Downstream Inundations Caused by Federal Flood Control Dam Operations in a Changing Climate: Getting the Proper Mix of Takings, Tort, and Compensation

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DOWNSTREAM INUNDATIONS CAUSED BY FEDERAL FLOOD CONTROL DAM OPERATIONS IN A CHANGING CLIMATE: GETTING THE PROPER MIX OF TAKINGS, TORT, AND COMPENSATION

ROBERT HASKELL ABRAMS* AND JACQUELINE BERTELSEN**

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I. INTRODUCTION

The 2012 United States Supreme Court case Arkansas Game & Fish Commission v. United States ("AG&FC") presented the Court with a claim that the property of a landowner downstream of a flood control dam was taken without compensation as a result of non-permanent inundations of low lying portions of that parcel caused by a change in the dam’s pattern of releases. The Court held that, “government-induced flooding temporary in duration gains no automatic exemption from Takings Clause inspection” and must, instead, be tested according to the Court’s usual precedents governing temporary physical invasions and regulatory takings. The Federal Circuit held a taking had occurred on remand, the scope of which was limited because the United States waived several key issues. In doing so, the Federal Circuit utilized language that understates the limitations on takings recoveries in such cases. Both the result and the remand opinion will encourage downstream landowners, suffering inundation losses traceable to flood control dam operations, to bring takings claims.

The AG&FC litigation comes at a time when flood control dam operations are becoming ever more prominent. Recent national events attest to more extreme weather in the form of droughts and intense precipitation events. Dam operators, whose physical facilities were designed with reference to less extreme conditions, must adjust their operations to allow their dams to continue to function to provide optimal protection against massive flood damage. When those adjustments require increased or altered releases in comparison to past norms, those releases inevitably will lead to increases of inundation below the dam, raising the possibility that in some instances, the increased inundation may

2. Id. at 522.
cause significant harm for which the landowner will seek compensation.

This Article analyzes the possible bases on which compensation can be granted. Congress, for the present, has eliminated the possibility of tort liability by granting federal flood control dam operators with blanket tort immunity. While the AG&FC decision bespeaks the possibility of Fifth Amendment taking of property liability, this Article argues that under takings standards, takings compensation rarely will be available to adversely affected landowners. Under long and unquestioned precedent, takings liability, rather than tort liability, attaches only when the downstream inundations are a deliberately planned aspect of the dam’s operation, in the same way that a storage pool reservoir is part of the dam’s intended pattern of operation.

Even when releases are deliberately planned, very few adversely affected downstream landowners are likely to suffer a harm so disproportionate as to permit them to make a prima facie case of a taking vel non as required by the Court in AG&FC. Three separate lines of analysis make a taking of property unlikely: (1) in few, if any, jurisdictions will the state law definition of riparian rights include the right to be free of all inundations caused by actions of co-riparians; (2) the modern takings test elucidated in the Penn Central case cannot be satisfied, and; (3) the situation will be governed by the nuisance prevention line of cases in which governmental actions that prevent substantial harms to the public are not takings. In all of these contexts, the importance of the flood control is a factor in the determination that means most cases of temporary inundation either will not violate the property right or will not be found to be a taking of that right.

Without compensation, a clear possibility exists that some adversely affected landowners will suffer unfairly—they sustain harm that is disproportionate to that of others, and their share in the flood mitigation benefit is no more than similar to that of others. In the face of governmental tort immunity and the slim hope for a takings claim to succeed, this Article argues in favor of the voluntary creation of a compensation system. While this can be done by before-the-fact condemnation, Congress has seldom required such action in the absence of planned zones of sacrifice as an element in a congressionally authorized program. Congress also may act after the fact through special legislation, or disaster relief, but those remedies are potentially quixotic rather than systemic. Landowners can purchase private flood insurance, which tends to be very costly, but there is little evidence that landowners purchase either private or subsidized flood insurance. This Article instead recommends creation of flood control districts that establish compensation funds, financed by a tax on lands benefitted by the presence and operation of the flood control dam, which greatly limits the risk of major losses to all such lands. Additionally, Congress should reduce the scope of the governmental tort immunity by excluding cases of gross negligence from the immunity, thereby striking a better balance between flood control dam operator freedom to respond to changing and exigent circumstances and doing so in wanton disregard of a given action’s resulting harms.
II. THE PROBLEM OF DOWNSTREAM INUNDATIONS CAUSED BY FLOOD CONTROL DAM OPERATIONS

Flood control dams operate with a beguiling simplicity—build a dam and then close the gates to fill the reservoir when excessive amounts of water are flowing downstream; open the gates to empty the reservoir at times when lesser amounts of water are flowing downstream. Ecologically both ends of the flow alteration spectrum are, to some degree, problematic. Dams interdict the natural flow and alter the river’s hydrograph. Dams limit or eliminate scouring heavy flows that move silt downstream and keep channels clear allowing greater volumes of water to move downstream more quickly without flooding. At the same time, some downstream flooding is part of the pre-dam natural cycle that provides nutrients to flooded areas and creates riparian habitat, to which the area’s species and ecology adapted over the eons. Dams’ presence modifies the habitat in a myriad of ways, for instance, interfering with fish passage and destroying spawning regions. Dam discharges also change the flow’s characteristics, such as temperature and oxygen content. They also may add high concentrations of pollutants from sediments that have collected at the bottom of the dam’s pool, which are roiled and re-suspended during periods of release.

In the face of these generally negative ecological consequences, the retention of water is justified by harm prevention that accompanies a vast reduction of downstream flooding during high flow periods. The flood risk reduction is often accompanied by collateral benefits such as hydropower generation, flat-water recreation, navigation improvements, and public water supply security in the form of storage that can hedge against drought. The effects of water intentionally released from flood control dams are comparatively minor when all the other benefits and costs are totaled up, and easily recede to being a tertiary concern, if considered at all. Part of the lack of concern for human values affected by post-dam releases has a logical explanation. Those releases flow into the same channel that had previously seen comparatively little developmental activity precisely because the low-lying lands were flood-prone in pre-dam times.

Somewhat ironically, the overall success of flood control dams to prevent and mitigate downstream flooding has encouraged ever more intensive use of what was previously the riverine flood plain. As a result, the lack of focus on flood control dam releases is ending. Once built, the dam’s operations create an umbrella of comparative safety in which downstream development encroaches on the flood plain, relying on protection against major floods and being confident that releases of stored water will be planned in a manner intended to minimize interference with downstream owners. The dam and its operations become a “new normal,” pursuant to which downstream homes, businesses, and other land use patterns in the former flood plain of the river below the dam now may be in harm’s way if the pattern of releases changes.

What scientists describe as the “loss of stationarity” makes it certain that

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3. Adding to the irony, these new and expanded human activities in the traditional flood plain increase the current risk of flood damage due to a hardened landscape, which increases the amount of runoff during rainfall events and channels it into the waterways more suddenly.
many flood control dams will change their patterns of releases. Stationarity is the concept that weather varies within a predictable range of extremes. For water infrastructure planners, that historic experience guided the design and management of facility construction and subsequent dam operations. Increased variability of weather patterns has undermined the stationarity assumption of predictable norms. If the assumptions on which those operational choices were built are no longer valid, it is patent that changes in operations are needed to meet the new reality. Put most simply, climate change necessitates altered release patterns. It is axiomatic that a flood control dam operator must "empty" the reservoir, so it has space in which to store the next heavy water flow event. The advent of more frequent intense precipitation events means that the prudent flood control dam operator, at times, will need to release stored waters more quickly than in an environment that featured less frequent intense rainfall events. When the dam operator increases the rapidity of the releases, downstream riparian owners will have higher volumes of water flowing past their tracts, which necessarily means that the watercourse will inundate additional portions of their land. If that inundation interferes with productive activity, the landowner will suffer a loss, complain, and bring dam releases under scrutiny.

Climate variability is not the only impetus to change release patterns; human factors may come into play as well. In the AG&FC litigation, which serves as a focus for this Article, the United States Army Corps of Engineers ("Corps") was asked to reduce the adverse inundation effects of its historic pattern of releases, on low-lying farms by making releases more gradual, which would provide those farms a longer growing season. That change, in turn, caused damage far downstream. The physical hydrologic lesson of that case is simple: changes in a dam's release pattern cause water to move downstream at altered times and in altered amounts, which cause physical impacts to downstream, streamside property not previously experienced. Thinking about the streambed as an open conduit having, in many places, little or no freeboard, any increase in a release adds water that will encroach on low-lying riparian lands adjacent to the watercourse that had otherwise remained dry under the prior release pattern. Whether driven by climate change or human factors, changes in flood control dam operations hold the possibility of inundation-caused injury to properties situated downstream of the dam.

A. GIVING THE PROBLEM LEGAL VISIBILITY: THE AG&FC LITIGATION

The AG&FC litigation, perhaps because it was not prompted by concern linked to loss of stationarity, came into the judicial system in a sympathetic

5. See discussion infra Part II.B (describing the reasons why and how dam operations might be altered).
7. A dam operator might also find it prudent to maintain the pool at a lower level. Lowering the usual level of the pool may adversely affect other interests that a dam might serve, such as hydropower generation and storage for water supply.
8. See discussion infra Part III.A.2.
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posture. After almost a half-century of experience operating the Clearwater Dam on the Black River in Missouri in one manner, the Corps adopted an eight-year series of temporary release pattern changes beginning in 1993. The Corps made changes in response to a request by farmers below the dam who would obtain longer cultivation periods when their low-lying farmlands were not inundated. The Corps altered its longstanding release pattern, but the decision to provide that marginal farming benefit was flawed, or at least incomplete in its assessment of impacts. It did not foresee potentially serious adverse consequences to a valued ecological resource, one of the region’s few remaining bottomland hardwood forests, and plainly did not intend to sacrifice the Arkansas Game & Fish Commission’s (“Commission”) property as the means of obtaining other benefits.

The Corps did not foresee that the forest, located in the Dave Donaldson Black River Wildlife Management Area (“Management Area”) in Arkansas, 115 miles downstream from the Clearwater Dam, would be seriously affected. Within the first year of the changed release pattern, however, the Commission, which owns the lands and oversees the Management Area, alerted the Corps to the increased flooding of their bottomlands. Prior to the change in the Corps’ dam operations, the forested area of the Commission regularly flooded, but that flooding almost always receded while the trees were dormant and before their summer growing season. In effect, the new pattern, if continued long enough, threatened to drown the trees, because during the growing season the roots would be unable to absorb nutrients and oxygen necessary for photosynthesis. The Commission gave the Corps warning at a time when the permanent damage to the forest could have been avoided. Initially, and for a period of years, the Corps did not agree that its change in operations was the cause of the longer period of distant downstream inundation. Quite late in the process, the Corps

10. Id.
11. A particularly succinct statement of what the Corps did and why it caused an adverse effect on the Commission appears in Justice Ginsburg’s opinion for the Court:

In 1993, the Corps approved a planned deviation in response to requests from farmers. From September to December 1993, the Corps released water from the Dam at a slower rate than usual, providing downstream farmers with a longer harvest time. As a result, more water than usual accumulated in Clearwater Lake behind the Dam. To reduce the accumulation, the Corps extended the period in which a high amount of water would be released. The AG&FC Commission maintained this extension yielded downstream flooding in the Management Area, above historical norms, during the tree-growing season, which runs from April to October. If the Corps had released the water more rapidly in the fall of 1993, in accordance with the Manual and with past practice, there would have been short-term waves of flooding which would have receded quickly. The lower rate of release in the fall, however, extended the period of flooding well into the following spring and summer. While the deviation benefited farmers, it interfered with the Management Area’s tree-growing season.

Ark. Game & Fish Comm’n, 133 S. Ct. at 516.
12. See id.
13. See id.
recognized that its altered release pattern could be capable of negatively affecting the forest at, what was for the trees, a critical time of the year.\textsuperscript{15}

With the advantage of hindsight and knowledge of the consequences, the Corps' unfortunate choice stands out in high relief. The marginal farming gains, which appear to be the only benefits of the change,\textsuperscript{16} are not an important or substantial flood control benefit. More importantly, the benefit garnered by reduced periods of farm inundation compares unequally to the forest loss.\textsuperscript{17}

The loss is made worse because the Corps, for a time, seemed to turn a deaf ear on the calls from the Commission imploring the Corps to revert to its past release pattern. Then, once the Corps more fully engaged the issue and reinstated the prior release pattern, it was too late to save the portion of the forest that had succumbed to flood stresses.

