



Lake Shelbyville and Carlyle Lake. The plaintiff is a levee district organized in 1903. It maintains a system of drains and levees that protect approximately 12,000 acres of farmland from floods. The district maintains 13 miles of levees along the Kaskaskia River. The defendants own or control property on Pecan Island, a small island in the middle of the Kaskaskia River comprised of approximately 1,100 acres.

¶ 4 Pecan Island was formed when the Illinois Central Railroad dug a ditch along what is now the east side of the island. The Kaskaskia River began flowing through the ditch rather than its original channel. The original channel forms what is now the west side of Pecan Island. It fills with water only when there is excessive rainfall. The parties and witnesses in this case refer to the channel on the east side of Pecan Island as the "new" or "main" channel of the Kaskaskia River, and they refer to the channel on the west side as the "old" or "dead" channel.

¶ 5 Prior to 1943, Pecan Island was at least partially protected by levees. However, after a 1943 flood caused extensive damage to those levees, the Pecan Island Levee District was officially disbanded. Although some conflicting evidence was presented on this point at trial, it appears that there was no actively maintained levee system in place after that time until Fred Keck began reconstructing the levees around the perimeter of the island.

¶ 6 Keck began purchasing property on Pecan Island in 1988. He purchased approximately 400 acres in 1988 and made subsequent purchases of 10 acres and approximately 60 to 80 acres. By the time this matter came to trial in 2010, Keck claimed that he did not own any property outright on Pecan Island. However, he still farmed 450 acres on the island as a tenant farmer. In addition, Parish Holdings, LP, a limited liability company in which Keck owned a 38% interest, owned 600 acres on Pecan Island, which was managed by Keck. In addition to farming, Keck operated a waterfowl hunting club on the island.

¶ 7 The plaintiff's complaint alleges that when Keck bought his first property on Pecan Island, he immediately began rebuilding and raising the height of existing but nonfunctional levees and building new levees. The complaint further alleges that these levees increased the risk of "backwater" flooding, which weakened the plaintiff's levees and contributed to levee failures. Witnesses who testified at trial on the plaintiff's behalf explained how backwater flooding is created. Levees constrict the area through which floodwaters can flow. This forces water levels (or flood heights) to increase. When water flowing from locations upstream of a constriction runs into higher water at a downstream location, it forces the water to back up. Increased flood heights upstream can weaken levees.

¶ 8 The plaintiff alleged that Keck's levees (1) were not authorized under the Rivers, Lakes, and Streams Act (see 615 ILCS 5/29a(a) (West 2008)), (2) constituted a nuisance; (3) violated a prescriptive flood easement, and (4) violated the civil law of drainage by altering the natural flow of water (see *Bossler v. Countryside Gardens, Inc.*, 44 Ill. App. 3d 423, 424, 358 N.E.2d 352, 353 (1976)). The court dismissed the count of the complaint alleging a violation of the Rivers, Lakes, and Streams Act because that Act does not provide for private enforcement actions. See 615 ILCS 5/25 (West 2008). The plaintiff requested monetary damages for levee repairs and injunctive relief.

¶ 9 Three engineers offered expert testimony in this case. Bryan Martindale, a water resources engineer, was the only expert who conducted his own studies of the impact of the Pecan Island levees. He testified at length during the plaintiff's case-in-chief. Martindale testified that the natural unobstructed floodplain of the Kaskaskia River is 10,000 feet wide. However, due to the numerous levees that have been built along the river, the actual channel available to contain floodwaters has been reduced to a few hundred feet. He explained that additional constriction of the floodplain due to the construction of new levees can cause flood levels to rise. Rising flood levels increase the amount of time that any given portion

of the surface of a levee is saturated. This, in turn, can weaken the levee, thereby increasing the risk that the levee will fail. Rising flood levels due to backwater also increase the likelihood that levees will be overtopped.

¶ 10 Martindale first investigated the Pecan Island perimeter levees while working for the Illinois Department of Natural Resources (IDNR). He testified that the IDNR requires anyone wishing to build a new levee to obtain a permit prior to beginning construction. This rule is applicable to levees built after July 1985. Levees that were in "serviceable condition" as of that date are "grandfathered" in and do not require a permit. Most of the levees in the applicable portion of the Kaskaskia River predate the permitting requirement. Martindale testified that, as part of his duties with the IDNR, he investigated allegations of new levee construction. He conducted a study to determine which of the levees in the vicinity predated the permitting requirement, which levees were constructed later with a permit, and which had been constructed later without a permit. He first visited Pecan Island in 2002 as part of this study.

