–34.

38. *See* Complaint (Downstream), *supra* note 36, at 17.

39. *See id.*; Amended Individual Upstream Master Complaint, *supra* note 34, at 30–34.

40. As I will demonstrate in this section, however, these are difficult claims to bring because of sovereign immunity and the discretionary function exception. *See infra* notes 45–51 and accompanying text. This perhaps explains why neither the upstream nor downstream plaintiffs in the Addicks and Barker cases included tort as a cause of action in their complaints against the government.

41. DANIEL A. MORRIS, FEDERAL TORT CLAIMS § 1:7, Westlaw (database updated June 2019) (quoting *United States v. Sherwood*, 312 U.S. 584, 586 (1941)).

the federal government for certain torts.⁴² For instance, the FTCA provides that the federal government may be liable for property loss caused by its negligence or wrongful acts.⁴³ This appears to give broad authorization for plaintiffs to sue the government.⁴⁴ However, the FTCA contains an exception that kills many such suits: the discretionary function exception.⁴⁵

The FTCA provides an exception that the government cannot be held liable for a tort even under § 1346 if a party’s claim is based upon a government action that is a so-called discretionary function.⁴⁶ Courts have enumerated a two-part test to determine whether an action is a discretionary function. First, the government’s conduct must involve “an element of judgment or choice.”⁴⁷ Second, the government must have based its actions on “considerations of public policy.”⁴⁸ Courts have previously used the discretionary function exception as a basis for dismissing tort claims based on government decisions that flooded private property.⁴⁹

Together with the Flood Control Act,⁵⁰ the FTCA’s discretionary function exception renders it practically impossible for tort liability to attach to government decisions to flood private property.⁵¹ Therefore, because takings law is effectively the

42. 35A AM. JUR. 2D *Federal Tort Claims Act* § 5, Westlaw (database updated Feb. 2020). “Federal Tort Claims Act was designed primarily to remove the sovereign immunity of the United States from suits in tort.” *Overview*, 1 WEST’S FED. ADMIN. PRAC. § 901 n.1.50, Westlaw (database updated July 2020).

43. 28 U.S.C. § 1346(b)(1) (stating that the United States may be liable for “injury or loss of property, or [any] personal injury or death caused by the negligent or wrongful act or omission[s] of any employee of the Government while acting within the scope of his office or employment, under circumstances where the United States, if a private person, would be liable to the claimant in accordance with the law of the place where the act or omission occurred”).

44. *See id.*

45. *See* 28 U.S.C. § 2680(a).

46. *Id.*

47. *United States v. Gaubert*, 499 U.S. 315, 322 (1991).

48. *Id.* at 323 (citations omitted).

49. *See, e.g., In re Katrina Canal Breaches Litig.*, 696 F.3d 436, 454 (5th Cir. 2012).

50. The Flood Control Act says, “No liability of any kind shall attach to or rest upon the United States for any damage from or by floods or flood waters at any place.” 33 U.S.C. § 702c. This act expressly only applies to government actions involving the Mississippi River, but at least one court has held that it applies to more than just the Mississippi River and that “the fact that the words ‘Mississippi River’ have lingered on in the successive editions of the United States Code [is] immaterial.” J.D. Perovich, *Liability of United States Under Federal Tort Claims Act for Damage from Flooding*, 4 A.L.R. FED. 723 (originally published in 1970).

51. For example, in the torts cases that followed Hurricane Katrina, “[a]ll of the . . . cases were dismissed eventually, either under the Flood Control Act of 1928 (FCA)

private landowner's only viable cause of action against the government when the government's decisions result in flooding on private land, courts must ensure that takings law is correct and just.

2. *Takings Law as an Alternative to Tort Liability for Floodings.* In addition to bringing tort claims, the property owners could bring, and have brought, takings claims. The Fifth Amendment Takings Clause states, “[N]or shall private property be taken for public use, without just compensation.”⁵² The Takings Clause is designed to “bar [g]overnment from forcing some people alone to bear public burdens.”⁵³ There are two basic elements of a takings claim.⁵⁴ First, perhaps obviously, but importantly, in order to prove that they deserve just compensation, plaintiffs must prove that they have a protected property interest in the allegedly taken property.⁵⁵ Second, the plaintiffs must prove that “the governmental action at issue amounted to a compensable taking of that [protected] property interest.”⁵⁶ A per se taking occurs when the government authorizes a permanent physical occupation of private land.⁵⁷

a. *Historical Development of Flooding Takings Law.* In addition to these general takings rules, takings claims involving government-induced flooding and flowage easements comprise a niche of takings law that is governed by additional, specialized rules. Thus, to fully understand the legal framework that courts use to evaluate flooding takings claims, this Comment will now briefly review the evolution of caselaw involving government-induced flooding. The Court applied the per se takings rule to permanent, government-induced flooding of private

or the FTCA.” Edward P. Richards, III, *The Hurricane Katrina Litigation Against the Corps of Engineers: Is Denial of Geology and Climate Change the Way to Save New Orleans?*, 40 U. ARK. LITTLE ROCK L. REV. 695, 707 (2018).

52. U.S. CONST. amend. V.

53. *Armstrong v. United States*, 364 U.S. 40, 49 (1960).