The Commission's loss was substantial—it included eighteen million board-feet of hardwood lumber, which together with the cost of reclaiming the flooded area, eventually led the Court of Federal Claims to award in excess of $5.6 million dollars.\textsuperscript{18} Together, those facts paint a picture of the Corps as unable to measure the consequences of its actions, insensitive to the impacts of its actions, or both.\textsuperscript{19}

1. The Course of Litigation Prior to Reaching the United States Supreme Court

In 1928, before any of the flood control dams in the Mississippi-Missouri Basin were built, Congress granted federal dam operators statutory tort immunity for the operation of flood control dams\textsuperscript{20}—meaning the Commission had to overcome the presumption that it could not sue the Corps for negligence. Unable to pursue a tort remedy, the Commission instead sought relief by claiming that the series of longer inundation periods constituted a physical

\textsuperscript{15} Despite conceding its role in the changed pattern of inundation, the Corps never fully conceded its actions were the sole cause of the loss of the hardwoods. \textit{See United States' Post-Trial Memorandum at 9, Ark. Game & Fish Comm'n, 87 Fed. Cl. at 623 (No. 05-381L).} The Corps maintained that a multi-year period of summer drought was responsible for weakening the trees so much that they could not recover once the previous regime of dam releases was reestablished and the root zone was clear of water during the growing season. The Court of Federal Claims found against the Corps on this factual issue in a ruling that was sustained on appeal. \textit{See Ark. Game & Fish Comm'n v. United States, 736 F.3d 1364, 1371-72 (Fed. Cir. 2013) affg Ark. Game & Fish Comm'n, 87 Fed. Cl. at 633-34.} The issues the Corps may have raised with regard to intervening causes were not properly preserved for appeal.

\textsuperscript{16} A review of the litigation materials available online raise no other reason for the change.

\textsuperscript{17} This author could find no record in the materials relating to the case that quantified the farming benefit.

\textsuperscript{18} \textit{Ark. Game & Fish Comm'n, 87 Fed. Cl. at 647 (awarding, in addition, more than $100,000 for a regeneration program and interest on those amounts).}

\textsuperscript{19} It is tempting to pillory the Corps for its inaction and failure to promptly restore the old release plan. The Corps, however, had taken steps to obtain input from an array of stakeholders potentially affected by the releases, establishing two ad hoc commissions. Those commissions assisted the Corps for almost eight years, but for the most part did not reach consensus on a changed long-term operating plan. AG&FC was a participant in that process. \textit{See Ark. Game & Fish Comm'n, 133 S. Ct. at 513, 516.} What remains less clear is why the Corps' own technical assessments of the situation were so slow to model more accurately the effects of the changed releases on the Donaldson Management Area.

invasion of its land, amounting to a Fifth Amendment taking of property without compensation.\(^{21}\)

The Court of Federal Claims ruled, in essence, that the Corps had taken a property interest in the form of a temporary flowage easement in the Management Area because the changes in the flow regime caused "intermittent, frequent, and inevitably recurring" flooding that resulted in the destruction of a significant amount of timber.\(^{22}\) The court further found that because the flooding and subsequent damage to the timber were foreseeable consequences of the changes in the flow regime, the Corps’ actions amounted to a permanent taking.\(^{23}\)

The Corps defended on both the facts and the law. As a factual matter, the Corps relied on a computer model demonstrating that the deviations in the flow regime alone were not sufficient to result in substantial changes in the Management Area’s flood pattern, but that “natural rainfall and runoff, plus the timing of the water levels” may result in greater periods of inundation.\(^{24}\) In addition, the Corps asserted that its actions were not the sole cause of the loss of the hardwoods. The Corps maintained that the summer droughts in 1999 and 2000, were “naturally occurring intervening event[s]… that caused the massive, the devastating mortality" of the hardwoods.\(^{25}\) The Corps’ arguments did not persuade the Court of Federal Claims, which found that the Corps’ deviations from the long-followed release pattern were responsible for the Management Area’s increased flooding and resulted in the timber destruction in the Management Area from 1993 through 2000.\(^{26}\)

The Corps’ legal argument was narrow. The Corps argued that only permanent physical invasions, as opposed to a temporary inundation, could be a taking of property under the relevant Supreme Court precedents.\(^{27}\) In particular, the Corps relied on Sanguinetti v. United States.\(^{28}\) In Sanguinetti, the Supreme Court found that temporary, increased flooding of private land was not a taking when that land had periodically flooded prior to the construction of a canal.\(^{29}\) The Corps contended the case was on all fours with Sanguinetti: prior to and subsequent to the dam construction the Management Area was subjected to flooding; the flow deviations, which had caused the increased

\(^{21}\) Ark. Game & Fish Comm’n, 87 Fed. Cl. at 616.

\(^{22}\) Id. at 618-19 (citing Fromme v. United States, 412 F.2d 1192, 1196 (Cl. Cl. 1969)).

\(^{23}\) See id. at 624.

\(^{24}\) Id. at 608-09, 627-29; Principal Brief of Defendant-Appellant United States at 12, Ark. Game & Fish Comm’n v. United States, 637 F.3d 1366 (Fed. Cir. 2011) (No. 05-CV-381), at 12.

\(^{25}\) Ark. Fish & Game Comm’n, 87 Fed. Cl. at 623 (citing Dr. Baker’s testimony and arguing the summer droughts in 1999 to 2000 were intervening causes that broke “the link between the increased flooding probability and the damage to the trees)."

\(^{26}\) Id. at 634; Ark. Game & Fish Comm’n v. United States, 736 F.3d 1364,1371-72 (holding that the evidence supported the trial court’s findings that the deviations caused a substantial increase in the periods of growing-season flooding and that the flooding caused widespread damage to the trees there).

\(^{27}\) See Principal Brief of Defendant-Appellant United States, supra note 25, at 15.

\(^{28}\) Id. at 20.

\(^{29}\) See Sanguinetti v. United States, 264 U.S. 146, 149-50 (1924) (finding “lilt is at least necessary that the overflow be the direct result of the structure, and constitute an actual, permanent invasion of the land, amounting to an appropriation of and not merely an injury to the property.”).
inundation periods had ceased, thus its actions did not amount to a taking. The Court of Federal Claims rejected this argument saying:

[A] plaintiff need not show that its property "suffer[ed] an effectual destruction or a permanent and exclusive occupation by government runoff" to recover on a takings claim based on a flowage easement. Rather, recovery based on a government’s taking would be permitted even if the landowner eventually was able to reclaim his land or the intrusions of water were halted. Accordingly, the Commission has met its burden of proving that the Corps’ releases were “intermittent, frequent, and inevitably recurring floodings” that support a taking, rather than “isolated invasions” that might merely constitute a tort.

The United States Circuit Court for the Federal Circuit, by a 2-1 vote, reversed the finding of a taking. The Federal Circuit majority ruling was very narrow, relying on a preemptive legal ground: inundations of property downstream of a flood control dam could be a taking of property only if that flooding was permanent or intended to be continually repeated. In support of its bright-line test, the Federal Circuit built its own argument based on Sanguinetti, which the court construed as having established a special rule for flooding cases to the effect that non-permanent downstream inundation caused by Corps’ dam operations could not be a taking of property. Because the Corps deemed the changes in the AG&FC case as interim operating rules, and thus temporary, and the eventual reinstatement of the old regime ceased the extended periods of flooding, the court found there could be no taking of property.

2. The AG&FC Litigation in the United States Supreme Court and on Remand

The United States Supreme Court “granted certiorari to resolve the question whether government actions that cause repeated floodings must be permanent or inevitably recurring to constitute a taking of property.” The Court disagreed with the Federal Circuit’s interpretation of Sanguinetti and reversed the Federal Circuit, stating, “We rule today, simply and only, that government-induced flooding temporary in duration gains no automatic exemption from Takings Clause inspection.” Despite the narrow holding, the Court’s opinion was replete with dicta offering guidance for remand relating to how its takings precedents help identify which issues to consider in cases claiming takings as a result of less than permanent flood control operations.

31. Ark. Fish & Game Comm’n, 87 Fed. Cl. at 618-19 (citing Ridge Line, Inc. v. United States, 346 F.3d 1346, 1353, 1357, 1358 (Fed. Cir. 2003); Fromme v. United States, 412 F.2d 1192, 1196 (Ct. Cl. 1969)).
32. Ark Game & Fish Comm’n v. United States, 637 F.3d 1366, 1367 (Fed. Cir. 2011).
33. Id. at 1378.
34. Sanguinetti, 264 U.S. at 146.
35. Ark. Game & Fish Comm’n, 637 F.3d at 1374.
36. Id.
37. Ark. Game & Fish Comm’n, 133 S.Ct. at 518.
38. Id. at 522 (emphasis added).
39. 133 S. Ct. at 522-23.
One of those issues "is the degree to which the invasion is intended or is the foreseeable result of authorized government action." The Court's remand also identified issues of fact finding and underlying state property law, which, if properly preserved for review, were issues the Federal Circuit should consider on remand for a proper Fifth Amendment takings analysis.41

In late 2013, the Court of Appeals for the Federal Circuit issued its ruling on remand, and affirmed the original Court of Federal Claims decision that found a taking of the Commission's property.42 The Federal Circuit found that, due to the Corps failure to raise them in the Court of Federal Claims, several of the key issues identified by the Supreme Court as relevant for a takings analysis were not preserved for review.43 The issues foreclosed included the nature of the state law property rights the Commission claimed were taken and the extent to which those rights support the Commission's reasonable investment-backed expectations to be free of changed inundation patterns through government action.44 Those two issues are intertwined because an important element of investment-backed expectations is the underlying state water law, which in the AG&FC setting is Arkansas' law of reasonable use riparianism.45

The Corps also failed to raise the applicability of the nuisance prevention doctrine to its operation of flood control dams, which often functions in a manner similar to an affirmative defense to takings claims. Otherwise actionable takings claims fail because the governmental regulation or action protects the public against a nuisance, or in some other manner forestalls harm to the public by burdening the landowner's parcel. Within the nuisance prevention cases, there is a subcategory in which government regulation of landowners, or actions taken to protect against harms that burden landowners, impose a cost on one or more of the landowners to prevent more serious injury to the common welfare.46 As a terminological matter, these cases will be referred to as the triage subcategory of the nuisance prevention doctrine cases. The leading case in the triage subcategory is *Miller v. Schoene*, in which the Supreme Court refused to find a taking of property when the government required landowners to destroy their own property at their own expense in order to avert a public harm, which appeared likely to occur if the private property of the regulated owners was not destroyed.47 As discussed more fully later in this Article, the nuisance prevention line of cases, when applied, significantly narrows the scope of what sorts of downstream adverse effects are

40. *Id.* at 522 (citing John Horstmann Co. v. United States, 257 U.S. 138, 146 (1921) (finding no takings liability when damage caused by government action could not have been foreseen)).
41. 133 S. Ct. at 522-23.
42. *Ark. Game & Fish Comm’n*, 736 F.3d at 1367; *Ark. Game & Fish Comm’n*, 87 Fed. C. at 647.
43. 736 F.3d at 1369
44. *See id.*
45. *Id.* at 1375.
takings of property under the Fifth Amendment. 49

The Federal Circuit finding of a taking on remand adopted broad language that tended to obscure the absence of issues not preserved due to the Corps' litigation strategy that might have averted a successful takings claim. As written, the Federal Circuit opinion suggests that an inundation claimant can recover for a taking of property by proving only an objective and foreseeable harm due to increased flooding 50 linked to a pattern of releases that confers a benefit of lesser flooding on others situated below a dam. 51 The Federal Circuit's use of foreseeability badly misstates the rules laid down by the precedents upon which it relied. 52

The apparent breadth of the AG&FC remand ruling will encourage litigation by downstream landowners adversely affected by flood control dam releases or changes in past patterns of releases (unless those releases are very infrequent or a response to an exigent problem). 53 Moreover, as will be argued at length in this Article, 54 the Court of Claims AG&FC result, as now affirmed by the Federal Circuit, transmutes flooding case takings law into a determination that closely tracks the elements of tort recovery. If not corrected, that reading of takings law has the potential to make the Federal Treasury the insurer of an extensive array of downstream losses caused by federal dam operations. The tort-like reasoning that led to the eventual result favoring the Commission is just that, a governmental tort. While in some cases governmental actions that constitute torts also are takings of property under the Constitution, not all tortious actions violate the Fifth Amendment. 55 Accepting the "tort-as-taking" substitution usurps Congress' clear power and intent when it immunized federal flood control dam operators from tort liability. A finer grained takings analysis must be utilized.