¶ 11 Martindale explained that it is generally possible to determine the age of a levee by looking at the size of the trees growing on it. Large trees indicate that a levee has been in existence for a long time, while smaller trees indicate that it is relatively new. Martindale noted, however, that good levee maintenance includes removing trees, so a levee with no trees on it can indicate either new construction or a well-maintained levee. Based on these principles, Martindale concluded that two sets of levees in the vicinity were built without permits subsequent to 1985—the Pecan Island perimeter levees at issue in this case and levees at Steirker Woods. (We note that although the Steirker Woods levees are not at issue in this case, they are referenced in some of the relevant testimony.) Martindale was concerned about the adverse impact these levees might have on neighboring property owners; however, no IDNR enforcement action was ever initiated.

¶ 12 In 2005, after leaving the IDNR, Martindale was hired by the plaintiff to analyze the effect of the Pecan Island levees on the plaintiff's levees. He conducted three different studies. First, he conducted a preliminary study in 2005, followed by a more thorough study in 2006. Martindale conducted a third study in 2009, which incorporated additional data.

¶ 13 All three of these studies used a computer model called HEC-RAS. Martindale testified that this model was "standard operating procedure" for analyzing the effect of levees on the flow of a river or stream. He explained how HEC-RAS modeling works. The model requires the input of actual data related to levee heights, geographic configuration of the river channel, and flood height data from flow gauges in the river. Martindale explained that he first inputs this data using flood heights that reach the top of the levees being studied. He explained that he then "reverse engineers" to determine what the flood heights would be with the same volume of water (or flow volume) if the levees at issue were not present.

¶ 14 Martindale testified that his third study was the most comprehensive of the three studies. This study compared flood heights with and without the Pecan Island and Steirker Woods levees at 13 points along the Kaskaskia River. The results showed increased flood heights of 3.26 feet at a point immediately upstream of Pecan Island. Further from Pecan Island, the increase was somewhat less. However, Martindale testified that even an increase of one-tenth of a foot can have an adverse impact on upstream levees.

¶ 15 The court asked Martindale if his results reflect the impact of the other levees on the Kaskaskia River. Martindale explained that the impacts of those levees were incorporated into the base model because the purpose of HEC-RAS analysis is to compare flood heights with and without the levees that are the subject of the study. The court asked if the Pecan Island levees would have less of an adverse effect if the other levees were not there, to which Martindale replied, "Yes." Finally, the court asked if the Pecan Island levees were "essentially different" from other levees in the vicinity. Martindale stated that they were

closer to the river than most of the other levees, which could increase their impact.

¶ 16 On cross-examination, Martindale testified that all levees increase flood heights. He acknowledged that the IDNR had not filed an enforcement action related to the Pecan Island levees.

¶ 17 Pat Netemeyer, a structural engineer, testified for the defendants. Netemeyer did not conduct his own analysis of the effect of the Pecan Island perimeter levees on river levels. Instead, he testified to flaws he found in Bryan Martindale's study. Netemeyer admitted, however, that he did not review Martindale's reports in detail.

¶ 18 Netemeyer opined that the primary flaw in Martindale's studies was his failure to calibrate the results of his HEC-RAS model to a rain event. He explained that, to do this, an engineer would have to measure both rainfall and flow depth and then compare the results to the results of the HEC-RAS model. He testified that this needed to be done to determine if the results of the computer model would be accurate in a real rain storm.

¶ 19 Netemeyer was asked if calibrating the results by adding rainfall data would be cost-prohibitive when dealing with a large watershed such as the Kaskaskia River. Netemeyer replied:

"I think you need to do it at a number of stations along at Kaskaskia River. It's such a huge draining system. There's so much variation in rain from one spot to the other. You can go a mile north and it will be completely different. I never really thought about what it would cost.

Ten grand. I mean, I really haven't done an analysis. I shouldn't have said anything. I'd like to take that back, because I really haven't figured out what it would cost to do that."