54. *In re Upstream Addicks & Barker (Texas) Flood-Control Reservoirs*, 146 Fed. Cl. 219, 246 (2019).

55. *See Wyatt v. United States*, 271 F.3d 1090, 1096 (Fed. Cir. 2001) (citations omitted).

56. *Am. Pelagic Fishing Co. v. United States*, 379 F.3d 1363, 1372 (Fed. Cir. 2004) (citations omitted).

57. *Loretto v. Teleprompter Manhattan CATV Corp.*, 458 U.S. 419, 426 (1982) (“[A] permanent physical occupation authorized by [the] government is a taking without regard to the public interests that it may serve.”).

land in an early case, *Pumpelly v. Green Bay Co.*⁵⁸ *United States v. Cress* came next, holding that, while not a per se taking, temporary seasonally recurring flooding could constitute a taking.⁵⁹ A few years after *Cress*, the Court held in *Sanguinetti v. United States* that there was not a taking because the plaintiff failed to show a causal connection between the canal and the increased seasonal flooding on the plaintiff’s property.⁶⁰ The Court reasoned that the outcome in a flooding takings case rests on foreseeability and causation.⁶¹ *United States v. Sponenbarger* added the relative benefits doctrine to the flooding takings analysis, holding that building a flood protection system that ultimately did not adequately protect the plaintiff’s property from flooding was not a taking because the system improved the plaintiff’s flood protection and thus provided a benefit that outweighed its detriments to the plaintiff.⁶²

Arkansas Game & Fish Commission v. United States held that the government may be liable for a taking of a flowage easement⁶³ when its decisions result in repeated temporary flooding.⁶⁴ The *Arkansas Game* decision contributed to flooding takings law in that it elaborated on the *Penn Central Transportation Co. v. City of New York* balancing test⁶⁵ by enumerating flooding-specific

58. *Pumpelly v. Green Bay Co.*, 80 U.S. 166, 181 (1871) (“[W]here real estate is actually invaded by superinduced additions of water, earth, sand, or other material, or by having any artificial structure placed on it, so as to effectually destroy or impair its usefulness, it is a taking, within the meaning of the Constitution.”).

59. *United States v. Cress*, 243 U.S. 316, 328 (1917).

60. *Ark. Game & Fish Comm’n v. United States*, 568 U.S. 23, 34 (2012) (citing *Sanguinetti v. United States*, 264 U.S. 146, 148–49 (1924)).

61. *Id.* (citing *Sanguinetti*, 264 U.S. at 148–49).

62. *United States v. Sponenbarger*, 308 U.S. 256, 267, 270 (1939) (explaining that the Supreme Court has “never held that the Government takes an owner’s land by a flood program that does little injury in comparison with far greater benefits conferred”). In this case, the plaintiff benefitted from flood protection provided by government-installed levees and “fuse plug levees,” which diverted floodwaters from the main river channel to designated outflow points. *Id.* at 261–63.

63. A flowage easement is an interest in land that “gives the dominant-estate owner the right to flood a servient estate, as when land near a dam is flooded to maintain the dam or to control the water level in a reservoir.” *Easement*, BLACK’S LAW DICTIONARY (11th ed. 2019).

64. *See Ark. Game & Fish Comm’n*, 568 U.S. at 38.

65. The *Penn Central* balancing test says that when determining whether a government action or regulation constitutes a taking, courts must balance (1) the economic impact of the regulation on the plaintiff, including the extent to which the regulation has interfered with the plaintiff’s distinct investment-backed expectations against (2) the character of the government action. *Penn Cent. Transp. Co. v. City of New York*, 438 U.S. 104, 124 (1978). “A ‘taking’ may more readily be found when the interference with property can be characterized as a physical invasion by [the] government than when interference

factors that should be weighed as part of the *Penn Central* balancing test.⁶⁶ First, the Court held that time is a factor in determining whether there has been a taking.⁶⁷ Second, the Court looked at the “degree to which the invasion [of the plaintiffs’ property] is intended or is the foreseeable result of authorized government action.”⁶⁸ Next, the Court reasoned that the character of the land and the landowner’s reasonable investment-backed expectations regarding its use should be taken into account.⁶⁹ Finally, the Court considered the severity of the interference with the plaintiffs’ property.⁷⁰

*b. Changing the Takings Causation Inquiry: St. Bernard.*⁷¹ Then came *St. Bernard*,⁷² a case decided by the Federal Circuit Court of Appeals on April 20, 2018.⁷³ Decisions of the Federal Circuit Court of Appeals are binding on the Court of Federal Claims. Thus, the Federal Circuit’s decision in *St. Bernard* is binding authority in the Addicks and Barker reservoir cases, which the Court of Federal Claims adjudicated,⁷⁴ and on other flooding takings cases over which the Court of Federal Claims has jurisdiction.⁷⁵ There were two issues in *St. Bernard*.⁷⁶ The first issue was whether the federal government, because of its inaction,⁷⁷ was liable for flood damage to privately owned and municipally owned property caused by Hurricane Katrina and other hurricanes.⁷⁸ The second issue was whether the increased flooding from the government’s action of constructing the

arises from some public program adjusting the benefits and burdens of economic life to promote the common good.” *Id.* (citation omitted).

