## waterfrontline

The water's edge is the front line.

Lewis and Clark Village, Buchanan County, Missouri. 2019.

Population: 132.

Major floods in 2019: 3.

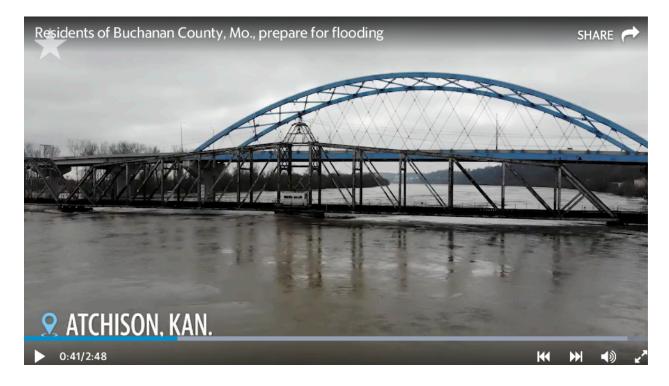
Roughly 50 miles northwest of Kansas City, Missouri, Lewis and Clark Village is located in a flood plain between the Lewis and Clark State Park and the Lewis and Clark Lake. There is one road in, Rt 138. (screen shot from Google Maps).

## **BEFORE:**

In ideal conditions, the Missouri River's water level is below this lake's water level, so water moves from the lake down to the river as planned. With the bomb cyclone-initiated floods of the Missouri in early March 2019, that balance shifted — the river level was above the lake level and water swept into the lake, flooding its surrounding area.



As profiled in the Kansas City Star, (<a href="https://www.kansascity.com/news/state/missouri/">https://www.kansascity.com/news/state/missouri/</a> article228173359.html) the residents of the village began evacuations when the power was cut to the state park area next door. When the village had flooded in 2011, (<a href="https://www.youtube.com/watch?v=YGeouOdgKOs&feature=voutu.be">https://www.youtube.com/watch?v=YGeouOdgKOs&feature=voutu.be</a>) waters did not full recede for 3 months.



Profiling the March 2019 departures, KMBC spoke with a couple that was a month away from moving into their new home (https://www.kmbc.com/article/month-away-from-moving-into-new-home-couple-prepares-to-see-it-flooded/26900304#). The new homeowner (a third generation resident in the village) was quoted:

"This community is definitely resilient. It might flood every 10 to 20 years, but I would not want to live anywhere else," Christopher Christian said.

In 2019, the interval between local floods would change — from years down to months.

## AFTER, AFTER, and AFTER

At the nearest flood gauge on the Missouri River, flood stage is at 22 feet, moderate flood at 27 feet, and major flood at 30 feet. According to <u>water.weather.gov</u>, 2019 saw these readings at that gauge between March and the end of May:

31.20 feet on March 22. Beyond major flood.
24.83 feet on May 9. Three feet over flood stage
29.26 feet on May 31. Just under major flood level, 2.3 feet over moderate flood stage.

The recurring nature of the floods left cleanup and rehab efforts to be repeated. After the second big flood in May, a coordinated group of 15 nonprofits and 12 church groups came together to work on repairing and cleaning the damaged houses in the village (see <a href="https://www.kq2.com/content/news/Volunteers-to-help-flood-effected-areas--513269011.html">https://www.kq2.com/content/news/Volunteers-to-help-flood-effected-areas--513269011.html</a>).

Those volunteers included teams from the Southern Baptist Convention's Disaster Relief Program, who perform this sort of ministry effort regularly (see <a href="https://www.newspressnow.com/life/religion/baptist-group-works-to-rebuild-flooded-homes/article\_14790402-7697-11e9-ac4b-f73faddbb7e6.html">https://www.newspressnow.com/life/religion/baptist-group-works-to-rebuild-flooded-homes/article\_14790402-7697-11e9-ac4b-f73faddbb7e6.html</a>)

With each flooding, the ground's ability to handle additionaly water was reduced, leading minor floods to have major impacts. After the rehab work in May and June came

22.15 feet on July 22. Flood stage 22.10 feet on August 18. Flood stage

And on October 3: 26 feet. 4 feet over flood stage

The following photos are the Before pictures for the October flood, on October 2, 2019.

(see full report at

https://www.newspressnow.com/multimedia/videos/video-flooding-threatens-to-cut-off-lewis-and-clark-village/video\_51b5c7b2-4d2e-581e-81bf-76c8290ea5f6.html)





The October flood rose quickly, and damaged the rehab work done following the first two major floods of 2019. The stark local story is worth reading: see <a href="https://www.kq2.com/content/news/Third-round-of-flooding-strikes-Lewis-and-Clark-Village-562221301.html">https://www.kq2.com/content/news/Third-round-of-flooding-strikes-Lewis-and-Clark-Village-562221301.html</a>

In a warming environment with rising waters, flood plain-based villages are not easily defensible; the water can't be walled off or the houses raised high enough. As building codes adapt to new flood conditions, more existing low-lying villages will be deemed to be in high risk flood areas, and more riverside farms will be affected as well. (See Canada's approach: <a href="https://www.nytimes.com/2019/09/10/climate/canada-flood-homes-buyout.html">https://www.nytimes.com/2019/09/10/climate/canada-flood-homes-buyout.html</a>)