¶ 20 On cross-examination, Netemeyer admitted that he had not reviewed Martindale's studies in detail. He stated that this was because he believed Martindale's studies were

"preliminary." Netemeyer acknowledged that he was provided with both the raw data and the results of Martindale's third study, which was completed in April 2009. He received the raw data that went into that study in August 2008, before the study was completed. Netemeyer stated that he only "skimmed through" the data provided to him by Martindale. Based on his admittedly cursory review, Netemeyer testified that Martindale's data included survey information related to channel configuration as well as data collected from river flow gauges. He stated, however, that he did not recall storm calibrations being included.

¶ 21 Counsel for the plaintiff asked Netemeyer about the importance of rainfall data. The following exchange took place:

"Q. \*\*\* Why would you need to calibrate a model that is modeling with and without a levee, why would you need to model rainfall?

A. You're not modeling rainfall, you're modeling the river system.

Q. Why would rainfall be relevant?

A. I don't know how to answer that question."

¶ 22 Netemeyer testified that the only way for him to assess the validity of Martindale's study would be to collect his own data. However, Netemeyer admitted that he did not collect any data of his own. Netemeyer further testified that he was not an expert on use of the HEC-RAS model and would not hold himself out to be an expert. When asked if he, personally, had ever performed an HEC-RAS analysis, Netemeyer replied: "No. I let guys in my office do it. I have two people in my office that do it. It's boring." He testified that these two people had not reviewed Martindale's studies in any detail either.

¶ 23 Significantly, Netemeyer acknowledged that HEC-RAS modeling was the standard procedure used to determine the impact of a levee on a water system. He also acknowledged that it was not possible to input rainfall data directly into the HEC-RAS model. He stated that the most important data necessary in such an analysis is survey data related to river

channel configuration, which was included in Martindale's reports. Moreover, Netemeyer testified that constriction of a river's flow by levees increases both flood depths and velocity, thereby impacting levees both upstream and downstream.

¶ 24 Finally, Netemeyer testified that it was important for anyone planning to build a large levee to consult with an engineer prior to beginning construction in order to assess the likely impact on neighboring land owners. He testified that Keck did not consult with him prior to building the Pecan Island perimeter levees.

¶ 25 Bob Dalton, a civil engineer, testified as an expert for the plaintiff, both in the plaintiff's case-in-chief and in rebuttal. Dalton testified that he reviewed Martindale's data and conclusions and found them to be reasonable and accurate. He opined that the Pecan Island perimeter levees were contributing to the failures of the plaintiff's levees.

¶ 26 Dalton addressed Netemeyer's criticisms regarding the lack of rainfall data in Martindale's HEC-RAS model. Dalton explained that rain gauge data is generally used in analyzing a smaller watershed, but is not used when analyzing a large watershed like the Kaskaskia River or the Mississippi River. This is because the impact of rain that falls a long distance from the area being studied will not be direct enough to be helpful. Moreover, he testified, rainfall calibration is not important because the HEC-RAS model compares the same actual flow volume with and without the relevant levees. It is not important how much rain caused the flow volume.

¶ 27 Dalton explained the problem of backwater flooding in more detail. He explained that the downstream levees force water levels higher and that water flowing from upstream then "hits this barrier." This creates the problem of backwater, leading to the increased saturation of upstream levees. On cross-examination, Dalton was asked about the impact of the Vandalia levees on the Pecan Island levees. He replied that forcing water levels higher upstream may actually reduce the velocity of water that flows downstream, thereby easing

pressure on downstream levees. He acknowledged, however, that the Vandalia levees created backwater that adversely impacted levees further upstream, just as the Pecan Island levees did.

¶ 28 Fred Keck testified and admitted to repairing and rebuilding the Pecan Island perimeter levees. However, he denied building any new levees. He testified that the Pecan Island levees were in "serviceable" condition when he began acquiring property on Pecan Island in 1988. He explained that he considered a levee to be in serviceable condition if the breaches could be repaired with a trackhoe and bulldozer. He testified, "With the right equipment, just about anything is manageable." He acknowledged, however, that he previously testified in a deposition that when he visited Pecan Island in 1986, the whole island "was one big lake." He also admitted stating in a deposition that the perimeter levees on Pecan Island were part of a levee district that had been "inactive for a long time."

