The year 2021 started out very wet, including some very heavy rains. This limited our ability to accomplish anything at the sinkhole and cave for most of the year. October 15, 2020 was the last time we worked in the cave. The rains returned shortly after that flooding the cave again.

During the spring and early summer it looked like things were slowly starting to dry out and then we would get a few more inches of rain setting us back again. The first time we were able to pump out the cave was August 22. Because things were so muddy, it had to dry out some first. The first day we were able to actually get into the cave was September 26.

During some of our September and early October workdays we constructed a solid path (utilizing geotextile and rocks) leading back into the cave towards the Hog Panel fence. During every workday we were able to get a little farther back into the cave.

Unfortunately in mid-October we had some rain flooding the cave again. We already had workdays planned for October 22 and 23, but since the cave was flooded we built another shelter those days from donated materials.

Since we now had a solid walkway leading back to the cave and the water was only about 18 inches deep, I thought it would be worth pumping the cave out again and give it another try since not much rain was predicted for the next month. We pumped out the cave again on November 5.

November 6 workday volunteers.

There are several acres located behind the sinkhole which also drain into the sinkhole. Over the years, we have observed a lot of water entering the back of the sinkhole after a heavy rain. This has resulted in additional erosion and material filling up the cave again.

Several years ago we discovered a small hole on the west side of the property (on the opposite side of the cave). Several of us discussed the possibility of maybe diverting the water which was entering the back of the sinkhole to this location. Utilizing witching sticks someone determined that this hole heads towards Dry Auglaize Creek and away from the sinkhole.

During one of the times we previously pumped out the cave we pumped water to this location and it all disappeared.

So in November we constructed a small dam to temporarily hold any runoff which would then drain into a buried culvert and be carried away from the sinkhole.

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A standpipe drain would allow the trapped water to drain out via the buried culvert and prevent any additional erosion from occurring in the back of the sinkhole

Erosion Control Blanket on the emergency spillway.

Buried culvert

When we went out there on November 23, there was no water left in the cave.

The Hog Panel fence is located 89 feet past the caves dripline. **The purpose of the Hog Panel fence is to prevent larger debris from getting back into the cave, where it is extremely difficult to remove**. On November 28 we enlarged the existing Hog Panel fence (rusted portion with pink ribbon). We added a section of fencing to the left side along with a section of fence on the right side (the right section can be easily swung open to allow access further back into the cave).

Lunch Break on a nice December day.

When conditions were favorable and we could get volunteers we continued to get further back into the cave and slowly open it up further during the fall. Unfortunately we are still encountering trash, twigs and branches and lots of dirt. One very positive sign is that once you go beyond the Hog Panel fence the floor of the cave begins to drop down slowly and it is slightly drier.

While it still was too wet to remove any of the buried trash in the sinkhole, we leveled all the piles at the disposal site in late December. This will allow us to have more space to spread out and sort thru the trash, metal and tires remaining in the sinkhole once conditions are again favorable to remove them.

Removing trash and metal from the old piles at the disposal site.

We were hoping to remove more material around the mouth of the cave and the remaining trash, tires and metal in the sinkhole. Because of all the rain we had, it never dried up enough to be able to accomplish that with equipment in 2021.

When conditions are favorable again, we plan to keep opening up the cave and remove the remaining trash, tires and metal in the sinkhole.

December 24, 2021

Klaus Leidenfrost

Goodwin Sinkhole Project Manager

Missouri Caves and Karst Conservancy

Year removed	Tons of clean fill (Estimated)	Tons of trash laden material	Tons of trash	Tons of Metal (Recycled)	Tons of tires
2012	None	None	21.88	1.25	7.37
2013	350	94.64	7.94	More stockpiled.	More stockpiled.
2014	2,847.5	48.34	0.65	More stockpiled.	More stockpiled.
2015	675	None	1.66	2.215	More stockpiled.
2016	570	None	0.54	More stockpiled.	More stockpiled.
2017	735	None	0.53	More stockpiled.	2.83
2018	480	None	0.32	More Stockpiled.	More Stockpiled.
2019	150	None	0.49	0.17	More Stockpiled.
2020	750	None	0.34	More Stockpiled.	More Stockpiled.
2021	None	None	0.89	More Stockpiled.	More Stockpiled.
Removed to date	6,557.5	142.98	35.24	3.635	10.2
Remaining	Unknown	Unknown	Unknown	Unknown	Unknown

# Workdays	# of Volunteers
30 (2012 & 2013)	562 (2012 & 2013)
24 (2014)	150 (2014)
16 (2015)	97 (2015)
21 (2016)	153 (2016)
31 (2017)	78 (2017)
18 (2018)	53 (2018)
15 (2019)	57 (2019)
33 (2020)	136 (2020)
17 (2021)	91 (2021)
205 total	1,377 total