B. GENERALIZING THE PROBLEM: CONSTRUCTING A LEGAL PARADIGM FOR OPERATING FLOOD CONTROL DAMS FAIRLY

Taking on the perspective of a flood control dam operator, for a moment, the loss of stationarity greatly complicates dam operations and demands reconsideration of past operating decisions. 56 The loss of stationarity implies that prudent operational planning must consider the potential for more intense flood events and more prolonged or intense droughts. 57 Focusing on floods alone, flood control potential is maximized when the reservoir level is kept as low as possible leaving room to impound potential flood waters and release

49. See discussion infra Part III.D.
50. Ark. Game & Fish Comm'n, 736 F.3d at 1373, n.3.
51. Id. at 1374, n.4.
52. See discussion infra Part III.A.1.
54. See discussion infra Part III.A.
57. Id.
them after the period of excessive runoff and flow has ended. Two elements in that scenario auger in favor of releasing stored water at higher than historical rates. First, if the dam operator expects precipitation events to be more intense than previously, more water will need to be released and that will require higher rates to accomplish the release in the same period of time. Second, the loss of stationarity increases the potential for more storms following on the heels of their predecessor, making it important to release water more rapidly as a form of preparation for a potential next storm. If the rates of release increase, downstream inundation increases in comparison to the previous experience.

The dam operator has control over the pattern of releases, but the larger strategy and the mitigated risk, is being dictated by the patterns of precipitation and drought. Not all dam operators will have to change operations to include more rapid releases in response to the loss of stationarity, but some will and that response, at a societal level, is a good and logical one. When those changes are made, there will be more cases like AG&FC when the altered release patterns cause losses occasioned by new downstream inundations. AG&FC has opened the door to takings claims in those cases. Despite the sympathetic posture of the AG&FC facts, the remainder of this Article explores the reasons why there should be very few takings recoveries for flood control dam releases that cause injuries.

At a very pragmatic level, the concern ought to be about fair treatment and equitable sharing of the benefits and burdens of flood control efforts. Despite the burdens on downstream riparians that may accompany releases of stored water in excess of either the native flow of the river or dam-altered historic patterns of releases, their situation brings to mind a waste disposal quip, "Everyone wants us to pick it [refuse] up but nobody wants us to put it down." All the landowners below the dam are very happy to have the benefits of the dam’s protection against major flooding, but none of those owners want the stored excess waters released in a manner that causes them to suffer even temporary, partial inundations that adversely affect what has become the pattern of full enjoyment of their parcels as protected by the dam’s flood-control capability. When downstream landowners experience losses that are mainly on par with one another, or not too severe, they benefit from the protection against more extreme flooding. All landowners are at risk of small or similar losses due to temporary inundations associated with the release of the stored water. When, however, a few of the downstream landowners suffer more substantial

59. For dams that have the ability to do double service relating to both flood control and water supply, meeting operational goals for flood prevention storage capacity and drought mitigation water supply are in tension with one another. On the flood prevention side, the basic strategy is to keep the reservoir as empty as possible, in order to store more water during an extreme precipitation event. On the water supply side, the basic strategy is to keep the reservoir as full as possible, to have the greatest amount in storage to be released as needed to combat the effects of drought. Melding those two strategies, the dam operator would attempt to keep the pool as full as possible, to have the greatest amount in storage to be released as needed to combat the effects of drought. But only so full that it can be rapidly lowered by releases when an intense potentially flood producing rainfall event is predicted.
losses, disproportionate to those of the other downstream landowners, in the absence of compensation, the result no longer seems fair. The next sections of this Article will demonstrate that redress of disproportionate losses will seldom be available under current law, and the aspect of current law that prevents landowners from compensation for those claimed takings of property is appropriate. Finally, this Article will suggest two alternatives to takings claims as means of providing redress for disproportionate losses, a slight relaxation of governmental tort immunity, and more broadly, the establishment of flood control districts that lay taxes on all benefitted parcels to create a fund from which disproportionately affected landowners get compensation.

III. THE DIFFICULTY OF ESTABLISHING A TAKING vel non BASED ON TEMPORARY INUNDATION OF THE CLAIMANT'S PROPERTY

As previously noted, the United States Supreme Court decision in *Ark. Game & Fish Comm'n v. United States* ruled very narrowly on the Fifth Amendment taking of property issue.\(^61\) Along with its holding that a non-permanent inundation of a portion of the Commission’s lands can be a taking in limited circumstances, the Court added dicta to serve as guidance on remand and in similar future cases.\(^62\) That dicta began in the very next sentence after Justice Ginsburg, writing for a unanimous Court,\(^63\) announced the succinct and narrow reversal of the Federal Circuit’s decision below:

> We rule today, simply and only, that government-induced flooding temporary in duration gains no automatic exemption from Takings Clause inspection. When regulation or temporary physical invasion by government interferes with private property, our decisions recognize, time is indeed a factor in determining the existence vel non of a compensable taking.\(^64\)

A claimant has several burdens when establishing a taking vel non.\(^65\) As indicated in the language set out above, the Court expressly pointed out that flooding duration was a factor.\(^66\) The Court went on to mention three other aspects that figure in the takings analysis: (i) “the degree to which the invasion is intended or is the foreseeable result of authorized government action;” (ii) the character of the land and the claimant’s investment-backed expectations; and (iii) the severity of property interference.\(^67\) The Court also pointed out that there were a number of issues it neither reached nor reviewed because of the case posture, and noted that on remand, if they had been properly preserved, the Federal Circuit could consider those issues.\(^68\) These issues included a possible

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\(^{62}\) *Id.* at 522-23.

\(^{63}\) *Id.* (Kagan, J., absent).

\(^{64}\) *Id.* at 522.


\(^{66}\) *Ark. Game & Fish Comm’n*, 133 S. Ct. at 522. Presumably, the shorter the duration, the less likely the action is to effect a taking. The duration, so long as it is not permanent, is not a key factor in the lines of analysis presented in this Article. None of the arguments against a taking rely on short-term impositions against the landowner. The concern for unfairness to landowners would be no less if a substantial and disproportionate loss occurred over a short period of time.

\(^{67}\) *Id.*

\(^{68}\) *Id.* at 522-23.
legal distinction between upstream and downstream inundation, the nature of the underlying property right, and a number of factual findings. ⁶⁹

When the Court's opinion is removed from its case specific context, the methodology for future litigants to follow in downstream flooding takings cases can be broken down into a series of, more or less, sequential steps:

1. Determining that the case is within the scope of the waiver of governmental immunity that authorizes it to be heard by the Court of Federal Claims, a determination that turns on analysis of whether the case falls on the takings side of the tort-takings dividing line;

2. Determining the state law content of the property right that is claimed to be taken and on that basis applying the typical regulatory takings tests announced by Penn Central ⁷⁰ and other cases; and

3. Assessing whether the governmental action qualifies as either nuisance prevention or action taken to prevent great public harm. ⁷¹

To recover for a taking of property, the claimant must prevail on all three inquiries or else a court will not find a taking. These topics are considered in turn and all of them are difficult for a claimant to establish—even a claimant who suffers a substantial and disproportionate loss.

A. CROSSING THE TORT IMMUNITY-TAKINGS CLAIM DIVIDE

While the Federal Circuit addressed on remand foreseeability, a review of the cases demonstrates that the underlying issue is quasi-jurisdictional and relies on a foreseeability analysis that is not co-extensive with typical tort law concepts. In cases like AG&FC, a claimant suing the federal government for a taking must first establish that the case is properly within the "purview" of the Court of Federal Claims. ⁷² The term "purview" is evolving to describe the nether region between the subject matter jurisdiction of the Court of Federal Claims and the merits of cases lodged there. ⁷³ This is a form of jurisdiction-to-determine-jurisdiction. The court must examine the facts surrounding the claim to determine whether the claim is within the limited waiver of sovereign immunity that defines the authority and jurisdiction of the Court of Federal Claims to grant relief under the Tucker Act. ⁷⁴ The relevant statutory language permits the Court of Federal Claims to hear cases "against the United States founded either upon the Constitution, or any Act of Congress or any regulation of an executive department, or upon any express or implied contract with the United States, or for liquidated or unliquidated damages in cases not sounding in tort. ⁷⁵ In such

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69. Id. at 521-22.
71. See discussion infra Part III.D.
73. See discussion infra Part III.A.1 and note 77.
74. See, e.g., Ark Game & Fish Comm'n, 87 Fed. Cl. at 615, nn. 16-17
cases, the court’s dismissal of non-frivolous claims that fall on the tort side of the tort-taking dichotomy are treated as dismissals for failure to state a claim on which relief can be granted, rather than dismissals due to a lack of subject matter jurisdiction.76 Making the jurisdictional showing requires the claimant to locate the case as falling on the taking side of the divide between attempted recoveries that sound in tort and those based on takings liability, which is a showing that emphasizes a specialized form of foreseeability.77

1. The Degree of Foreseeability and Intentionality Required to Avoid Immunity and the Overbroad Reading of Precedents by the Federal Circuit on Remand

On remand, the Federal Circuit limited its opinion to the issues the parties preserved that had been raised in the initial appeal from the Court of Federal Claims.78 The court then further subdivided its review of the takings questions (as opposed to some evidentiary questions it had declined to reach on the original appeal) into five separate categories, one of which it terms “Foreseeability.”79 The past precedents the Federal Circuit cited make it quite clear that what the Federal Circuit termed the “Foreseeability” issue is actually the litmus tort-takings test for avoiding immunity and invoking its subject matter jurisdiction. In that regard, the Federal Circuit relied on its earlier decision in Moden v. United States to explicate the standard it applied.80 Moden involved landowners’ appeal from a subject matter jurisdiction dismissal of a claim that the TCE contamination of their property, arguably traceable to improper use of that solvent at the neighboring air force base, took their property in violation of the Fifth Amendment.81 In Moden, the Federal Circuit stated:

The government contends that [to be within the Court of Federal Claims jurisdiction] the resulting injury must be foreseeable from the authorized government act, whereas the Modens’ and amicus curiae, Defenders of Property Rights, contend that the authorized government act need only be the “cause-in-fact” of the resulting injury. Simplified somewhat, the government’s interpretation requires that the injury was the likely result of the act, whereas the Modens’ interpretation requires only that the act was the likely cause of the injury. The government’s interpretation finds support in the language of the standard, which refers to a “direct, natural, or probable result,” not a direct, natural, or probable cause. The government’s interpretation also finds support in our case law. In [Ridge Line Inc. v. United States], we stated that the court must determine whether the alleged injury was the “predictable result of the government action.” This Ridge Line interpretation itself finds support in a

76. See, e.g., Spruill v. Merit Sys. Prot. Bd., 978 F.2d 679, 687-88 (Fed. Cir. 1992); see also United States v. Mitchell, 463 U.S. 206, 216 (1983) (reasoning that if a claim falls within the terms of the Tucker Act, there is subject matter jurisdiction because the United States has consented to suit).
77. See Ark. Game & Fish Comm’n, 87 Fed. Cl. at 615, nn. 17-18
79. Id. at 1369-75. The other four are “Duration,” “Causation,” “Severity,” and “Reasonable Investment-Backed Expectations.”
80. Id. at 1372 (citing Moden v. United States, 404 F.3d 1335, 1343 (Fed. Cir. 2005)).
81. Moden v. United States, 404 F.3d 1335, 1343. The terminology used in Moden sounded in subject matter jurisdiction rather than failure to state a claim on which relief can be granted.
long line of controlling precedent. 