¶ 29 Keck also testified about the extent of his interest in property in Fayette County. He denied that he owned any property on Pecan Island at the time of trial. He testified, however, that he farmed 450 acres as a tenant farmer and acknowledged that he managed property owned by Parish Holdings, LP. The testimony of other witnesses will be discussed as needed to resolve the issues before us.

¶ 30 The court took the matter under advisement. After trial, the plaintiff filed a motion to determine property ownership on Pecan Island in light of Keck's testimony denying ownership of property. In its written order, the court denied this motion, finding that it was moot in view of the court's judgment in favor of the defendants.

¶ 31 In its written order, the court expressly found that from the 1940s on, Pecan Island "was periodically protected" by levees, but the levees were not regularly maintained or repaired. The court found that without levees, Pecan Island would be subject to "regular if not annual flooding." The court further found that Keck began building or rebuilding the

perimeter levees in 1988 and did not apply for an IDNR permit. The court found that there was no evidence that the defendants' levees were improperly constructed or engineered. Finally, the court found that the plaintiff's levees were higher than the defendants' levees, thereby making it impossible for the backwater flooding to overtop the plaintiff's levees.

¶ 32 The court concluded that the defendants' levees did not constitute a nuisance because they were "reasonable and necessary to protect the farmland and wild fowl hunting business located on the island from flood waters" and because there was no evidence of defective design or construction. The court rejected the plaintiff's claim based on the civil law of drainage, finding that there was no evidence that water would naturally flow across Pecan Island in the absence of the plaintiff's levees. The court also rejected the plaintiff's claim that the defendants violated a prescriptive flood easement, finding that the water that flooded Pecan Island came from the Kaskaskia River, rather than from the lands protected by the plaintiff's levees.

¶ 33 The court further found that the plaintiff failed to prove that the damage it sustained was caused by the defendants' levees. The court reasoned that Martindale's HEC-RAS model was "fatally flawed" because it did not take into account the actual flow of the river or the constrictions caused by the plaintiff's levees and other levees and bridges in the area. The court also found that the plaintiff "failed to negate" other possible causes for its levee failures. Finally, the court ruled that injunctive relief was not proper because monetary damages provided the plaintiff with an adequate remedy at law.

¶ 34 The plaintiff filed the instant appeal. It argues that (1) the court erred in ruling that applicable law did not support each of its three theories, (2) the court's finding that there was no causal connection between the Pecan Island levees and the plaintiff's damages was against the manifest weight of the evidence, and (3) the court erred in ruling that injunctive relief was not proper. The Illinois Agriculture Association filed a brief in this matter as an *amicus*

*curiae*. It argues that the defendants should be ordered to remove their levees because (1) the defendants violated the civil law of drainage by altering the natural flow of the floodwaters from the Kaskaskia River and (2) they did not comply with the permitting requirements of the IDNR (see 615 ILCS 5/29a(a) (West 2008)).

¶ 35 As previously noted, the court ruled prior to trial that the Rivers, Lakes, and Streams Act, which requires parties to apply for a permit prior to constructing new levees, is inapplicable to this matter because it does not provide a right of a private enforcement action. See 615 ILCS 5/25 (West 2008). The plaintiff acknowledges that this is true and does not appeal this ruling. However, the plaintiff and *amicus* both argue that the defendants' failure to apply for a permit is relevant to our determination of whether the defendants' actions were reasonable. As we will discuss in more detail, we agree that the defendants' failure to apply for permits is relevant to the question of whether the defendants acted reasonably, which is a component of the plaintiff's nuisance theory. We emphasize, however, that the failure to apply for a permit is not dispositive.

¶ 36 Before considering the plaintiff's arguments, we must address the defendants' contention that judgment against Fred Keck individually would be improper because Keck did not own any property on Pecan Island. At trial, Keck was questioned about his interest in Pecan Island property and the interests of various business entities that were owned in whole or in part by Keck. In particular, Keck testified that Guaranteed Air Freight and Forwarding, a company wholly owned by Keck, owned 2,000 acres of land in Fayette County, including land on Pecan Island. He testified, however, that due to foreclosure proceedings, that land was transferred into a trust controlled by Keck's son, Jon Keck. The trial court did not resolve this factual question, and we do not believe it is necessary to do so. Keck admitted that he was responsible for the levee construction at issue. He further admitted that he owned the equipment he used for both farming and levee construction on

Pecan Island. Judgment against Keck is proper because his actions were at issue.

