DRAFT

PEAS Incident Number 10754: Reported Sunday, 4/6/14, 11:27 am.
Oily sheen flowing down Cold Creek into Crystal Lake.

1. What's known as of Monday, 4/7/14, 5:00 pm.

Last week, on behalf of the Village of Beulah (the permittee), a contractor began hydraulic dredging operations in a sediment basin that is part of Cold Creek in Beulah, MI. The sediment basin is a widened and deepened portion of the creek designed to collect sediment being transported down the creek before it reaches Crystal Lake, and periodically the sediment needs to be removed.

On Sunday afternoon, the DEQ was notified through the PEAS system that there was an oily sheen on Cold Creek and on Crystal Lake at the mouth of the creek. A DNR conservation officer responding to a similar report did an initial investigation as did the Chief of the Benzonia Fire Department. They both indicated the sediment basin was the source of what appeared to be some type of petroleum product (hydraulic oil or diesel fuel) and reported their results to the DEQ.

When DEQ staff arrived on scene Sunday afternoon, representatives of the dredging company were at the site and together they assessed the conditions. At that time, an oily sheen was present on much of the water surface of the sediment basin and was still moving down Cold Creek to Crystal Lake where much of it appeared to be dissipating, as is typical, although it did cover about 100 feet of the lake water surface east of the creek outlet. No fish or wildlife were observed that had been impacted by the sheen.

Before DEQ staff had arrived on site, the contractor took steps to minimize the water flow through the sediment basin by installing stop logs (boards) in water level control structures at the input and output locations of the sediment basin to divert creek water flow through a bypass culvert. However, a significant amount of creek flow (>half) continued to flow through the sediment basin.

The DEQ staff was unable to locate a specific source of the petroleum product (which did appear to be either hydraulic fluid or diesel fuel) within the sediment basin, but was able to rule out upstream locations. The contractor reported that they did have a hydraulic fluid line on the dredging barge break earlier in the week, but that that occurred on shore and that no hydraulic fluid got into the water. At the time of the initial DEQ investigation, there was no indication that the barge housing the hydraulic dredge was the source. Although the sediment basin had been dredged previously without there being any evidence of petroleum contamination, it is possible that something in the basin was the source, such as a discarded oil container or petroleum residue from historical commercial operations in the nearby area.

DEQ staff requested that the dredging contractor install adsorbent boom at several locations in Cold Creek downstream of the sediment basin, including the mouth, and in the sediment basin upstream of the outlet structure. The dredging contractor stated that they did not have any boom and would get it first thing Monday morning and install it. DEQ staff also directed that no further dredging should take place until the downstream transport of the oily sheen is stopped.

A water sample was collected by DEQ staff from the sediment basin at the downstream control structure where the oily sheen was present. Three water samples were also collected by representatives of the Village of Beulah and given to the DEQ. The samples are presently being held by the DEQ, pending the need for laboratory analysis.

At about 9:00 am Monday morning, the dredging contractor called the DEQ to say they had had trouble locating absorbent boom, but had just found a source and were on their way to get it. At that time, the DEQ requested that the plant debris and oily material accumulating on the upstream side of the basin outlet be removed and the contractor agreed to do so immediately.

When DEQ staff arrived at the sediment basin on Monday afternoon, the amount of oily sheen in the basin and flowing down Cold Creek was greatly reduced from the levels observed on Sunday. It did not appear that the sheen or any oily residue was accumulating in or along the creek anywhere. However, the sheen in Crystal Lake was greater than on Sunday, as was expected due to the continued downstream transport of the oily material from the sediment basin during Sunday night.

Shortly after DEQ staff arrived at the sediment basin, the dredging contractor arrived with the adsorbent boom. The boom was installed across the creek at two locations downstream of the basin outlet structure and at two locations upstream of the outlet structure. The boom further reduced the apparent amount of oily sheen flowing down the creek, but did not stop it entirely because the velocity of water flow in the creek pushed some of the sheen beneath the booms. After boom installation, very little sheen appeared to be reaching Crystal Lake, so it was decided that at that time, no boom needed to be installed at the mouth of the creek.

On Monday afternoon, DEQ staff also discussed the permit conditions with representatives of the Village of Beulah and the dredging contractor. The village and contractor were told that the dredging being conducted was in violation of the permit because hydraulic dredging had not been authorized in the permit and the creek flow had not been diverted around the sediment basin as had been specified in the permit. The village and contractor were directed to not resume dredging work until the permit could be modified and appropriate protective measures specified for the type of dredging to be conducted could be added. At that time, discussion ensued about how to best proceed with future dredging given various constraints of timing and environmental conditions. Representatives of the Village of Beulah and the contractor agreed to work together on a permit modification request and to not resume dredging until authorization was granted by the DEQ.

2. Our role.

DEQ staff will continue to work with the Village of Beulah and the dredging contractor to eliminate the oily sheen in Cold Creek, Crystal Lake, and the sediment basin, as well as to modify the permit to incorporate appropriate environmental protection measures based on the type and timing of any additional dredging proposed.

3. What's next.

The main remaining area of concern is the oily sheen on Crystal Lake that is surrounded by ice. This sheen appears to be concentrated at the mouth of Cold Creek on the east half of the 150 feet or so of open water as a result of winds from the west. The sheen does not appear to be accumulating on the ice and there have been no observed impacts on fish or wildlife. Oily sheens contain very little oil and typically volatilize relatively quickly. As a result, attempts to remediate small sheens such as this one are generally not undertaken. Accordingly, the present plan is to let the sheen evaporate on its own. However, the DEQ will continue to assess the condition at the mouth Cold Creek in case conditions do not improve as rapidly as anticipated and will consider the implementation of remedial measures on Crystal Lake if it appears they are needed.