The *Modern* court explained its view in greater detail in a footnote:

Recently, we summarized the relevant aspect of *Ridge Line* as requiring that "a property owner must prove that the asserted government invasion of property interests allegedly affecting a taking 'was the predictable result of the government action,' either because it was 'the direct or necessary result' of the act or because it was 'within the contemplation of or reasonably to be anticipated by the government.'"

In fact, this is a high standard, it moves beyond a mere cause-in-fact relationship evidenced by a strong *post hoc* argument, to require obviousness as the words "direct" and "necessary" imply, or alternatively, an even more subjective standard under which the injury must be "within the contemplation" of the government at the time that it acts. The cases cited for the proposition importantly include the exact same citation, *John Horstmann Co. v. United States*, as does Justice Ginsburg's *AG&FC* opinion when it addresses the role of foreseeability in takings claims. *Horstmann* involved an unprecedented nineteen-foot water-level rise in a lake where the water level had not varied more than two feet in the preceding two decades. The extraordinary rise occurred in the immediate aftermath of a federal irrigation project that was transporting water in unlined canals in an area having porous soils. Based on the science of the time, the government could not be charged with knowledge that the lake level would rise and destroy the claimant's soda mining operations.

Returning to the *AG&FC* setting, there is no basis for concluding, as the Federal Circuit did, that the Corps intended to invade the Commission's rights. The record supports the Corps' clear belief, albeit mistaken, that the changes in operations were not going to have major impacts on the forest 115 miles downstream of the Clearwater Dam. Similarly, the standard that the Federal Circuit purports to apply adds that the adverse result cannot be the "incidental or consequential" result of an authorized activity, is the wrong standard. Finally, nothing in the entire case record suggests that the Corps deliberately contemplated utilizing or sacrificing the Commission's parcel, a downstream site, for its efforts to limit the inundation of upstream farming parcels. In cases where there is an intended zone of sacrifice for occasional water disposal both

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82. Id. (citations omitted).
83. Id. at n.2 (citing Vaizburd v. United States, 384 F.3d 1278, 1282–83 (Fed. Cir. 2004) (quoting Ridge Line, 346 F.3d at 1356)).
84. Ark. Game & Fish Comm'n v. United States, 133 S. Ct. 511, 514 (2012) (“Also relevant to the takings inquiry is the degree to which the invasion is intended or is the foreseeable result of authorized government action. See, e.g., John Horstmann Co. v. United States, 257 U.S. 138, 146 (1921)).
86. Id. at 143–45.
87. Id. at 146–47.
89. Ark. Game & Fish Comm'n, 87 Fed. Cl. at 624.
90. Ark. Game & Fish Comm'n, 736 F.3d at 1373.
Congress and the Corps have opted\textsuperscript{22} for condemnation.\textsuperscript{22}

The Supreme Court cited \textit{In re Chicago, Milwaukee, St. Paul & Pacific Railroad Company}, in highlighting the foreseeability issue for remand, which is even more telling on the degree of foreseeability required to cross the tort-takings divide.\textsuperscript{23} In the portion of \textit{In re Chicago} that the Court pointed out, the Seventh Circuit poses a hypothetical and issues a warning, supported by Supreme Court precedent, against allowing this analysis to transmute torts into takings:

So when does error “take” property? Suppose agents of the FBI, while chasing a kidnapper, demolish someone’s car, or suppose a postal van runs over a child’s tricycle. Do these accidents “take” the car and tricycle? Certainly they are casualties of the operation of government. Yet despite the contention that all torts by the government are takings, the Supreme Court has distinguished the two. Accidental, unintended injuries inflicted by governmental actors are treated as torts, not takings. And torts are compensable only to the extent the Federal Tort Claims Act permits. The Court has never treated limitations on liability in tort as mere pleading obstacles, to be surmounted by shifting ground to the Tucker Act.\textsuperscript{24}

On remand in \textit{AG&FC} the Federal Circuit answered the foreseeability question in this way: “the Corps of Engineers could have foreseen that the series of deviations approved during the 1990s would lead to substantially increased flooding of the Management Area and, ultimately, to the loss of large numbers of trees there.”\textsuperscript{25} Therefore, the Federal Circuit found a taking on facts and doctrines that were precisely the kind of tort concepts the Supreme Court has said should not be deemed a taking because the losses were “accidental” or “unintended injuries.”\textsuperscript{26}

2. Congressionally Granted Immunity and the Separation of Powers Error of Transmuting Intentional Torts into Takings

Dam operators engaging in flood control, such as the Corps at Clearwater Dam in \textit{AG&FC},\textsuperscript{97} inherit a predicament that is seldom, if ever, one of their own making. Congress, when it authorizes the construction of flood control projects, is responding to strong public safety and welfare concerns. The underlying physical problem of too much water at various times in various parts

\textsuperscript{91} A later portion of this Article will argue that even were the Commission, and others similarly situated, able to place the case on the takings side of the tort-taking divide and fulfill all of elements necessary to make out a taking, the nuisance prevention line of cases would operate to prevent a finding of taking. See discussion infra part III.D.

\textsuperscript{92} See, e.g., 33 U.S.C. § 702d-d1.

\textsuperscript{93} Ark. Game & Fish Comm’n v. United States, 133 S. Ct. 511, 522 (2012) (citing \textit{In re Chicago, Milwaukee, St. Paul & Pac. R. Co.}, 799 F.2d 317, 325-26 (7th Cir. 1986)).

\textsuperscript{94} 799 F.2d at 325-26.

\textsuperscript{95} 799 F.2d at 325-26.


\textsuperscript{97} Ark. Game & Fish Comm’n v. United States, 87 Fed. Cl. 594, 602 (Fed. Cl. 2009).
of the watershed is patent. The maps showing the extent of the Flood of 1927, the first chapter in the history leading to the construction of Clearwater Dam, demonstrate the destructive possibilities of flooding in the Black River basin and its contribution to the broader flooding further downstream after its confluence with other rivers. Dam construction and its operation are efforts at risk management in the face of an uncontrolled force—the rain falls when and as it will. The problem is not one of the Corps' making, and the risk management decision to have a dam is Congress' response to a problem of regional concern.

Once the dam is built, its operations are a deliberate effort to impound water, which would otherwise have damaging downstream effects, and release it in a pattern that is intended to provide an optimal degree of protection and risk reduction to downstream properties. Most emphatically, this is not a zero-sum game; some release patterns will be substantially more advantageous than will others. Inevitably, the releases have downstream effects, some of which are adverse to the interests of individual landowners. To provide flood control, the pool behind the dam must be lowered according to some pattern of the Corps' choosing. It would be ludicrous to forbid the Corps from seeking to obtain benefits from its pattern of releases. In fact, whether successful or not, the Corps in altering the release patterns of the Clearwater Dam was attempting to increase the total social welfare derived from the pattern of its operations. In the AG&FC case, farmers lobbied the Corps for the changed release pattern because they were being harmed by the previous pattern of releases. If changes in downstream inundation patterns are takings whenever a landowner is substantially disadvantaged, the Corps' ability to provide the optimal pattern of flood control and releases is severely compromised. If liability for a taking could be premised on foreseeable harm, by making any change in an established pattern of releases the Corps becomes an involuntary insurer of all newly-suffered downstream losses that result from that change in operations. The resultant liability would violate a clearly enunciated federal policy and will hamstring efforts to better adapt to climate change in the future. The Supreme Court addressed this precise policy matter in Horstmann when it refused to find a taking in regard to unforeseen or unintentional effects: "[A]ny other conclusion would deter from useful enterprises on account of a dread of incurring unforeseen and immeasurable liability."

Congress, when it immunized the Corps from all tort liability for flood control structures and their operations, was trying to ensure that the Corps was in a position to operate the dams as it saw best. To do that, the Corps needed

99. Id.
101. See, e.g., Ark. Game & Fish Comm'n, 87 Fed. Cl. at 605. Some downstream effects can be positive, such as releases for environmentally valuable flows, or releases for irrigation, or downstream municipal use in drier seasons.
to be free of potential claims from any landowner downstream who might be adversely affected.104 "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."105 This blanket tort immunity is not limited in any way by the Tucker Act partial waiver of sovereign immunity,106 and applies nationwide to any project involving flood control, whether administered by the Corps, the Bureau of Reclamation, or any other federal entity.107

Congress clearly understood and intended that discretion was not to be circumscribed by every nuance of downstream effects traceable to the Corps' flood control efforts. The cases interpreting the grant of immunity are quite emphatic on this point.108 Condemnation remains necessary for the dam's footprint and its intended storage reservoir, but not for the remainder of the downstream effects, unless deliberately chosen as an intended form of storage or flowage (as contrasted to release) of water. At the time it enacted 33 U.S.C. § 702c granting tort immunity for federal flood control efforts, Congress was aware that losses caused by flood control actions are not takings and would go uncompensated.109 Representative Snell stated:

I want this bill so drafted that it will contain all the safeguards necessary for the Federal Government. If we go down there and furnish protection to these people—and I assume it is a national responsibility—I do not want to have anything left out of the bill that would protect us now and for all time to come.

104. Id.
105. Id.
106. An argument can be made that the specific grant of absolute immunity would require an even greater showing of planned use of the claimants' lands for disposal of flood waters than the previous discussion. See Jacob Scott, Codified Canons and the Common Law of Interpretation, 98 Geo. L.J. 341, 366 (2010) (explaining the widespread acceptance of the canon that "specific provisions targeting a particular issue apply instead of provisions more generally covering the issue")). Other than AG&FC, all of the cases discussed in regard to the tort-taking divide arose in contexts not governed by 33 U.S.C. § 702c and its specific immunization of flood control activities.
107. See, e.g., Aetna Ins. Co. v. United States, 628 F.2d 1201, 1203 (9th Cir. 1980).
108. See, e.g., National Manufacturing Co. v. United States, 210 F.2d 263, 270 (8th Cir.), cert. denied, 347 U.S. 967, 74 S.Ct. 778, 98 L.Ed. 1108 (1954) which stated:

when Congress entered upon flood control on the great scale contemplated by the (1928 and 1936) Acts it safeguarded the United States against liability of any kind for damage from or by floods or flood waters in the broadest and most emphatic language. The cost of flood control works itself would inevitably he very great and Congress plainly manifested its will that those costs should not have the flood damages that will inevitably recur added to them... [T]here is no question of the power and right of Congress to keep the government entirely free from liability when floods occur, notwithstanding the great government works undertaken to minimize them. Congress included Section 3 in the 1928 Act and carried it forward into the 1936 Act and others with intent to exercise that power completely and to absolutely bar any such federal liability.

See also, United States v. James, 478 U.S. 597, 605 (1986) (Terms "flood" and "flood waters," in immunity provision of Flood Control Act applied to all waters contained in or carried through a federal flood control project for purposes of or related to flood control, as well as to waters that such projects cannot control.
I for one do not want to open up a situation that will cause thousands of lawsuits for damages against the Federal Government in the next 10, 20, or 50 years.\textsuperscript{110}

In respect of the possibility of significant uncompensated downstream losses that would follow from the immunity, Congress has itself buffered the harshness of that aspect of the immunity by expressly requiring condemnation of flowage easements along parts of the Mississippi River mainstream where levees are impractical or undesirable and the "lands in such stretch of the river are subjected to overflow and damage [by the projects] which are not now overflowed or damaged."\textsuperscript{111} Other downstream losses that might arise as a result of the immunity as it related to control and release of floodwaters have been left without a remedy. For the courts to undo the balance carefully struck by Congress by lowering the tort-taking demarcation line impermissibly intrudes on the zone of sovereign immunity that Congress did not surrender. On the contemporary policy level, the ability to freely reconsider and modify dam flood control operations supported by the congressionally granted immunity is an increasingly important principle. As previously described, situations similar to the AG\&FC case will become more common with the loss of stationarity.\textsuperscript{113} The Corps, and others operating dams for flood control, will increasingly be faced with the challenge of devising new release patterns to attempt to minimize adverse impacts of flooding and to hedge against drought. In the face of such public exigency, the Corps, and other dam operators, cannot viably rely on any singular water release pattern. Dam operators will face conditions not foreseen at the time the dam was built and initial patterns of operations were planned. The one choice that the citizenry rightfully expects is that dam operators will chose operations in an attempt to minimize adverse impacts. There will be winners and losers, but other than cases of deliberate use of downstream properties to function as a form of additional reservoir capacity, the takings clause of the Constitution is not implicated by the Corps' discretionary operational choices.