¶ 37 We now turn to the merits of the plaintiff's contentions. On appeal after a bench trial, we review the trial court's findings of fact to determine whether they are against the manifest weight of the evidence. However, we review *de novo* the court's rulings on legal questions. *Morawicz v. Hynes*, 401 Ill. App. 3d 142, 148, 929 N.E.2d 544, 549 (2010).

¶ 38 The plaintiff first argues that the court erred in finding that it did not demonstrate that the defendants' conduct constituted a nuisance. We agree.

¶ 39 To establish a private nuisance, a plaintiff must show an invasion of its right to use and enjoy its property that is substantial, unreasonable, and intentional or negligent. *In re Chicago Flood Litigation*, 176 Ill. 2d 179, 204, 680 N.E.2d 265, 277 (1997). The substantial invasion must be by something that is "perceptible to the senses." *In re Chicago Flood Litigation*, 176 Ill. 2d at 205, 680 N.E.2d at 278. What constitutes a nuisance depends on the effect a defendant's conduct has on a reasonable person. *In re Chicago Flood Litigation*, 176 Ill. 2d at 204, 680 N.E.2d at 277. At issue in this case is whether the defendants' conduct was unreasonable.

¶ 40 The court found that the defendants' conduct in building the levees was reasonable because there was no evidence that the design or construction of the levees was faulty and the levees were needed to protect Keck's farming and waterfowl hunting operations. We agree with the plaintiff that the court erred in finding that each of these facts rendered the defendants' conduct reasonable under the circumstances present.

¶ 41 The facts pertinent to the question of reasonableness were largely undisputed. The overwhelming evidence supported the plaintiff's allegations that the Pecan Island levees were not functional prior to Keck's purchase of property on the island. The plaintiff presented the testimony of two witnesses who farmed on Pecan Island before Keck rebuilt the perimeter levees. Both witnesses testified that the island was subject to regular flooding. Martindale

testified that without the levees, water would naturally flow across the island from the new channel towards the old channel. Even Keck admitted visiting the island before purchasing land there and finding it to be "one big lake." Keck also admitted that some of the property he acquired was subject to an express flood easement, and he admitted that when he first saw the perimeter levees in 1988, they appeared to belong to a levee district that had been inactive for a long time. The court specifically found that the island was subject to "regular if not annual" flooding and that the levees were not regularly maintained from the 1940s until 1988. Thus, Keck purchased property he knew to be subject to flooding.

¶ 42 There is also no real dispute that the defendants made no effort to determine what impact their levees would be likely to have on neighboring properties or to take any steps to minimize that impact. See *Handfelder v. East Side Levee & Sanitary District*, 194 Ill. App. 262, 266 (1915) (noting that a levee district must exercise reasonable care to construct its levees in a manner that will not cause other property to flood). There was no dispute that the defendants did not apply for a permit from the IDNR as required by statute, and the court expressly found this to be the case. When a property owner files an application for a permit, the IDNR must determine whether the proposed levee will have an adverse impact on neighboring property owners. See 17 Ill. Adm. Code § 3700.60 (2012). Had the defendants applied for a permit, they could have determined whether the levees would be likely to harm their neighbors. In addition, there was no dispute that the defendants never sought the opinion of an engineer regarding the potential impact of the levees on neighboring properties. The defendants' own expert witness testified that consulting with an engineer prior to constructing a levee was necessary for this purpose.

¶ 43 In sum, the defendants purchased property known to be subject to flooding to use for farming and hunting. They then built or rebuilt levees around the perimeter of Pecan Island without making any attempt to determine whether the levees would adversely impact

neighboring properties. We do not believe this conduct was reasonable, and we find that the court erred in concluding otherwise.