66. See *Ark. Game & Fish Comm’n*, 568 U.S. at 38–39.

67. *Id.* at 38.

68. *Id.* at 39.

69. *Id.*

70. *Id.*

71. *St. Bernard Par. Gov’t v. United States*, 887 F.3d 1354 (Fed. Cir. 2018), *cert. denied*, 139 S. Ct. 796 (2019).

72. *Id.*

73. The *St. Bernard* case never made it to the Supreme Court because the Supreme Court denied certiorari on January 7, 2019. See *St. Bernard Par. v. United States*, 139 S. Ct. 796 (2019) (denying certiorari).

74. See *supra* note 33 and accompanying text.

75. The Court of Federal Claims has concurrent jurisdiction with the U.S. District Courts over Fifth Amendment takings claims. See 28 U.S.C. § 1346.

76. See *infra* notes 77–78 and accompanying text.

77. “Inaction” refers to the USACE’s failure to armor, maintain, or address the erosion of the banks, leading to degradation of wetland buffer zones and erosion along the banks of the channel. *St. Bernard Par. Gov’t*, 887 F.3d at 1357–58.

78. *Id.* at 1357.

Mississippi River-Gulf Outlet (MRGO) constituted a temporary taking.⁷⁹

The Federal Circuit held that the government cannot be liable on a takings theory for inaction, and that the plaintiffs did not prove that the government’s action of constructing the MRGO caused the flooding.⁸⁰ The court explained that, when analyzing causation in takings cases that involve flooding, courts must look at all of the risk-increasing and risk-decreasing actions that the government took that were targeted at the same risk.⁸¹ In the *St. Bernard* case, the government increased the risk of flooding the plaintiffs’ properties when it constructed the MRGO, but the government also decreased that same risk of flooding by constructing levees as part of the Lake Pontchartrain and Vicinity Hurricane Protection Project (LPV project) to mitigate the impacts of the MRGO.⁸² The implication of *St. Bernard* is that if the government takes any action that offsets, in some way, the risk of flooding, plaintiffs cannot satisfy the causation requirement necessary to find the government liable for a flooding taking.

At first pass, the *St. Bernard* causation standard may sound similar to the relative benefits doctrine in *Sponenbarger*.⁸³ The difference between *St. Bernard* and *Sponenbarger* is that the *Sponenbarger* doctrine says that if the benefits *outweigh* the detriments of the government project, causation fails. *St. Bernard*, on the other hand, indicates that if there are *any* benefits provided in addition to the detriments, causation fails. *St. Bernard* thus provides an unjustifiably higher bar for flooding taking plaintiffs to meet to establish causation for their takings claims.

3. *A Summarized Test for Flooding Takings.* The totality of the takings cases involving government-induced flooding indicates a four-step test for determining whether a flooding is a taking:

1. Does the plaintiff have a protected property interest in the property that was allegedly taken?
2. Was there a permanent or temporary physical invasion of the plaintiff’s property? If the invasion was a permanent, physical invasion, then the inquiry ends, and the court must find that there is a taking per se. If the taking was

79. *Id.* at 1358.

80. *Id.* at 1357.

81. *Id.* at 1365.

82. *Id.* at 1357–58.

83. *See supra* note 62 and accompanying text.

temporary, then the court will move on to the next step in the flooding takings test.

3. Was the invasion caused by and the foreseeable result of government action? If a temporary invasion was not caused by the government's action, then the court will not find that the government's action effected a taking.⁸⁴ Likewise, if the taking was not foreseeable by the government, then the court is unlikely to find a taking.⁸⁵ Once the court finds causation, then the balancing test described in the next step applies.⁸⁶

4. Even if the government's temporary physical invasion was caused by and the foreseeable result of government action, the court will still apply a balancing test to determine whether the action constitutes a taking. The court will balance the economic impact on the person claiming that her property was taken against the character of the government action, using the factors enumerated in *Arkansas Game*.⁸⁷

C. *The Scholarship*

Houston lawyers Chris Johns and Ashley Croswell of Johns Marrs Ellis & Hodge LLP (now Marrs Ellis & Hodge LLP) were involved with the Addicks and Barker reservoir litigation.⁸⁸ In 2018, they published a piece that examined takings law as applied to flooding cases and analyzed the Addicks and Barker reservoir litigation under that framework.⁸⁹ However, *St. Bernard* had not yet been decided when the Johns and Croswell article was written.⁹⁰ As this Comment will demonstrate, *St. Bernard* likely changes the analysis for causation in flooding takings cases, and the courts must address the upstream and downstream landowners' claims in the Addicks and Barker suits under the binding precedent from *St. Bernard*.

84. *St. Bernard Par. Gov't*, 887 F.3d at 1360.

85. *See* Ark. Game & Fish Comm'n v. United States, 568 U.S. 23, 39 (2012) (citing John Horstmann Co. v. United States, 257 U.S. 138, 146 (1921)).

86. *St. Bernard Par. Gov't*, 887 F.3d at 1366.

87. *See supra* notes 66–70 and accompanying text.