On remand in AG\&FC, the Federal Circuit made an oblique reference to this issue when it addressed in broad dicta an upstream-downstream distinction, belatedly raised by the Corps.\textsuperscript{113} In that stage of the litigation, the Corps, for the first time, urged that there is a distinct and legally significant difference between inundating parcels upstream and those downstream of a flood control dam.\textsuperscript{114} The Federal Circuit summarily rejected the argument.\textsuperscript{115} It noted that because the change caused harm to AG\&FC in pursuit of conferring a benefit for the low-lying farms, the Corps could not raise any defense based on the general benefit being provided to all landowners downstream of the dam.\textsuperscript{116} The court's rejection of the Corps' argument, although relevant to the severity of loss issue that a claimant must be able to show under the regulatory takings doctrine of

\textsuperscript{110} 69 Cong.Rec. 6641 (1928).
\textsuperscript{112} Milly et al., supra note 4, at 573.
\textsuperscript{113} Ark. Game & Fish Comm'n v. United States, 736 F.3d 1364, 1375, n.4 (Fed. Cir. 2013).
\textsuperscript{114} Id.
\textsuperscript{115} Id. at 1375.
\textsuperscript{116} Id. at 1375-76, n.4.
Penn Central, obscures the thrust of the upstream-downstream distinction.

First, the court's rejection of the Corps' argument overlooks the simple reality just described—in most situations the water stored in the dam will have to be released, and when it is released, due to conservation of matter and the law of gravity, it has to go somewhere and that somewhere is downstream. While there may be some cases where there is sufficient capacity in the dam and favorable downstream conditions, so a release pattern can be totally benign, the far more common pattern will be some downstream parcels getting greater benefits than others from the dam operator's chosen patterns of operations. Correlatively, some downstream parcels will be subjected to less favorable or adverse effects of the chosen release pattern. Under the Federal Circuit's improvidently broad language, if there are any "winners," all "losers" whose losses cross the de minimis threshold have compensable injuries. Second, the Federal Circuit's position ignores the fact that even the "losers" remain beneficiaries of the dam's presence because all persons and landowners downstream benefit from safety increases and the reduction of calamitous risks that the dam provides. In the AG&FC setting, if the Commission’s loss is a taking, so too, would be the loss of someone whose house now floods during a higher release period as a direct and provable consequence of the return to the old release pattern. Upon return to the old releases pattern, what (other than the statute of limitations) is to stop the farmers, whose requests prompted the change in the first place, from claiming that the original operating plan "took" their lands? Imposing that form of cause-in-fact driven liability on the government is not a tenable result. Such an approach not only contravenes the balance deliberately struck by Congress, the Federal Circuit's approach fails to account in any way for the harm that the dam's operation prevents, which can prevent all takings liability.

B. UNDERSTANDING THE NATURE OF THE PROPERTY RIGHT TO BE FREE OF INUNDATION

In a setting such as that of the AG&FC case, Arkansas law defines the property rights of the riparian landowner. The United States Supreme Court stated, "the Constitution protects rather than creates property interests, the existence of a property interest is determined by reference to 'existing rules or

117. Under some conditions, the stored water might evaporate or percolate in sufficient quantity, and/or be diverted from the reservoir for agricultural or water supply purposes in sufficient quantity, so that releases above virgin flow are never required. Those cases, of course, would impose no damage to downstream parcels.

118. This aspect of the upstream-downstream line is discussed at greater length in the consideration of the average reciprocity of advantage precedents. See discussion infra Part III.D.2.

119. See discussion infra Part III.D.2.

120. This Article will limit itself to a discussion of reasonable use riparianism as the state water law governing the right to be free of inundation. Not only is that the dominant water law of the areas where most flood control dams operate, even prior appropriation states borrow reasonable use riparianism principles to govern some aspects of riparian ownership other than the right to divert and appropriate the water, such as the correlative rights of co-riparians to make recreational use of the water surface. See, e.g., Snively v. Jaber, 296 P.2d 1015, 1019 (1956) (holding that recreational rights and privileges of riparian proprietors are violated by one owner's overuse). See South Flag Lake v. Gordon, 307 S.W.3d 601, 604–05 (Ark. Ct. App. 2009).
understandings that stem from an independent source such as state law. The question of what rights, if any, are being taken by the Corps in AG&FC, therefore, begins with a consideration of those state law property rights, the point from which diminution of value or right to be free of invasion are measured. A pointed example of this principle is the Court’s unanimity on that issue in Stop the Beach Re-nourishment v. Florida Department of Environmental Protection. In that case the entire Court agreed that, under Florida property law, the petitioners lacked the rights they claimed were taken when the government implemented the beach re-nourishment law. As a result there could be no taking of property.

In the AG&FC litigation, the issue of Arkansas property rights is conspicuously absent. The government did not raise it and, prior to the case reaching the Supreme Court, neither the Court of Federal Claims nor the Federal Circuit cited a single Arkansas case. When the litigation reached the high court, Justice Ginsburg’s opinion noted:

But Arkansas law was not examined by the Federal Circuit, and therefore is not properly pursued in this Court. Whether arguments for an upstream/downstream distinction and on the relevance of Arkansas law have been preserved and, if so, whether they have merit are questions appropriately addressed to the Court of Appeals on remand.

On remand, the Federal Circuit ruled that any dispute regarding the content of the Commission’s property right under state law had not been preserved, and likewise ruled, as a consequence, the Corps could not raise the role of the Commission’s investment-backed expectations. In that way, the Corps’ failure to contest the scope of the Commission’s property rights had two impacts—consideration of the basic nature of the right claimed to be violated was foregone and application of one or more key aspect of the Court’s usual takings test was precluded.

In regard to the Management Area, Arkansas’ longstanding adherence to reasonable use riparianism as its principal water law makes it difficult to precisely measure state law property rights and riparian rights. The rights created are correlative rights to a common pool resource, and what is a reasonable use of one parcel may have an impact on other riparian parcels and

124. Id. at 732.
125. Id.
126. See Ark. Game & Fish Comm'n v. United States, 87 Fed. Cl. 594 (2009); Ark. Game & Fish Comm'n v. United States, 637 F.3d.
127. See Ark. Game & Fish Comm'n, 87 Fed. Cl. 594.
128. See Ark. Game & Fish Comm'n, 637 F.3d 1366.
130. See Ark. Game & Fish Comm'n v. U.S., 736 F.3d 1364, 1375 (Fed. Cir. 2013).
131. See 133 S. Ct. at 522-23.
their potential uses. The leading Arkansas case is *Harris v. Brooks.*133 The opinion in that case, which involved an irrigation depletion in competition with a co-riparian's *in situ* recreational use of the waterbody that relied on maintenance of an appropriate water level, adopts several ideas presented by the Restatement (First) of Torts Section 852. Having particular relevance to the *AG&FC* case, the Arkansas Supreme Court quoted a passage from the Restatement:

It is axiomatic in the law that individuals in society must put up with a reasonable amount of annoyance and inconvenience resulting from the otherwise lawful activities of their neighbors in the use of their land. Hence it is only when one riparian proprietor's use of the water is unreasonable that another who is harmed by it can complain, even though the harm is intentional. Substantial intentional harm to another cannot be justified as reasonable unless the legal merit or utility of the activity which produces it outweighs the legal seriousness or gravity of the harm.134

The Corps' actions in the *AG&FC* case exceeded mere annoyance or inconvenience if the Commission sufficiently proved the Corps caused the increased inundation, which in turn destroyed the hardwoods. Equally, however, Arkansas law requires that even if a respondent's actions are properly characterized as intentional, and the impact is substantial, those actions may still be considered legally reasonable based on "legal merit or utility."135 The broader pattern of flood control has immense utility. Thus, even though the Corps intentionally (in the traditional tort law sense) changed its pattern of releases, and even if the Corps had known (which they initially did not) that harm would inure to a downstream co-riparian, the law of riparianism considers the whole picture, including the utility of the action taken.136 Under Arkansas principles, the Clearwater Dam in this case is protecting vast tracts of land, including homes and businesses from flooding. That is an act having great utility. The Corps' operation of a flood control dam, even if not the most typical riparian use, is a riparian use nonetheless. Recalling that the property rights of all co-riparians are correlative, the myriad of benefits attributable to the dam's flood control operations are germane to determining the riparian rights of others in the basin. Only a small number of Arkansas cases have decided issues of riparian rights, but a comparatively recent case, *South Flag Lake, Inc. v. Gordon,*137 addressed the situation in which the court held use on one parcel was reasonable in spite of causing a considerable amount of continuing inundation of a co-riparian's lands. The claimed injury of the inundated co-riparian in *South Flag Lake* is not as dramatic as the *AG&FC* claims of forest injury and did not involve major economic value.138 Nevertheless, *South Flag Lake* and other Arkansas cases establish there is no per se rule that would support *AG&FC* in a claim that Arkansas law gives them an absolute property right to

133. *Id.*
134. *Id.* at 135 (citing Restatement (First) of Torts § 852 cmt. c (1939)).
135. *Id.* (emphasis added).
136. *Id.*
138. *Id.*
be free of alterations of watercourse conditions, including those that increase inundation of their parcel. The public welfare benefits provided by the dam militate in favor of a finding that the Corps’ flood control use is of sufficient utility to be reasonable, even in the face of a substantial interference with the parcel of a co-riparian. Indeed, this might be exactly the type of case in which the doctrine of *damnum absque injuria*—damage without legal injury—is properly applied. Under that analysis, it is likely that the taking claim of the Commission in this case would fail because there was no invasion of a property right under Arkansas law. Even if Arkansas law deemed the Corps’ actions to invade the Commission’s riparian rights, the case would still have to move to the second stage where the court finds a regulatory taking of property under the Fifth Amendment.

As litigated, one of the Commission’s claims was that the inundation of its lands caused by the changed pattern of dam operations should be treated as falling under the “physical invasion” line of takings cases, the most prominent of which is *Loretto v. Teleprompter Manhattan CATV Corporation*. It is vital to note that *Loretto* involved a permanent physical invasion of the landowner’s property and on that basis alone constituted a taking of property. The Government argued that the lack of inundation permanence in *AG&FC* was a bright line “no taking” argument, which became the principal ground for the Federal Circuit’s reversal in the original appeal. The Supreme Court, however, expressly disavowed the bright line reading of the importance of permanence. Thus, the Court held only that temporary physical invasions may be takings, leaving open whether they are takings to be decided on a case-by-case basis. The Court added guidance for that determination by indicating that the duration of the intrusion was a relevant consideration in determining the extent of the detrimental claimant suffered when making the takings decision.

In assessing the importance of the duration and nature of the physical invasion in the takings calculus, state property law, again, is relevant because it sets the expectations of the landowner. Here, too, Arkansas’ reasonable use riparianism cases reject the possibility that a riparian can have a reasonable

139. Barboro v. Boyle, 178 S.W. 378 (Ark. 1915); Harris v. Brooks, 283 S.W.2d 129 (Ark. 1955) (addressing irrigation in competition with recreational boating); Jones v. Oz-Ark-Val Poultry Co., 306 S.W.2d 111 (Ark. 1957) (extending reasonable use test to groundwater); Scott v. Slaughter, 373 S.W.2d 577 (Ark. 1963) (balancing water-based commercial hunting and fishing use). These cases are recounted in greater detail in the Amicus Brief filed by Professors of Law Teaching in the Property Law and Water Rights Fields in Ark. Game & Fish Commission v. United States, 133 S. Ct. 511 (2012). The author of this Article was counsel for that Amicus.


142. As considered more fully later, it is likely that this would not be a regulatory taking. See discussion *infra* Part III.C; Penn Cent. Trans. Co. v. City of New York, 438 US. 104, 131 (1978).