¶ 44 We also agree with the plaintiff that it proved that it had acquired a prescriptive easement to flood Pecan Island. A prescriptive flood easement arises where (1) the property of the defendant has been flooded for a period of 20 years or more, (2) the flooding is adverse and uninterrupted, and (3) the flooding takes place with the knowledge and acquiescence of the owner. *Meyers v. Kissner*, 149 Ill. 2d 1, 11, 594 N.E.2d 336, 340 (1992). Here, the court expressly found that no active levee district protected Pecan Island for a period of over 40 years. The court found that, during this period, the island was subject to regular flooding without the levees. The flooding is adverse to the interests of the land owners on the island. "Uninterrupted" flooding must be at least somewhat regular. See *Wills v. Babb*, 222 Ill. 95, 107, 78 N.E. 42, 45 (1906) (finding three floods over 24 years did not constitute "uninterrupted flooding"). However, it need not be annual. See *Page v. Bloom*, 223 Ill. App. 3d 18, 22, 584 N.E.2d 813, 816 (1991) (explaining in a different context that seasonal use of a prescriptive easement over a farm road was continuous and uninterrupted because it was consistent with the purpose for which the easement was claimed).

¶ 45 The plaintiff next argues that the court's finding that it failed to prove that the damage to its levees was caused by the defendant's conduct is against the manifest weight of the evidence. We agree.

¶ 46 The plaintiff presented the testimony of two expert witnesses. Both opined that flood heights increased as a result of the Pecan Island levees. Both opined that this created pressure on the plaintiff's levees, which contributed to levee failures. The defendants presented the testimony of one expert witness, Pat Netemeyer. As previously discussed, Netemeyer did not review Martindale's study in any depth and admitted that he was not an expert at using HEC-RAS modeling, which all three experts testified was the best method

for determining the impact of a levee on a watershed. The court expressly found Netemeyer's testimony to be "generally unsatisfactory." The court nevertheless found that Netemeyer credibly pointed out a fatal flaw in Martindale's study—the "fact" that Martindale's study did not take into account actual flow in the river. The record reveals, however, that Martindale's study did in fact use actual flow data from river flow gauges; even Netemeyer acknowledged this. The only data he claimed was missing was rainfall data. Both of the plaintiff's experts explained why rainfall data was not used in analyzing large watersheds with HEC-RAS modeling, and Netemeyer admitted that there was no way to input such data directly into the HEC-RAS model.

¶ 47 The court also found the plaintiff's experts' testimony to be flawed because they did not account for other constrictions of the river's flow. As we have discussed, however, the purpose of HEC-RAS modeling is to demonstrate the impact of specific levees. As we have also previously discussed, the plaintiff's levees were actively maintained for 85 years before Keck arrived on Pecan Island and began building levees there. This is significant because the questions before the court were whether Keck acted reasonably in further constricting the flow of the Kaskaskia under the conditions that existed when he began building the levees and whether he wrongfully altered the existing flow.

¶ 48 Further, the court found that the plaintiff's experts did not negate other possible causes for levee failures, such as excessive rainfall or the natural widening of the river channel. There was some evidence that the channel of the Kaskaskia River has widened over time, requiring both the plaintiff and the defendants to do levee setbacks. This entails building a levee further back from the bank. The plaintiff explicitly distinguished between the costs it incurred for setbacks and the costs it incurred due to levee breaches and overtops. Moreover, a plaintiff need not prove that a defendant's conduct is the only cause of the damage alleged; rather, it is sufficient to show that the defendant's conduct proximately caused the plaintiff's

damage either alone or in combination with other factors. *Homewood Fishing Club v. Archer Daniels Midland Co.*, 239 Ill. App. 3d 102, 120, 605 N.E.2d 1140, 1151 (1992).

¶ 49 Finally, the plaintiff argues that the court erred in refusing to grant an injunction. We agree. Injunctive relief is proper where (1) the plaintiffs have an ascertainable right in need of protection, (2) an injunction is necessary to prevent irreparable harm, and (3) there is no adequate remedy at law. *Sparks v. Gray*, 334 Ill. App. 3d 390, 395, 777 N.E.2d 1026, 1033 (2002). As previously mentioned, the court found that the plaintiff had an adequate remedy at law. However, if the levees remain in place, they will continue to cause problems for the plaintiffs, thereby requiring multiple suits. Therefore, injunctive relief is necessary to provide adequate redress. See *Dessen v. Jones*, 194 Ill. App. 3d 869, 880, 551 N.E.2d 782, 789 (1990). We thus conclude that injunctive relief is proper.

¶ 50 For the foregoing reasons, we reverse the order of the court. We remand for further proceedings consistent with these findings, including a determination of damages.

¶ 51 Reversed and remanded.