88. JOHNS & CROSWELL, *supra* note 23.

89. *Id.*

90. The Federal Circuit decided *St. Bernard* on April 20, 2018. *St. Bernard Par. Gov't*, 887 F.3d at 1355. The Johns and Croswell article was published as a CLE in January 2018. JOHNS & CROSWELL, *supra* note 23.

III. APPLYING *ST. BERNARD* TAKINGS ANALYSIS TO THE ADDICKS AND BARKER CASES

A. *Why Tort Would Not Work in the Addicks and Barker Cases*

If a court finds that there was not a taking, then the proper action lies in tort.⁹¹ But does it? The FTCA all but bars these types of negligence claims because they are discretionary acts.⁹² The upstream plaintiffs probably would not prevail in tort for two reasons. First, USACE’s failure to purchase all of the property within the maximum potential flood zone probably involved an element of judgment or choice, which would satisfy the first requirement of the discretionary function exception.⁹³ In *In re Katrina*, the Fifth Circuit concluded that USACE’s failure to armor the MRGO was a discretionary decision involving an element of judgment or choice because there was no mandate requiring the government to do so.⁹⁴ Likewise, in the Addicks and Barker cases, no mandates required the government to purchase all the property within the maximum potential flood zone of the Addicks and Barker reservoirs.⁹⁵ Second, USACE’s decision not to purchase all of the property within the maximum potential flood zone was based on public policy considerations, which would satisfy the second requirement of the discretionary function exception.⁹⁶ *In re Katrina* held that USACE based its decision on public policy considerations even though it did not explicitly share those public policy considerations.⁹⁷ In the Addicks and Barker cases, USACE conducted an internal study a couple of decades ago that explicitly discussed how much upstream land it acquired for the reservoirs, the likelihood of flooding in those unacquired areas, and the likely impacts of development on those areas.⁹⁸ This report is probably good evidence that USACE based its decision on public policy considerations. Thus, the discretionary function exception

91. *St. Bernard Par. Gov’t*, 887 F.3d at 1362.

92. *See* 28 U.S.C. § 2680(a); *In re Katrina Canal Breaches Litig.*, 696 F.3d 436, 451 (5th Cir. 2012).

93. *See* 28 U.S.C. § 2680(a).

94. *See In re Katrina Canal Breaches Litig.*, 696 F.3d at 451.

95. *See* U.S. Army Corps of Eng’rs, *supra* note 8, at 8–11.

96. *See generally id.*

97. *In re Katrina Canal Breaches Litig.*, 696 F.3d at 451 (“The Corps’s actual reasons for the delay are varied and sometimes unknown, but there can be little dispute that the decisions here were susceptible to policy considerations.”).

98. *See* U.S. Army Corps of Eng’rs, *supra* note 8, at 8–10.

will most likely apply, disposing of any tort claim that the upstream plaintiffs might bring against the government.

As to the downstream cases, in *In re Katrina*, the Fifth Circuit concluded that USACE's failure to armor the MRGO was a discretionary decision involving an element of judgment or choice because there was no mandate requiring the government to do so.⁹⁹ Likewise, in the Addicks and Barker cases, no mandates required USACE to release water from the reservoirs to prevent a breach, yet it chose to do so.¹⁰⁰ Here, USACE weighed the risks and decided that it was better to do controlled releases and flood downstream plaintiffs rather than risk a breach of the reservoir, which would flood downtown Houston and the Houston Ship Channel.¹⁰¹ Thus, USACE based its decision to conduct controlled releases from the reservoirs and flood the downstream plaintiffs' property on public policy considerations, making it a discretionary function for which the federal government is immune from suit under the FTCA.¹⁰²

Therefore, the upstream and downstream plaintiffs' only plausible cause of action for the Addicks and Barker reservoir flooding is found in takings law. As discussed below, although the upstream plaintiffs in these cases prevailed,¹⁰³ future plaintiffs whose takings claims fail under *St. Bernard* might be left without any recourse.

B. *Why the Upstream Cases Survived St. Bernard*¹⁰⁴

After a fact-intensive analysis,¹⁰⁵ the Court of Federal Claims held, in spite of *St. Bernard*, that USACE took a flowage easement of the upstream plaintiffs' property.¹⁰⁶ The first step in the court's takings inquiry was to identify the upstream plaintiffs' protected property interest that was allegedly taken.¹⁰⁷ The court quickly dismissed the government's arguments on this issue and

99. See *In re Katrina Canal Breaches Litig.*, 696 F.3d at 450–51.

100. See *USACE Makes Unexpected Releases from Addicks and Barker Dams*, *supra* note 20.

101. See *id.*; *USACE Galveston District to Make Intermittent Releases at Addicks and Barker Dams*, *supra* note 15.

102. 28 U.S.C. § 2680(a).

103. See *infra* note 106 and accompanying text.

104. *St. Bernard Par. Gov't v. United States*, 887 F.3d 1354, 1368 (Fed. Cir. 2018), *cert. denied*, 139 S. Ct. 796 (2019).

105. *In re Upstream Addicks & Barker (Texas) Flood-Control Reservoirs*, 146 Fed. Cl. 219, 248 (2019).

106. *Id.* at 257, 263.