143. Ark. Game & Fish Comm’n v. United States, 637 F.3d 1366, 1367 (Fed. Cir. 2011)


145. *Id.*

146. *Ark. Game & Fish Comm’n*, 637 F.3d at 1372.

147. *Loretto*, 458 U.S. at 441-42.

expectation that the riparian fee is an inviolate area immune from any physical encroachment or intrusion. This is true not only when the “invasion” is caused by water inundating portions of the parcel as in South Flag, but also when the invasion involves use of surface waters overlying a riparian’s property. Thus, under Arkansas law, the fact that the inundation can be characterized as a temporary physical invasion does not imply that the invasionary nature is the key factor in the broader takings analysis. If anything, Arkansas’ law of riparian rights suggests that owners of riparian tracts should have little expectation that their riparian fee is an exclusive domain.

The takings test the Supreme Court pointed to also assesses the totality of circumstances to determine the extent of the deprivation. In Harris v. Brooks, and in cases involving use of waters overlying privately owned beds, the public interest weighs heavily as a limitation on claimed rights of riparian proprietors in Arkansas. Here, while the Commission is a public entity, the forest use for which it seeks compensation as a taking is proprietary in nature and is in competition with the public use of flood control. As noted above, even if it was negligent in its disregard or miscalculation of the potential and actual downstream effects its dam operations might cause, the Corps acted in pursuance of the highly important public interest of flood control. The Corps’ actions make it less likely that the Commission, as a riparian proprietor, can claim a reasonable expectation to be wholly free of physical invasion of its parcel.

C. APPLYING THE TAKINGS TEST OF PENN CENTRAL TO AG&FC AND SIMILAR DOWNSTREAM INUNDATION CASES

Penn Central Transportation Company v. City of New York is generally considered the leading case for framing the analysis in alleged regulatory takings cases. Penn Central offers guidance for determining when a regulation is a valid exercise of police power, and when it steps over the murky divide and “goes too far,” becoming a taking of property. The Penn Central contribution is its

150. See generally, BARTON THOMPSON, JR., JOHN LESHY, & ROBERT ABRAMS, LEGAL CONTROL OF WATER RESOURCES, 74-85 (5th ed. 2013) (addressing rights of co-riparians to use the entire surface of the waterbody); Id. at 613 (discussing state law navigability as determining the right of the general public to use waters superjacent to privately owned beds of lakes and streams). On this latter point, Arkansas is one of the leading states that has moved to open formerly private waters to public use by expanding its navigability concept, which state law precedents have long deemed to be a concept that considers the public’s interest in use of the common pool resource. See State v. McIlroy, 595 S.W.2d 659, 660 (Ark. 1980); Barboro v. Boyle, 178 S.W. 378 (Ark. 1915).
151. Ark. Game & Fish Comm’n, 133 S. Ct. at 521
153. See Ark. Game & Fish Comm’n v. United States, 736 F.3d 1364, 1375-76, n. 4 (Fed. Cir. 2013) (appearing to conclude on remand that the Corps was not acting in the public interest in this case because the impetus and one of the results of the changed operation was to benefit farming interests located closer to the dam. That assessment totally ignores the fact that the historic pattern of releases had imposed losses, albeit less dramatic and possibly less economically important, on the farming parcels that could not be cultivated due to the former pattern of releases.).
155. Id. at 124-25; Pa. Coal Co. v. Mahon, 260 U.S. 393, 415 (1922) (“The general rule at
three-part test: (i) the loss must be substantial and the whole parcel, not merely the affected portion, is the baseline to consider how much has been taken; (ii) the inquiry must account only for the landowner's justifiable investment backed expectations; and (iii) the character of the governmental interest has a place in the determination. In *AG&FC*, on remand, the Corps' earlier litigation choices either waived or limited the facts considered in making some of these inquiries. However, if the case was litigated on a clean slate, the Commission and claimants in similar circumstances, would have a difficult time satisfying any of the *Penn Central* parts.

1. Economic Impact on the Owner Using the Parcel as a Whole Baseline

Under the first factor, the Management Area still possesses great value to the Commission and the citizens of Arkansas. The parcel-as-a-whole analysis would suggest that there is substantial value remaining and that the parcel is still able to serve its intended uses as a refuge, reserve, and public recreation area. In other temporary inundation cases, even severe short-term impacts may leave the parcel with many valuable uses, including uses of the remainder of the parcel while a portion of the parcel is adversely affected.

2. Interference with Investment Backed Expectations

There does not seem to be a justifiable expectation that flooding will not impact the Management Area, which is low-lying and is subject to inundation in almost every year. That lack of justifiable expectation may be offset by the recurring nature of the Corps' operations, which give the interference continuing character that no longer corresponds to the expectation of variable flooding that might cause harm. The state law of reasonable use riparianism undercuts the expectation that a co-riparians' actions must cause no interference by inundation—all riparian lands are burdened by the correlative reasonable uses of co-riparians. In this regard, certain Arkansas cases directly affirm the propriety of co-riparians' actions that alter patterns of inundation in others' parcels. Similarly, in *AG&FC* there is no purposeful investment in the forest

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156. See, e.g., ZYGMUNT PLATER, ROBERT ABRAMS, ROBERT GRAHAM, LISA HEINZERLING, DAVID WIRTH & NOAH HALL, ENVIRONMENTAL LAW AND POLICY: NATURE, LAW, AND SOCIETY 917 (4th ed. 2010).

157. Ark. Game & Fish Comm'n v. United States, 736 F.3d 1364, 1369 (Fed. Cir. 2013) (finding, on remand, that the United States had not preserved key aspects of the *Penn Central* test and did not even cite *Penn Central* in its opinion. Had those issues been preserved, all three elements of the *Penn Central* test point to a no taking result).

158. Another factor affecting loss calculation in *Penn Central* was the grant to the landowner of transferable development rights, which partially offset the loss. See 438 U.S. at 137. In *AG&FC* and similar cases, even the "losers" on the downstream side of a flood control dam are obtaining a substantial benefit from the increases to safety and reduction of calamitous risks that the dam is providing. See Ark. Game & Fish Comm'n v. United States, 637 F.3d 1366, 1382 (Fed. Cir. 2011) (citing Fromme v. United States, 412 F.2d 1192 (Ct. Cl. 1969)).

159. Ark. Game & Fish Comm'n v. United States, 133 S. Ct. 511, 522 (2012) (finding that a permanent physical invasion would suggest a *per se* taking under *Loretto* v. Teleprompter Manhattan CATV Corp., 458 U.S. 419 (1982)).


161. See supra note 138.
resource for its ongoing production of timber. The refuge was created for conservation and recreation purposes, an issue deemed to have been waived in the case. Looking generally at cases where the lowest-lying portions of a riparian parcel immediately adjoining a flood-prone stream are inundated, it would seem to be imprudent and unjustified to invest heavily in the continued freedom of those areas from inundation.

3. Character of the Governmental Action

The character of the governmental interest, the third Penn Central factor, has not received extensive elaboration from the Court. The most direct effort to explore the content of that factor appears in Justice O'Connor's concurring opinion in Palazzolo v. Rhode Island. After describing Penn Central as the “polestar” of takings jurisprudence and borrowing phrases from that case, she stated:

We have eschewed “any ‘set formula’ for determining when ‘justice and fairness’ require that economic injuries caused by public action be compensated by the government, rather than remain disproportionately concentrated on a few persons.” The outcome instead “depends largely upon the particular circumstances [in that] case.” We have “identified several factors that have particular significance” in these “essentially ad hoc, factual inquiries.” Two such factors are “[t]he economic impact of the regulation on the claimant and, particularly, the extent to which the regulation has interfered with distinct investment-backed expectations.” Another is “the character of the governmental action.” The purposes served, as well as the effects produced, by a particular regulation inform the takings analysis.

In virtually every case, courts consider the building and subsequent operation of a flood control dam to be a fundamentally important and uniquely public purpose, the protection of all interests in the flood plain below the dam. Thus, in downstream flooding cases, the character of the government action weighs heavily in favor of the government in the ad hoc takings balance. Like several other areas of constitutional adjudication, takings law applies a sliding scale analysis, which, when applied to the Corps’ flood control actions, accords the Corps far greater leeway before a taking can be found. Thus, because the Corps’ actions here are in the service of flood control, the court will accord far greater leeway before finding a taking.

D. NUISANCE PREVENTION CASES

The Supreme Court has long recognized that governmental regulations that proscribe either illegal or nuisance activities are not takings. There is an

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162. *Ark. Game & Fish Comm'n*, 133 S. Ct. at 516.
164. *Id.* at 633–65 (citations omitted) (emphasis added).
165. See *infra* note 137. The same factor is important in the state law determination of property rights and further limits the reasonable expectations of all owners below a flood control dam to be free of dam-operation-caused variations in the natural flow of the watercourse. Similarly, the same factor, the prevention of great public harm is an independent consideration that brings AG&PC and cases like it into the nuisance prevention line of cases. See *infra* Part III.D.
underlying character to such actions—they protect the public at large from potential harms to public welfare, including protections of morals, health and safety, and even protecting local economies from disruption. So, for example, enforcement of a law requiring the closing of a distillery during prohibition, or a law barring operation of brick mill, or continued quarrying in residential area, all withstood constitutional challenges despite near total losses of value to the regulated owners. The case from this line that is most like the destruction of the Commission’s hardwood forest is Miller v. Schoene. In Miller, state law required owners of cedar trees afflicted with cedar rust, a disease that does not adversely affect the cedars, to destroy diseased trees at their own expense to prevent infection of nearby apple orchards, which were seriously harmed by the disease. The Court in Miller unanimously upheld protection of public welfare against a takings challenge. That holding placed a direct loss on the affected cedar tree owners, who were required to act wholly within their own property to cut and remove cedar trees, at their own expense, for the welfare of the broader community and the economic well-being of a discrete class of citizens, those in the apple growing industry.

1. Protecting the Public by Preventing Greater Harm via Triage

There is a close parallel to Miller in the AG&FC setting. At the time the challenged regulatory action occurs, there are indirectly competing users of an intertwined resource complex and the government may, without taking property, regulate the manner in which the uses are to be accommodated. In Miller the regulator chose to protect the apple industry against harm at the expense of the cedar tree owners; in AG&FC the Corps, as regulator of dam operations, chose to protect the low-lying farmers at the expense of the forest. Both the Virginia legislature and the Corps faced an unavoidable decision—doing nothing, i.e., not changing the current obligations of cedar tree owners or the pattern of dam operations, decides the issue in favor of one set of private uses and against the other. For the Virginia legislature, it was a choice between cedar trees and apples. The Corps also faced a choice because it must release the impounded water from a previous high flow period in order to empty the reservoir to be able to store water that would pose the next threat of a major regional flood event. Inevitably, even though the Corps might not have recognized the choice at the time, every release pattern has downstream consequences.

The Corps is, in essence, engaged in a form of triage that attempts to limit the adverse flooding consequences in the basin. This is no different than the

170. Id. at 277.
171. Id. at 279.
172. Id. at 279-280.
Virginia legislature when it forced cedar tree removal to protect the apple industry. The impetus for building the Clearwater Dam was precisely that—mitigating flood risks that would occur in the absence of building the Clearwater Dam in the first place. Once built, the Corps, in making releases, is choosing among operational patterns to maximize the net flood risk reduction benefits. Necessarily, that choice, as in AG&FC, will provide some with greater and others with lesser benefits and burdens. In AG&FC the Corps was doing just that, trying to provide additional flood protection to the farmers in Missouri just below the dam by altering its release patterns.172 No doubt, the Corps may have wrongly assessed the consequences of its change in dam operations and, by reducing release-induced flooding for the farmers, increased release-induced flooding for the forest. What that action presents is a question of how to manage excess water and poor decision making, not a taking of property.

The Miller holding is not in any way qualified or limited to cases in which the governmental choice of course of action is completely correct. As to the Corps’ allegedly poor predictive performance, under the Miller rationale, takings is not the remedy. Unfortunately for the Commission and others harmed by Corps possible negligence173 in carrying out the triage, tort remedies are unavailable because Congress has granted the Corps immunity.174 The Miller Court would have rejected the takings claim, even if there had been evidence that the state forestry official had been wrong in believing that destroying the cedar trees was the best way to protect the apple orchards, or even if the forester had been wrong that destroying the cedar trees would be effective at preventing the harm to the apple orchards.175 The nuisance prevention and quarantine-triage line of defense to taking claims is that broad.

