

After Irma at the Prairie

Hurricane rains inundate Paynes Prairie Preserve State Park, bringing ongoing obstacles to humans but also ecological perks

STORY AND PHOTOGRAPHY BY MICHAEL STONE

In the days after Hurricane Irma, as water continued to rise across Paynes Prairie, Donald Forgione noticed something off about Camps Canal to the southeast of the park's center.

The canal was dug in 1927 by the Camp family to divert incoming water from their farmland on the prairie, providing more dry grazing for their cattle. It flows under a bridge on County Road 234, and while driving over the bridge, Forgione observed that the water had drastically dropped from its Irma-induced high mark.

Forgione — a longtime Florida State Parks employee who now serves as Paynes Prairie Preserve State Park's park manager — instantly presumed where the canal's water was going.

He walked along the canal to the dike the Camps built up on its bank to hold back the flow. Sure enough, it was as he suspected: water rushing through a 50-foot gap in the dike, moving along its pre-canal, natural path.

Wind-toppled trees had left root craters, but the main problem was the dike being built prior to modern engineering standards and oversight. So it couldn't withstand the influx caused by the September 2017 storm, which was first a Category 1 hurricane and then a tropical storm on the Sunday and Monday it swept across the region.

The park brought in O'Steen Bros. construction company, based in Gainesville, for the dike repair, and in under a week, it was fixed.

Despite the attention the breach got at the time, flooding at the prairie — known to most because of the lane closures it caused on U.S. 441, which slices through the park — would have likely happened anyway because of the considerable amount of rain, Forgione said.

“Instead of it filling up with water once a year for a month, the prairie fills up with water about every 10, 15 years for about a year. So it's very cyclic. It's very normal.”

One of the keys to all this, though, is to not think of the water as flooding per se, regardless of how it impacts humans, he said. Instead, it was just water flowing over the region's 200,000-acre watershed, into Newnans Lake, down Prairie Creek, and ending at Paynes Prairie in southern Alachua County, its natural destination.

“The flooding that we think of as flooding isn't flooding at all. It's just simply high water,” Forgione said. “So lots of times, we think of flooding like, ‘If my kitchen had water in it, that would be flooding, but if my lake had water in it, that would be natural.’”

Elevated water from Hurricane Irma at the end of the La Chua Trail boardwalk at Paynes Prairie on Oct. 16, 2017, about a month after the storm swept across Florida. The water — which is an ecological rejuvenator for the prairie — has since receded some, but hindrances to humans, notably U.S. 441 lane closures and trail inaccessibility, continue.



The water provides a rejuvenation of sorts that pulses into the prairie after big storms float over the land, like Hurricanes Charley, Frances, and Jeanne in 2004, the last ones to cause comparable high water.

“Instead of it filling up with water once a year for a month, the prairie fills up with water about every 10, 15 years for about a year,” Forgione said. “So it’s very cyclic. It’s very normal.”

The prairie’s top water mark after the 2004 storms was about 10 inches below Irma’s, which was roughly 60 feet above sea level, Forgione said.

For the first half of 2017, the high mark bounced around mostly at 50 and 51 feet, according to an analysis of the state’s water-level data. That means Irma (when coupled with the intense summer rains that preceded it) loaded the park with about 10 additional feet of water.

Forgione and other park staff have turned aspects of the elevated water into lessons about the ecosystem and its natural rhythms for inquiring park visitors. And even with the water down 1 ½ feet (as of early March) from that 60-foot mark, the visitors are still taking notice.

“Before, you couldn’t see the water from the observation deck (on 441), and now, that’s all you see,” University of Florida social work student Brianna Hoeffler, 26, said after she pulled off 441 with her dad to take pictures of a lone horse grazing in a small patch behind a fence along the road.

“You’d almost be able to walk out onto the prairie it was so dry,” added the dad, Dane Hoeffler, a 47-year-old quality manager who was visiting from Connecticut.

“There was nothing like this,” Brianna Hoeffler said, “and then to see it now is just mindboggling — the amount of water that has come.”





(Top) An alligator climbs out of the water along La Chua Trail in March. Though some of La Chua's grass section is now traversable, park staff has stopped access at the end of the trail's boardwalk because of elevated waters extending the bank and thus alligators' closeness. (Left) Kurt Bark, a semi-retired golf professional, walks down the water-surrounded boardwalk that extends over the prairie next to U.S. 441.

(Top) Cars pulled off along U.S. 441 at Paynes Prairie during the Aug. 21, 2017, solar eclipse. (Bottom) That strip of grass and the road's right lanes were almost completely free of standing water from Irma by March, but officials are keeping the lanes closed because the base layers under the asphalt still need to dry out.



HANG-UPS TO HUMANS

Motorists traveling on 441 to and from Gainesville had to deal with all four lanes being closed over several days in October 2017, and they continue to see Irma's effects lingering.

"We're on month seven for 441," Florida Department of Transportation spokesman Troy Roberts sighed, referencing the north and south outside lanes being closed starting in September 2017 and continuing into at least mid-March, when *Senior Times* went to press.

"Every 10 to 20 years, I think there may be the occasional lane closure, but obviously nothing of this type that anyone

I've spoken to can remember."

(The other thoroughfare that passes through the prairie, Interstate 75, never had any lane closures because of the park's flooding.)

Through continuous testing, FDOT has determined that 441's outside lanes should be re-opened in the near future. Yet because the water has left the road, some have wondered why that hasn't already happened, Roberts said.