107. *Id.* at 246.

concluded that the upstream plaintiffs, as owners of private properties for which the government did not own a flowage easement, did have a protected property interest.¹⁰⁸

Once the court established that the plaintiffs had a protected property interest, it proceeded to evaluate whether a compensable taking occurred. The court started by determining whether there was a physical invasion, either permanent or temporary.¹⁰⁹ In their complaint, the upstream plaintiffs alleged that USACE caused, either together or in the alternative, a temporary taking and a permanent taking.¹¹⁰ The upstream plaintiffs did not argue, nor does there appear to be evidence, that USACE itself physically entered the upstream plaintiffs’ property.¹¹¹ However, the Court of Federal Claims determined that a physical entry occurred when the floodwaters that pooled in the reservoirs entered the upstream plaintiffs’ properties.¹¹² Furthermore, the court found that the taking was permanent because although the floodwater had only remained on plaintiffs’ properties for a few days,¹¹³ the government “retains the rights to [a] flowage easement . . . with a continual right of re-entry.”¹¹⁴

The next step in the takings inquiry is whether the physical invasion was foreseeable and whether it was caused by government action.¹¹⁵ As to foreseeability, the government argued that flooding outside of its government-owned property in the reservoir was not foreseeable because (1) a significant amount of development has occurred upstream of the reservoirs since their construction, and (2) Hurricane Harvey was the first hurricane that caused such a floodwater backup in the reservoirs.¹¹⁶ However, the court held that Harvey’s severity did not eliminate foreseeability because USACE’s own report acknowledged the possibility of flooding outside of the government-owned portions of

108. See *id.* at 248–49, 249 n.18. The court does not explicitly state what the protected property interest is, but presumably it has something to do with the common law property right of exclusion.

109. *Id.* at 247.

110. Amended Individual Upstream Master Complaint, *supra* note 34, at 30–33.

111. See *id.* at 2.

112. *In re Upstream Addicks & Barker (Texas) Flood-Control Reservoirs*, 146 Fed. Cl. at 247–48.

113. *Id.* at 250–51.

114. *Id.* at 247.

115. See *supra* note 84 and accompanying text.

116. See *In re Upstream Addicks & Barker (Texas) Flood-Control Reservoirs*, 146 Fed. Cl. at 255–57.

the reservoir as early as the 1940s.¹¹⁷ Therefore, the Court of Federal Claims found that USACE could have foreseen that a larger-than-100-year flooding event could cause flooding beyond the boundaries of government-owned property and on the properties of the upstream plaintiffs.¹¹⁸

As to whether the physical invasion was caused by government action, the government argued in the Addicks and Barker suits that the upstream plaintiffs accused it of mere inaction resulting from USACE's failure to purchase all the land within the reservoirs' maximum potential flood zones.¹¹⁹ However, in its order deferring the government's motion to dismiss for failure to state a claim, the Court of Federal Claims found that the upstream plaintiffs adequately alleged government action in their complaint.¹²⁰ The Court of Federal Claims later found in its opinion that this government action did cause the physical invasion.¹²¹

So, why did the upstream cases survive *St. Bernard*? The upstream plaintiffs in the Addicks and Barker cases have a stronger case for causation than the *St. Bernard* plaintiffs had. Unlike the *St. Bernard* case, where the government had taken steps to offset the risk of flooding caused by the MRGO,¹²² in the Addicks and Barker cases, the government made no such similar offset for the relevant risk, which is the risk of flooding the

117. *Id.* at 255–56; see also Bria Burk, *Army Corps Predicted Addicks and Barker Flood Pool Lawsuits, Decided Not to Act*, INSIDE ADDICKS BARKER (Mar. 5, 2018), <http://insideaddicksbarker.com/army-corps-predicted-addicks-and-barker-flood-pool-lawsuits-decide-not-to-act/> [<https://perma.cc/ABF8-4VBW>]. In this report, USACE acknowledges that, in the event of a 100-year flood, 233 acres of privately owned land upstream of the Barker Reservoir would be flooded and that it would take a 250-year flood to exceed the boundary of government-owned land in the Addicks Reservoir. *Id.* Curiously, Houston experienced 500-year flooding events three years in a row in 2015, 2016, and 2017. Christopher Ingraham, *Houston Is Experiencing Its Third '500-Year' Flood in 3 Years. How Is That Possible?*, WASH. POST (Aug. 29, 2017, 4:30 AM), <https://www.washingtonpost.com/news/wnk/wp/2017/08/29/houston-is-experiencing-its-third-500-year-flood-in-3-years-how-is-that-possible/> [<https://perma.cc/9263-AQR9>].

118. *In re Upstream Addicks & Barker (Texas) Flood-Control Reservoirs*, 146 Fed. Cl. at 256.

119. *In re Upstream Addicks & Barker (Texas) Flood-Control Reservoirs*, 138 Fed. Cl. 658, 666 (2018).

120. *Id.* at 666–67 (“The government acted when it built and then modified the dams in such a way that they could and did impound storm water behind the dams on both government and private property. That the government's action bore fruit or had consequences only some years later does not obviate the reality that *action*, not inaction, is at issue.”).