The Supreme Court’s well-known decision in Lucas v. South Carolina Coastal Council178 strongly supports that view, even if the destruction of the hardwoods could be considered a Lucas “wipeout.”179 Justice Scalia’s plurality opinion states:

A law or decree with such an effect [i.e., a law that imposes a “wipeout”] must, in other words, do no more than duplicate the result that could have been achieved in the courts—by adjacent landowners (or other uniquely affected persons) under the State’s law of private nuisance, or by the State under its complementary power to abate nuisances that affect the public generally, or otherwise.180

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175. Ark. Game & Fish Comm’n, 133 S. Ct. at 516
176. Assessing whether the Corps was negligent is not the objective here. What is factually established is that the Corps eventually agreed that its actions were a substantial causative factor (though not the only one) that resulted in the loss of the timber. Importantly, whether negligence is involved or not is immaterial to the takings issue. That the remedy available to AG&FC must sound in tort is highly relevant inasmuch as Congress has closed off that avenue.
177. CYNTHIA BROUGHER, CONG. RESEARCH SERV., RL34131, FLOOD DAMAGE RELATED TO ARMY CORPS OF ENGINEERS PROJECTS: SELECTED LEGAL ISSUES (2011).
180. Id. at 1016 n.7. Under the “parcel as a whole” calculus relied upon in Penn Central and other cases, the loss of the hardwoods here is not a wipeout. See supra Part III., C., 1.
181. Id. at 1029 (footnote omitted).
While some might argue that statement assists the Commission, because maintaining the Management Area is surely itself a commendable public-benefitting use, the passage just quoted from *Lucas* concludes with a footnote that states:

The principal "otherwise" that we have in mind is litigation absolving the State (or private parties) of liability for the destruction of "real and personal property, in cases of actual necessity, to prevent the spreading of a fire" or to forestall other grave threats to the lives and property of others. 183

In relation to the *AG&FC* case, the worst that can be said of the Corps’ actions, which are alleged to have inflicted the harm, is that the change in the release pattern was ill-chosen and unnecessary. The purpose being served, active engagement in the management of water collected and stored to prevent flooding, insulates the Corps from *takings* liability. The claim of a taking cannot be strengthened by arguing that the release of water to bestow a benefit on the farmers 184 is separate from the flood control effort and therefore, should not be covered by the nuisance prevention precedents. As is patently clear, the water the Corps stored behind Clearwater Dam to prevent or limit flooding downstream must eventually be released, lest the dam have no storage capacity available for the next spring high-water season, or for a summer or fall extreme rainfall event. 185

The triage metaphor makes quite clear the point that no takings liability should attach to flood control operations. The Corps’ releases and active engagement serves to prevent public harm as a form of triage that takes place on two levels. The first level of triage inflicts a lesser harm (small inundations caused by the releases) to ensure that the storage is available for a potentially major flood event. The second level of triage tries to make those releases in a way that cause minimal harm. Getting it wrong on the second level is not a taking. At worst it reflects a negligent calculation of effects that may be tortious in nature, but it is not compensable as a taking. To use Justice Scalia’s words, the Corps’ releases, which inevitably must be made in one pattern or another, are made “to forestall [a] grave threat[s] to the lives and property of others.” 186

2. Average Reciprocity of Advantage Cases and the Harm-Benefit Distinction

Although it is has not been a prominent aspect of contemporary takings law or takings scholarship, 186 historically the Supreme Court has espoused, and has

182. *Id.* at n.16 (citations omitted).
183. The harm prevention-benefit bestowal dichotomy is more fully discussed *infra* part III.D.2.
184. 33 U.S.C. § 702c (2015). Interestingly, the Great Flood of 1927, which occurred outside of the usual flood season, was a galvanizing event that led Congress to authorize the program that led to the construction of the Clearwater Dam. The flood map shows the date of that flood to have been in October.
185. *Lucas*, 505 U.S. at 1029 n.16 (citations omitted).
186. See Lynda J. Oswald, *The Role of the “Harm/Benefit” and “Average Reciprocity of Advantage” Rules in a Comprehensive Takings Analysis*, 50 VAND. L. REV. 1447, 1489 n.218 (1997) (classifying the operation of the average reciprocity of advantage doctrine thusly: “Although most government regulations that confer a benefit are compensable takings, the average reciprocity of advantage rule identifies a critical subset of government actions that, although they
never repudiated, a doctrine that there is no taking of property when a
landowner suffering a loss through operation of a government project also is a
member of the class that benefits from the project. The doctrine is most
famously mentioned in 1922 as part of Justice Holmes' Pennsylvania Coal
opinion. The doctrine's content and application, however, can primarily be
traced to a small series of cases cited by Justice Holmes in support of his 1922
opinion in Jackman v. Rosenbaum Co., in which he stated:

In the State Court the judgment was justified by reference to the power of the
State to impose burdens upon property or to cut down its value in various ways
without compensation, as a branch of what is called the police power. The
exercise of this has been held warrantied in some cases by what we may call the
average reciprocity of advantage, although the advantages may not be equal in
the particular case.

Jackman rejected a takings challenge by the owner of an existing structure
to a state statute authorizing construction using a party wall so urban properties
could be developed with no intervening space. The three earlier Supreme
Court decisions, which Holmes relied upon as having established the doctrine,
were quite varied factually. The first involved a drainage district within which
all parcels were subject to a considerable tax burden to pay for a program that
would enhance the value of all parcels. The second involved an irrigation
district in which all parcels, including those not in need of the district's facilities,
were subject to the tax. The third involved a solvent bank challenging a
deposits guarantee system funded by taxing all state banks' deposits. The
common element between those cases and Jackman is that the claimants
seeking a takings remedy opposed the program and its application and were
denied relief because they received program benefits.

The applicability of the average reciprocity of advantage doctrine is
straightforward in cases of downstream damage caused by a flood control dam
releases of stored water. All of the parcels greatly benefit from the first level of
triage—the presence of the dam and its operations prevent or mitigate disastrous
flooding. Even at the second level of triage, in choosing a pattern of releases,
the dam operator is still within the bounds of the average reciprocity of
advantage doctrine. Assuming the dam operator is making a good faith effort
to maximize benefits and limit losses, there is benefit to the entire group that
need not be distributed identically and which may be burdensome to and
opposed by a subset of the affected group.

The average reciprocity of advantage argument was not fully considered in

187. Id. at 1489.
190. Id.
191. Id.
the AG&FC litigation. The Corps, belatedly and at best obliquely tried to raise this line of argument when the case was on remand from the Supreme Court.196 The Corps then, for the first time, urged that in regard to flood control dams there was a distinct and legally significant difference between inundating parcels upstream of the dam and those downstream of the dam.197 Apart from being untimely, the Corps' suggestion hardly pinpoints the average reciprocity of advantage argument that would give it credence in defending against the Commission's taking claim.

As a counterpoint to the average reciprocity of advantage doctrine that limits the possibility of takings, the harm-benefit distinction most clearly comes into play when a claimant is met with the nuisance prevention "defense" to a takings claim, and tries to avoid that defense by arguing that the government action is one that inflicts the harm in order to bestow a benefit, and not an action that prevents harm.198

Simply put, the harm/benefit test states that a regulation intended to prevent a public harm is a valid exercise of the police power (for which no compensation is required), while a regulation intended to confer a public benefit is potentially a regulatory taking (for which compensation is constitutionally mandated).199

The AG&FC litigation facts suggest the harm-benefit distinction because the triggering event for the Corps' action was the farmers' request for a change in dam operations that would result in a longer growing season.200 Eventually, on remand, the Corps apparently, and quite obliquely, tried to suggest the nuisance prevention and average reciprocity of advantage lines of argument by urging an upstream-downstream distinction as a reason to find that no taking had occurred.201 The Federal Circuit summarily rejected the argument, particularly as the court considered its application to the case at bar.202 In doing so the Federal Circuit appeared to accept the applicability of the harm-benefit test to the case:

The government also suggests that a downstream property owner's interest in not being flooded by a flood control project is different from an upstream owner's interest, because property downstream from a dam is not occupied by the project but is the intended beneficiary of the project, which is designed to reduce flooding impacts. It may often be the case that a downstream property owner is the beneficiary of a flood control project. That is not true, however, when the project results in substantially increased flooding of one downstream owner's property due to efforts to benefit other downstream properties, such as the agricultural lands that were the intended beneficiaries of the deviations

197. Id.
199. Oswald, supra note 188, at 1452.
200. Id.
201. Ark. Game & Fish Comm'n, 736 F.3d at 1375 n.4.
202. Id. at 1375.
Three aspects of the Federal Circuit's response merit comment because of the likelihood that the decision will be misapplied in the future. The upstream-downstream distinction is relevant. Not only does it demarcate the principal zone of intentionality that requires condemnation to locate the dam footprint and upstream reservoir, it is also the dividing line separating the area in which public harm prevention is manifest and will defeat a takings claim. Secondly, the response of the Federal Circuit incorrectly applies the harm-benefit distinction by assessing this case as a benefit-only case because of the favorable treatment to farmers, while ignoring the broad harm prevention provided to all downstream landowners. Taking that point a step further, even though the Corps' action in AG&FC was taken in hopes of providing a benefit to the farmers, the "benefit" was, in fact, an effort to prevent or reduce a long-imposed alternative harm suffered by those farmers due to the prior pattern of releases. More generally, all triage cases face the choice of limiting harm before considering the harm someone else is likely to suffer. Thus, in the context of obligatory releases of stored potential floodwater, the harm-benefit distinction should be of no avail in the effort to resuscitate a takings claim against the nuisance prevention line of cases.

The Federal Circuit's broad formulation to uncritically treat the case as a benefit bestowal case, which is a taking for those who suffer substantial losses, has a final important flaw—overbreadth will invite an avalanche of litigation. As written, the Federal Circuit's remand opinion appears to allow any downstream "loser" suffering "substantially increased flooding" to state a prima facie case of compensable taking on that basis alone. The floodgates of litigation argument, like any "parade of horribles" argument, should not be allowed to detract attention from the legal merits and policies of the area. In this setting, avoiding a welter of takings litigation, almost all of which should fail on the merits, acts in furtherance of the policies that are in play when the government acts to protect the citizenry and promote the general welfare. The Corps acts pursuant to congressional instruction to operate the dam for flood control purposes, exercising its discretion regarding how best to accomplish that goal. In that setting the policy bias is in favor of allowing the governmental official freedom to operate. A similar policy allows granting government officials' qualified immunity from personal liability for violating an individual's constitutional rights when that official's actions do not violate clearly established law.

In this setting Congress has gone a step further and given blanket tort immunity to federal flood control operations, and it would be odd indeed to allow a

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203. Id. at 1375, n.4.
205. See, e.g., Harlow v. Fitzgerald, 457 U.S. 800, 818 (1982). See also, Plumhoff v. Rickard, 134 S.Ct. 2012 (2014) (confirming the need for interlocutory appeals of the issue to prevent the official for the burdens of litigation where the immunity sought is claimed to have been denied erroneously by the trial court).
lowered takings threshold to force the federal official to litigate every incidental loss.

Taken together, the cavalier rejection of the issues raised by an upstream-downstream distinction renders the standard applied by the Federal Circuit troubling and ripe for abuse. The court's approach appears to reduce these cases from a full "takings vel non inquiry" to instead require little more than proof of causally linked substantial losses as the basis for finding a taking.\(^{207}\) Results that would follow upon that line of analysis are tantamount to requiring the government to serve as an involuntary insurer of all such substantial losses. This proves too much, too easily\(^{208}\) and violates the standards set down by the Supreme Court both as to the tests to apply for temporary inundations, and in regard to the tort-taking distinction.