It's not an issue with the asphalt top, he said, but the supporting limestone layer underneath, which needs to dry out to remain strong and be able to withstand traffic.

The prairie's most iconic animals — the roughly 50 bison and 30 horses — received some assistance in the months after Irma, when many of their grazing areas were submerged.



“If we put traffic out there and we didn’t feel that the base layer was suitable to bear the weight of that traffic, we could start seeing cracks in the roadway,” Roberts said, “and then we’d have to go in and actually redo the entire road.”

FDOT didn’t incur any repair costs from the heightened water at the prairie, Roberts said. Meanwhile, Forgione estimated total costs for the park, the adjoining Gainesville-Hawthorne State Trail, and nearby Price’s Scrub Preserve at \$150,000.

This paid for the dike repair; bringing in other contractors to clear downed trees in visitor areas; and supplies, like sandbags for the Paynes Prairie visitor center and chainsaw chains.

Along with the 441 lane closures, trail closures are also con-

tinuing. But Forgione is quick to note that none of the trails are technically “closed” (though the gates at the end of the La Chua Trail boardwalk are latched to stop visitors from stepping onto the new bank line and possibly too close to alligators).

Instead, the trails simply cease where the water starts. They’ll continue to “reopen” as the water recedes, thanks to evaporation, infiltration and percolation (downward and through the soil and rock), and the Alachua Sink, the Paynes Prairie basin’s main drain into the aquifer.

“They’re not closed by park staff; they’re closed by nature. And if you wanted to wade out there, you’re welcome to,” Forgione joked.

Another consequence that might come to people's minds is mosquitos. After all, doesn't water equal mosquito larvae?

Not necessarily, said Peter Frederick, a wildlife ecology and conservation research professor at the University of Florida and a wetlands expert.

"If you call up the mosquito control people, they'll say a lot of water is bad, and it will mean more mosquitos. And that's generally true," he said. But at Paynes Prairie, "it might well be producing less."

Rain that causes shallow, stagnant puddles in backyards are good for mosquitos, especially because the larvae won't face aquatic predators, Frederick said.

But with so much water transforming Paynes Prairie into more of a continuous, deeper lake, it's less of a mosquito haven because fish can swim — and eat — freely across the expanse.

In fact, Frederick said, such high water can be even more beneficial for fish because their territory could join with

disconnected ponds that hold mosquito larvae — just like in cases of rivers flooding.

"That's the story of floodplain wetlands along rivers," he said, "is the fish come out of the rivers, go into the floodplains, feed, breed, and then all of that stuff comes back in."

PLANT, ANIMAL SHIFTS

Along with the food and space for fish, another ecological boost that comes amid the high water is, oddly, dead trees. "A dead tree standing is biologically as important as a live tree," Forgione said.

Some insect species, he added, are attracted to the lifeless wood and, being near the bottom of the food chain, are important to many other animals (woodpeckers, for example).

Death comes after the trees sprout and grow (sometimes up to 15 feet) in the "ecotone," or the transitional zone between wetlands and uplands, the latter of which is noticeable from afar as the oak-dotted forest lining



Brianna Hoeffer, a University of Florida social work student, poses near a horse while her dad, Dane, takes a picture of them.

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A bison on the prairie in 2015. Though wild, the roughly 50 bison and 30 horses on the prairie were provided with hay after Hurricane Irma to help them through the winter but especially because the elevated waters covered their grazing areas.

the prairie. Then, when water moves in, it blocks the ecotone trees' roots from receiving oxygen, and they suffocate.

As for the animals that call the prairie home, Forgiore figures not a single one would have died specifically from drowning because the water rises slowly, providing ample time to flee.

"I am confident all of them escaped. It's just now that they live a mile away," he said. Meanwhile, more wetland birds — especially duck species — have settled in and are taking advan-

tage of all the area in which to forage and fish.

Other animals that have come into the prairie are non-native apple snails. (Florida is home to five species of apple snail, but only one is native.)

Forgiore isn't sure if the snails flowed in with Irma waters, or if they've been in the park for a while and are just now being noticed. Either way, the main ecological problem they cause is forced competition for native freshwater snails.



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Meanwhile, the prairie's most iconic animals — the roughly 50 bison and 30 horses — received some assistance in the months after Irma, when many of their grazing areas were submerged. Park staff opened up gates to offer access to more grazing as well as provided them with hay, which also helped them get necessary nutrition amid the harder winter months.

Forgione isn't sure if the snails flowed in with Irma waters, or if they've been in the park for a while and are just now being noticed.

The park stopped handing out hay upon springtime, when the animals started fending for themselves again. "We stop when they no longer eat it," Forgione said. "We let them decide."

No bison, horses, or other animals could be seen with the naked eye as Kurt Bark, a semi-retired golf professional, recently practiced his swing (sans balls) at the end of the 441 boardwalk, which was surrounded by lake-like water.

In the weeks after Irma, the boardwalk had been largely inaccessible because of flooding at its entrance and 441's closure. Bark, a 30-year Gainesville resident, usually practices there often, but this sunny day was his first time returning since Irma.

"Before, you could see the ground level, you could see snakes, you could see some gators," the 54-year-old said of the boardwalk's view, which he explained was made "nice and peaceful" by Irma's inundation.

"I don't know which way I like it better. I like the water, but you don't get to see any wildlife." ■

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