121. *In re Upstream Addicks & Barker (Texas) Flood-Control Reservoirs*, 146 Fed. Cl. at 256–58.

122. See *supra* text accompanying note 82.

upstream plaintiffs’ property.¹²³ The government argued that it had granted “outgrants”¹²⁴ in the late 1970s that provided a benefit to upstream development.¹²⁵ The Court of Federal Claims disagreed that the outgrants provided a benefit to the upstream homeowners.¹²⁶ The court reasoned that, although the outgrants benefitted upstream development generally, the outgrants negatively impacted the Addicks and Barker reservoirs by increasing sediment deposits into the reservoirs and increasing the rate of runoff into the reservoirs, among other things.¹²⁷ Thus, the court found that the outgrants did not provide greater benefit than harm, and it did not consider the impacts of the outgrants in its causation analysis.¹²⁸ Had the court determined that the outgrants provided greater benefit than harm, plaintiffs would have had to account for the outgrants’ benefits in its proof of causation under *St. Bernard*. This potentially could have placed a significant obstacle in the upstream plaintiffs’ path to recovery.

Perhaps the government could have also argued that the entire Buffalo Bayou and Tributaries Project (BBTP) that was authorized by the federal Rivers and Harbors Act of 1938 provided benefits to upstream plaintiffs that offset or even outweighed the upstream plaintiffs’ claims, but it appears that the only accomplishment of the BBTP was construction of the reservoirs.¹²⁹ The government never implemented other proposed actions that could have helped reduce the risk of the Addicks and Barker reservoirs flooding privately owned land.¹³⁰ Thus, the court found that the upstream plaintiffs satisfied their burden of proof for causation because (1) the government took no other actions targeting the risk of flooding in the upstream plaintiffs’ homes,

123. *In re Upstream Addicks & Barker (Texas) Flood-Control Reservoirs*, 146 Fed. Cl. at 258.

124. The term “outgrants” refers to flowage easements that the government granted across government property to allow upstream developers to divert upstream tributaries away from upstream developments. *Id.* at 234.

125. *Id.*

126. *Id.* at 234, 258.

127. *Id.*

128. *Id.*

129. *See supra* notes 5–6 and accompanying text.

130. *See supra* notes 5–6 and accompanying text. For example, the government could have constructed levees in the Cypress Creek watershed that lies upstream of Addicks and Barker or constructed a third reservoir in the White Oak Bayou watershed, like the original BBTP proposed. *See supra* notes 5–6 and accompanying text.

and (2) the plaintiffs' properties would not have flooded as severely but for the Addicks and Barker reservoirs.¹³¹

Although the upstream plaintiffs succeeded in proving causation in the Addicks and Barker litigation, the court indicated that causation is a fact-intensive inquiry.¹³² Future flooding takings cases could turn out differently if the government has taken any sort of mitigating action in addition to the action that causes an alleged taking. By requiring courts to consider "the impact of the entirety of [the] government actions that address the relevant risk," including risk-increasing and risk-decreasing actions, *St. Bernard* makes proving causation in flooding takings cases more difficult for plaintiffs.¹³³ If the facts of future flooding takings cases are more similar to *St. Bernard* than to the Addicks and Barker upstream cases, then future plaintiffs will probably have a harder time proving that the government took no action that decreased the risk of flooding than the Addicks and Barker upstream plaintiffs did.

Curiously, courts do not take the *St. Bernard* approach of examining the entirety of the government's actions concerning a given risk in every type of takings case. In fact, courts seem to require causation analysis to include the entirety of the government's actions addressing the relevant risk only in takings cases where the plaintiffs' claims are based on government actions that resulted in floods or wildfires destroying the plaintiffs' property.¹³⁴ Perhaps there are some valid public policy reasons for implementing a different causation inquiry for government actions that cause physical invasions via flood or wildfire than for other physical invasions.¹³⁵ Still, the general aim of takings law is to prevent an individual from alone bearing "burdens which . . . should be borne by the public as a whole."¹³⁶ *St. Bernard's* requirement that courts must consider the entirety of the government's actions that target the same general risk when determining whether one government action caused a taking is

131. *In re Upstream Addicks & Barker (Texas) Flood-Control Reservoirs*, 146 Fed. Cl. at 258.

132. *Id.* at 248.

133. *St. Bernard Par. Gov't v. United States*, 887 F.3d 1354, 1364–65 (Fed. Cir. 2018), *cert. denied*, 139 S. Ct. 796 (2019).

134. *Id.*

135. For example, one could argue that if the government is required to compensate every landowner whose property may be affected by flood or wildfire control projects that it implements, then such projects will become cost-prohibitive for the government.

136. *Armstrong v. United States*, 364 U.S. 40, 49 (1960).

inconsistent with the general aim of takings law because it complicates the causation analysis.¹³⁷ Therefore, although the upstream plaintiffs in the Addicks and Barker cases succeeded in proving causation, *St. Bernard* makes causation unnecessarily difficult and, in factual situations that more closely resemble *St. Bernard*, perhaps impossible for future plaintiffs to prove.