IV. FAIRNESS-BASED COMPENSATION FOR DISPROPORTIONATE BURDENS WITHOUT RESORTING TO TAKINGS LAW

A. REASONS IN POLICY TO PAY COMPENSATION

This Article takes a sympathetic view of the Commission's plight in its litigation while steadfastly arguing that a taking of property did not occur. The avoidable loss of a bottomland hardwood forest due to the Corps' apparent unresponsiveness and possibly flawed analysis is an ecological tragedy that should have been averted. The result is made worse by the fact that the impetus for the change seems to have little societal benefit or importance. The triggering event was a self-interested request from farmers seeking to obtain a marginal benefit in the productivity of their lands.\(^{209}\) That should not obscure the fact that, even in cases imposing significant and palpably unfair losses consequent upon downstream inundation of lowlands, the Corps must be given a broad range of discretion to manage flood control operations without requiring compensation. This is both legally and practically the proper result.

Moving away from its specific facts, what the AG&FC situation illustrates at a social engineering level is the conundrum of what to do when protecting one set of lands from flooding necessarily involves burdening other lands with a less advantageous result. As adverted to earlier, with the increasing frequency of extreme weather events, the Corps and other dam operators are ever more likely to undertake management strategies that are in the nature of two-level triage rather than universal protection. The first level of triage involves capturing the potentially destructive flows and impounding them for the benefit of all in the downstream flood plain. The second level of triage relates to determining how best to release the stored floodwaters. At this second level, the optimal triage policy will not always be evident due to the complexities of modeling basin-wide results of particular management decisions in a system as dynamic as a storm-affected basin, having too much water and too little reservoir

\(^{207}\) *Ark. Game & Fish Comm'n*, 736 F.3d at 1372.

\(^{208}\) See supra Parts III., A., B. and C.

capacity to hold it all back for gradual and totally “safe” release. It seems unfair to force some of the downstream owners, who are all equally in harm’s way, to bear disproportionate losses when the flood control manager decides on a release pattern. The sense of unfairness and the disproportionate loss allocation are no less even when one recognizes that the flood control manager did not contribute to the natural events that produced the water, and has no choice but to act and release the stored water.

1. Fairness as the Avoidance of Demoralization Losses

What remains is to bring fairness for adversely affected landowners back into the equation. The need to compensate beyond what is constitutionally required is advocated in one of the iconic articles in the takings literature. Professor Frank Michelman, who also subscribed strongly to the breadth of the nuisance prevention line of cases as negating takings claims, argued that there should be voluntary compensation for “demoralizing” losses that are not compensable as takings. Perhaps AG&FC is such a case where the Corps should compensate the Commission for policy reasons. The more general point is that these flood control settings hold the potential for very uneven degrees of loss that were avoidable, or could have been distributed differently under an alternative flood control strategy. Unlike some other situations, flood control efforts will frequently present a means for fairly funding and implementing a non-constitutional system to provide compensation for adversely affected landowners suffering significant and disproportionate losses.

Case-specific solutions are, at times, available. The most obvious of these are executive disaster declarations that distribute specialized aid to disaster victims, in this case, floods. Those do not seem apposite in the genre of cases like AG&FC because the harm, though substantial is neither widespread nor of regional significance. Special congressional legislation can at times be obtained. That fits the AG&FC circumstances quite nicely, but such legislation is exceptional and not a systemic remedy.

2. Partial Revocation of Tort Immunity to Ensure Reasoned Decisions

A first-level, more systemic corrective is to narrow the scope of governmental tort immunity. To a degree, the courts have already begun to do this, by stepping in and policing the line between acts of the federal dam operator in furtherance of flood control and unrelated activities—the immunity extends only to the former. None of the arguments adduced in this Article have any force when the governmental action is not in furtherance of flood


211. See Michelman, supra note 212, at 1214–24.


control.

A second-level adjustment of the immunity doctrine is to permit tort liability when the flood control dam operator is guilty of gross negligence. Even in flood control there is no justification, nor any need to immunize losses caused by the dam operator’s gross negligence. An agency entrusted with public safety from possible floods should never be allowed to act heedlessly and in wanton and willful disregard for the safety of those whom it must protect. Congress is currently considering that exact form of legislation. There is no chilling effect on management decisions by holding dam operators to what will be, in effect, a rational-basis-under-the-circumstances review. The fact that there may be a gray area at the borderline between negligence and gross negligence should spur greater planning and public participation in federal floodwater management operations. Like the first-level incursion on tort immunity however, revoking immunity for gross negligence is a salutary development and worth the investment in improved decision-making. The change may even contribute to the perceived fairness of the release plan chosen by the dam manager, but it remains incomplete because it still fails to reach cases where either a reasonable decision or flawed (but not reckless) decision about dam operations inflicts a substantial and disproportionate loss on a downstream landowner.

B. COST INTERNALIZATION THROUGH FLOOD CONTROL DISTRICTS

Policy makers need to find a broader method of providing compensation to “losers.” Once smaller losses are put to one side, other compensation options for serious flood-induced losses, which could have been avoided by different dam operations choices, are possible. Few are attractive though. Commercial flood insurance is an option, but it is costly and requires sufficient foresight and solvency on the part of landowners to make the purchase. Federally subsidized flood insurance is politically unpopular, encourages imprudent building in the floodplain, and even that subsidy does not result in universal coverage.

A more appealing remedial option is to establish flood control districts that create compensation funds available to redress substantial flood losses. These districts would obtain funding by laying a small ad valorem tax on all parcels in the district. The compensation fund could be tapped according to criteria set by the district, presumably including a threshold in terms of severity of loss. A flood control district approach is, essentially, an insurance system that obtains universal participation, thereby spreading the cost coextensively with the risk. A flood control district operates less expensively than a commercial insurance option because no profits are extracted, the tax collection is very efficient, and there is universal participation, which tends to lower overall rates. All members

215. The text limits its discussion of compensation to losses that are substantial. Trivial losses should not be compensable under the doctrine of de minimis non curat lex. Small losses may have to be borne by those on whom they fall because the transaction costs that would attach to providing a remedy are too great in proportion to the loss they assuage.
216. Additional economies can be obtained by using alternative dispute resolution methods to process claims that are not settled on a mutually agreeable basis under the compensation rules that can be drawn to minimize the grounds for claims and disputes.
of the district share in the benefits—both the protection afforded by the dam's operation and access to remedial payments from the fund for qualifying losses.

Using flood control districts to afford compensation for losses in the manner advocated here finds support in a portion of the law and economics literature that coined the term "givings." Under that analysis, a giving occurs anytime a government regulation or action bestows a benefit upon a private property owner.\textsuperscript{207} The same regulation or action that creates a giving concurrently may impose a burden upon other private property owners because government regulations and actions that affect property often distribute both benefits and burdens to achieve a goal.\textsuperscript{208} As a matter of economic principle, "Takings, when uncompensated, generate negative externalities; givings, when unaccounted for, generate positive externalities. From an economic standpoint, neither type of externality should remain outside the state's calculus."\textsuperscript{209} Using \textit{Miller v. Schoene} as an example, Abraham Bell and Gideon Parchomovsky suggest compensation should issue from those who receive the uninternalized benefit:

The "public use" requirement of the Takings Clause makes derivative givings likely companions of physical takings. In \textit{Miller v. Schoene}, the state ordered the destruction of cedar trees on Miller's lot in order to prevent the spread of a fungus to nearby apple tree lots. Miller suffered a physical taking - without compensation - while his neighbors received a derivative giving. However, the Court closed its eyes to the givings half of the picture and determined that, as a result of the public benefit, no compensable taking had taken place. A better result would have been similar to that of Boomer [v. Atlantic Cement Co.,\textsuperscript{1}] absent the valuation problems: The apple tree farmers should have been charged for the benefit to their properties, and Miller should have received compensation.\textsuperscript{208}

Translating that suggestion from the \textit{Miller v. Schoene} context to the flood control context, utilizing flood control districts to provide compensation promotes internalization of both costs and benefits. Even if some losses remain in place based on thresholds of harm, the largest and most disproportionate losses will be reduced\textsuperscript{206} or eliminated and paid for by the beneficiaries of the flood protection "giving." From a broader public perspective, flood control district compensation does this by reclaiming a portion of the "giving" that the dam provided in flood protection to all of the downstream landowners and using it to compensate those disproportionately disadvantaged by the manner in which the dam operator chooses to release the stored potential flood water. Taking the justification for taxing district residents a step further; in many basins the need for protection is related not only to the fact that the landowners are located in a flood-prone area, the severity of flooding and the flood threat is often exacerbated by the activities of those same landowners that "harden" the

\begin{footnotesize}
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\item 218. Id.
\item 219. Id. (citing Harold Demsetz, \textit{Toward a Theory of Property Rights}, 57 \textit{Am. Econ. Rev.} 347, 347-57 (1967) (arguing that property rights arise to effect internalization of externalities, both positive and negative)).
\item 220. Id. at 572.
\item 221. The compensation formula could be less than 100% of the loss (akin to a co-pay), or have differing percentages of compensation as the total amount of the loss increased.
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flood plain or impede the natural drainage and flood absorption capacity of the basin.\textsuperscript{22} Thus, in the end, the cost of building the dam, which includes purchasing reservoir storage space and the cost of managing the dam remains on the public and is funded by Congress or in accord with its legislated dictates. Other operations-imposed losses, which downstream landowners suffer and deserve redress for, are compensated by those who received the giving.

\textbf{V. CONCLUSION}

The injuries caused in the service of flood control will continue to increase. Flood control has long been a vital governmental function and the desire for greater protection in an era of increased weather variability will only increase pressure on dam operators to minimize major harms. Public sentiment on this subject is similar to that of the average citizen in the previously mentioned garbage pick-up and disposal context—everyone wants the water impounded to prevent the major flood, but no one wants the water released in ways that disadvantage their downstream parcels. Congress, some eighty years ago, began putting in place major physical engineering projects, including the Clearwater Dam, with the intent that those dams would operate to protect against, or at least mitigate, harms resulting from major floods. Inevitably as the areas below those dams become more populated, or as the drainage patterns change, or as the loss of stationarity alters the frequency and severity of flood events, it is imperative that flood control dam operators can act to maximize public protection with those dams. The choices for the management, including both impoundment and release of potential flood waters, frequently will involve forms of triage that require choosing among harms that may be suffered by those downstream of the dam.

Congress has chosen to ensure dam operator freedom of action by granting tort immunity. The Supreme Court has cabined that immunity in the sphere where it is needed, protecting federal dam operators from liability related to actions affecting flood risks. The Supreme Court, also has recognized that tort immunity prompts adversely affected parties to seek remedies through Fifth Amendment takings claims. The Court specifically indicated that such cases must first cross a high foreseeability threshold that allows them to be considered under takings law, and not tort law, and even then requires those cases to satisfy usual regulatory takings tests to succeed. On several fronts, the eventual


As more and more people inhabit the Earth, and as more development and urbanization occur, more of the natural landscape is replaced by impervious surfaces, such as roads, houses, parking lots, and buildings that reduce infiltration of water into the ground and accelerate runoff to ditches and streams. In addition to increasing imperviousness, removal of vegetation and soil, grading the land surface, and constructing drainage networks increase runoff volumes and shorten runoff time into streams from rainfall and snowmelt. As a result, the peak discharge, volume, and frequency of floods increase in nearby streams.

decision of the Federal Circuit finding a taking, in *AG&FC* appears to violate those warnings and proscriptions. There can be little doubt that the Commission suffered a disproportionate loss at the hands of the Corps' possibly flawed decision. That loss, under those circumstances, bespeaks great unfairness, but not necessarily a government taking of property.

The aphorism, "Hard cases make bad law," is at work here. It is unfair to leave the Management Area's loss of hardwood forest resource solely on the Commission. Even so, on a record not circumscribed by poor litigation choices of the Corps, proper application of takings law, coupled with the Corps' tort immunity, in this case would require the courts to deny compensation. That unhappy result is not a warrant for improperly applying existing takings law to create an untenable precedent that makes federal dam operators virtual insurers of major downstream losses occasioned by their operational flood control decisions. The preferable path is to ensure that adversely affected landowners receive fair treatment and compensation by creating flood control districts empowered to collect taxes from all beneficiaries of the dam, and use those funds to redress unfair and disproportionate losses incurred as a result of the flood control choices made by the dam operator.