C. Why the Downstream Cases Survived St. Bernard,¹³⁸ But Probably Should Not Have

As with the upstream cases, the first step in the takings inquiry for the downstream cases was whether the downstream plaintiffs had a protected property interest. Based on the caselaw, the answer to this question should have been an easy yes.¹³⁹ Instead, the court attacked the strawman argument that the property right at issue was not a flowage easement but “perfect flood control.”¹⁴⁰ This is a gross mischaracterization of the plaintiffs’ arguments.¹⁴¹ The downstream opinion condescendingly wrote that “[o]f course, the water from the hurricane was not the government’s water, unless the storm was also created by the government’s wind and air and sun and sky.” This statement is, “[o]f course,” true.¹⁴² However, the critical flaw in the court’s reasoning is that the owner of the water that entered the downstream plaintiffs’ land, whether the government or Mother Nature herself, is irrelevant. As discussed above, the most fundamental takings cases state that if the government intentionally causes a physical entry onto a person’s property, it has effectuated a taking per se.¹⁴³ No, the government did not cause Hurricane Harvey to devastatingly flood the city of Houston. However, the government did choose to release reservoir water

137. “[W]hen the government physically takes possession of an interest in property for some public purpose, it has a categorical duty to compensate the former owner.” *Ark. Game & Fish Comm’n v. United States*, 568 U.S. 23, 31 (2012) (quoting *Tahoe-Sierra Pres. Council, Inc. v. Tahoe Reg’l Plan. Agency*, 535 U.S. 302, 322 (2002) (citation omitted)).

138. *St. Bernard Par. Gov’t*, 887 F.3d at 1354.

139. See *Ark. Game & Fish Comm’n*, 568 U.S. at 30–31, 34, 36–37; *In re Upstream Addicks & Barker (Texas) Flood-Control Reservoirs*, 146 Fed. Cl. 219, 247–48, 250 (2019); *Quebedeaux v. United States*, 112 Fed. Cl. 317, 323 (2013).

140. *In re Downstream Addicks & Barker (Texas) Flood-Control Reservoirs*, 147 Fed. Cl. 566, 570 (2020).

141. See Complaint (Downstream), *supra* note 36, at 17 (arguing that the government appropriated a “flooding easement” from plaintiffs).

142. *In re Downstream Addicks & Barker (Texas) Flood-Control Reservoirs*, 147 Fed. Cl. at 570.

143. See *supra* note 57 and accompanying text.

onto the properties of plaintiffs, which would not have otherwise flooded, in order to prevent more catastrophic flooding of downtown Houston and the Houston Ship Channel. Perhaps this was the right call for the government to make, but takings law exists to protect private landowners like the upstream and downstream plaintiffs from bearing the costs of the government's decision to protect the public as a whole.¹⁴⁴ Thus, the court should have found that the plaintiffs did have a valid property right—the right to receive compensation for a flowage easement that the government took when it intentionally sent water onto the downstream plaintiffs' properties.

Had the court found that the downstream plaintiffs did have a protected property right, the next step would have been to evaluate whether there was a physical invasion of the downstream plaintiffs' properties.¹⁴⁵ Although the downstream plaintiffs did not claim that USACE personnel physically entered the downstream plaintiffs' properties, floodwaters that USACE released from the reservoirs during its series of controlled releases did physically enter the plaintiffs' properties.¹⁴⁶ Thus, as with the upstream plaintiffs, the court should have found that a physical invasion of the downstream plaintiffs' properties occurred.

Next, the court would have answered the questions of whether the physical invasion was foreseeable and whether government action caused the physical invasion. USACE knew when it decided to perform the controlled releases that the releases would flood areas downstream of the reservoirs, but it still chose to flood the downstream plaintiffs' homes to protect downtown Houston and the Houston Ship Channel.¹⁴⁷ Thus, the court should have found that the government could have foreseen that the floodwaters released from the reservoir would physically invade and flood the downstream plaintiffs' properties.

Though the foreseeability aspect of the takings test is probably satisfied, the downstream plaintiffs' claims probably would not have survived the flooding takings causation analysis as modified by *St. Bernard*. *St. Bernard's* causation analysis requires the court to examine what would have happened if the government had not acted when determining whether a

144. *Armstrong v. United States*, 364 U.S. 40, 49 (1960).

145. *See supra* note 109 and accompanying text.

146. *See* Complaint (Downstream), *supra* note 36, at 15–16.

147. *USACE Galveston District to Make Intermittent Releases at Addicks and Barker Dams*, *supra* note 15.

government action caused a taking.¹⁴⁸ It requires the plaintiffs to “show that in the ordinary course of events, absent government action, plaintiffs would not have suffered the injury.”¹⁴⁹ Causation analysis must consider the impact of the entirety of the government actions that address the relevant risk, including risk-increasing and risk-decreasing actions.¹⁵⁰ Such risk-increasing and risk-decreasing actions do not have to come from the same project but must be directed at the same risk that injured the plaintiffs.¹⁵¹ In the Addicks and Barker reservoir cases, the risk that injured the downstream plaintiffs is the risk of flooding as a result of dam releases.

In the Addicks and Barker cases, the downstream plaintiffs claimed that USACE’s decision to perform controlled releases from the reservoirs constituted a government taking of the plaintiffs’ properties.¹⁵² But for the government opening the reservoirs’ floodgates, the downstream plaintiffs’ homes probably would not have flooded.¹⁵³ Indeed, before USACE began the controlled releases, most of the downstream plaintiffs’ homes had not been flooded at all.¹⁵⁴ Other downstream plaintiffs whose homes had come close to flooding before the reservoir releases had been able to absorb most of the water with towels or mops.¹⁵⁵ Most of these downstream plaintiffs did not live in a 100-year floodplain.¹⁵⁶ However, building the reservoirs probably benefitted the downstream plaintiffs because it increased property values and might have lessened the severity and frequency of flooding.¹⁵⁷ It is possible that, had the government never constructed the reservoirs, the downstream plaintiffs’ properties might have flooded during the period that Harvey sat and dumped its sixty inches of water over Houston. It might be difficult for the downstream plaintiffs to prove what would have happened to their

148. *St. Bernard Par. Gov’t v. United States*, 887 F.3d 1354, 1362 (Fed. Cir. 2018), *cert. denied*, 139 S. Ct. 796 (2019).

149. *Id.*

150. *Id.* at 1364–65. “[I]f governmental activities inflict slight damage upon land in one respect and actually confer great benefits when measured in the whole, to compensate the landowner further would be to grant him a special bounty.” *Id.* at 1364 (quoting *United States v. Sponenbarger*, 308 U.S. 256, 266–67 (1939)).

151. *Id.* at 1365.

152. *In re Downstream Addick & Barker (Texas) Flood-Control Reservoirs*, 147 Fed. Cl. 566, 569–70 (2020).

153. *JOHNS & CROSWELL*, *supra* note 23.

154. *See USACE Harvey Timeline*, *supra* note 14.

155. *JOHNS & CROSWELL*, *supra* note 23.

156. *Id.*

157. *See U.S. Army Corps of Eng’rs*, *supra* note 8, at 6–7.

properties during Harvey but for the government constructing the reservoirs. Therefore, as in *St. Bernard*, the downstream plaintiffs might have a causation issue, and thus might not even reach the *Arkansas Game* and *Penn Central* balancing test.

As discussed above in the takings analysis of the upstream plaintiffs' claims, it is inconsistent with the general aim of takings law to prevent the downstream plaintiffs from being compensated by the government.¹⁵⁸ Releasing the reservoirs' floodwaters onto the downstream plaintiffs' properties to save downtown Houston and the Houston Ship Channel effectively requires the downstream plaintiffs to bear the burden of saving downtown Houston and the Houston Ship Channel—a burden that is arguably the type that should be borne by the public as a whole.¹⁵⁹ Therefore, the court should revisit the causation test established in *St. Bernard* and consider altering its requirement that courts look at the entirety of government actions that address the relevant risk.

IV. CONCLUSION

The upstream plaintiffs in the Addicks and Barker cases recovered under takings law despite the *St. Bernard* causation test, thanks to favorable facts. On the other hand, the downstream plaintiffs will probably not recover under takings law. Both groups of plaintiffs, however, are equally deserving of compensation and protection under the law. Current takings law says that if the government actions do not amount to a taking, then the proper right to recovery for the upstream and downstream plaintiffs lies in tort.¹⁶⁰ However, as discussed above, current tort law is such that property owners probably cannot prevail in a tort action against the federal government for flooding.¹⁶¹ It seems disingenuous, if not flat-out unjust, to dispose of a homeowner's cause of action on the ground that another cause of action is more appropriate when, in reality, that alternate cause of action will not ever allow recovery. Thus, to allow plaintiffs to have a chance at recovery under takings law, the courts should reexamine takings law as applied to government-induced flooding. Specifically, the

158. See *supra* note 137 and accompanying text.

159. See *supra* notes 15–25 and accompanying text.

160. *St. Bernard Par. Gov't v. United States*, 887 F.3d 1354, 1362 (Fed Cir. 2018), *cert. denied*, 139 S. Ct. 796 (2019).

161. See *supra* notes 44–51 and accompanying text.

courts should continue to do as the Court of Federal Claims did in the upstream decision and limit *St. Bernard*'s scope to its facts.

Now is the time for action. Storms like Hurricane Harvey are predicted to become both more frequent and more severe as global temperatures continue to rise.¹⁶² Meanwhile, people are flocking to Houston.¹⁶³ Given the difficulties that come with implementing adequate flood-control measures in large, concrete urban areas, cities like Houston will probably see an increase in flooding takings litigation in the coming decades. If the government is not held accountable for compensating property owners when it takes flood-control measures, then the properties and even lives of unwary homeowners could be at stake. Something must give, and that something should not be the constitutional right of private property owners to receive just compensation when the government takes private property.

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162. Ingraham, *supra* note 117.

163. See *Houston Data: Population Growth*, GREATER HOUS. P'SHIP (Sept. 3, 2020), <https://www.houston.org/houston-data/population-growth> [<https://perma.cc/S6WZ-EFYU>] (“Between July 1, 2018 and July 1, 2019 . . . the Houston-The Woodlands-Sugar Land Metropolitan Statistical Area (MSA) added the third most residents among all metros in the U.S.”).