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REPORT NO. 965

INVESTIGATION OF McCORMICK LAKE OUTLET DAM,
MONTMORENCY COUNTY (T. 30 N., R. 2 E., Sec. 30, SW 1/4)

by

David S. Shetter

On Tuesday afternoon, May 30, 1944, District Supervisor C. A. Eagle of the Field Administration Division requested that I proceed to McCormick Lake in Montmorency County to check the condition of the outlet dam. Mr. Morine, a property owner at the north end of the lake had reported that considerable water was being lost because of failure of the structure to hold back the proper amount of water, and that the lake level was falling.

The dam at the outlet is constructed of log cribbing filled with earth, which in this vicinity means sand. The stream faces of the race of the dam were apparently of single sheet piling. The spill holds the water level about 18 inches above the stream level immediately below. The beach material in the vicinity of the outlet is firmly compacted marl over rubble and boulders.

The dam was constructed by Presque Isle CCC camp about 1936, and has therefore seen about eight years of service.

A rough diagram of the dam and immediate shore is appended.

There is some failure of the structure on the east side. Water currents have worked behind the single sheet piling (A-A) and has washed the sand fill from inside the lower level of the log cribbing. This has increased

the amount spilled out of the lake by about 25 per cent, and is the leakage which Mr. Morine complains of. There is some indication that muskrat, mink or otter burrowing may have started the subsurface erosion. However, the condition is not of recent origin, since Mr. Morine stated that he had known of the existence of the leak for the last 1 1/2 years.

According to Mr. Morine when the original dam was installed by the CCC the water level created in McCormick Lake was not satisfying to the land owners surrounding the lake. At their request the CCC returned to correct the condition. The measure applied was to stake a boom log (indicated by X-X in the diagram) and pile driftwood in front of it. This raised the level of the lake possibly one or maybe even two inches according to Mr. Morine.

However, this barrier set up enough of a current, particularly in times of high water, to dig out a deep hole between the dam proper and the boom. The leak in the dam originates where the lower end of the deep hole meets the dam face (see diagram).

CONCLUSIONS

At present, no damage to aquatic life or property values are resulting from an estimated 25 per cent increase in spill through a leak in the retaining dam at McCormick Lake. The lake appears to have dropped about 1 1/2 inches in level recently. Some of this drop in water level is undoubtedly the result of evaporation during the recent hot weather.

RECOMMENDATIONS

Since the State of Michigan has a considerable interest in McCormick Lake, some corrective measures should be applied if possible before further deterioration reduces the effectiveness of this retaining structure. I

would suggest that the structure and general surrounding area be inspected by the Fish Division engineer, Mr. Floyd Fanselow, and his suggestion for repair or revision be followed.

McCormick Lake would also be a good site to establish a water level gage.

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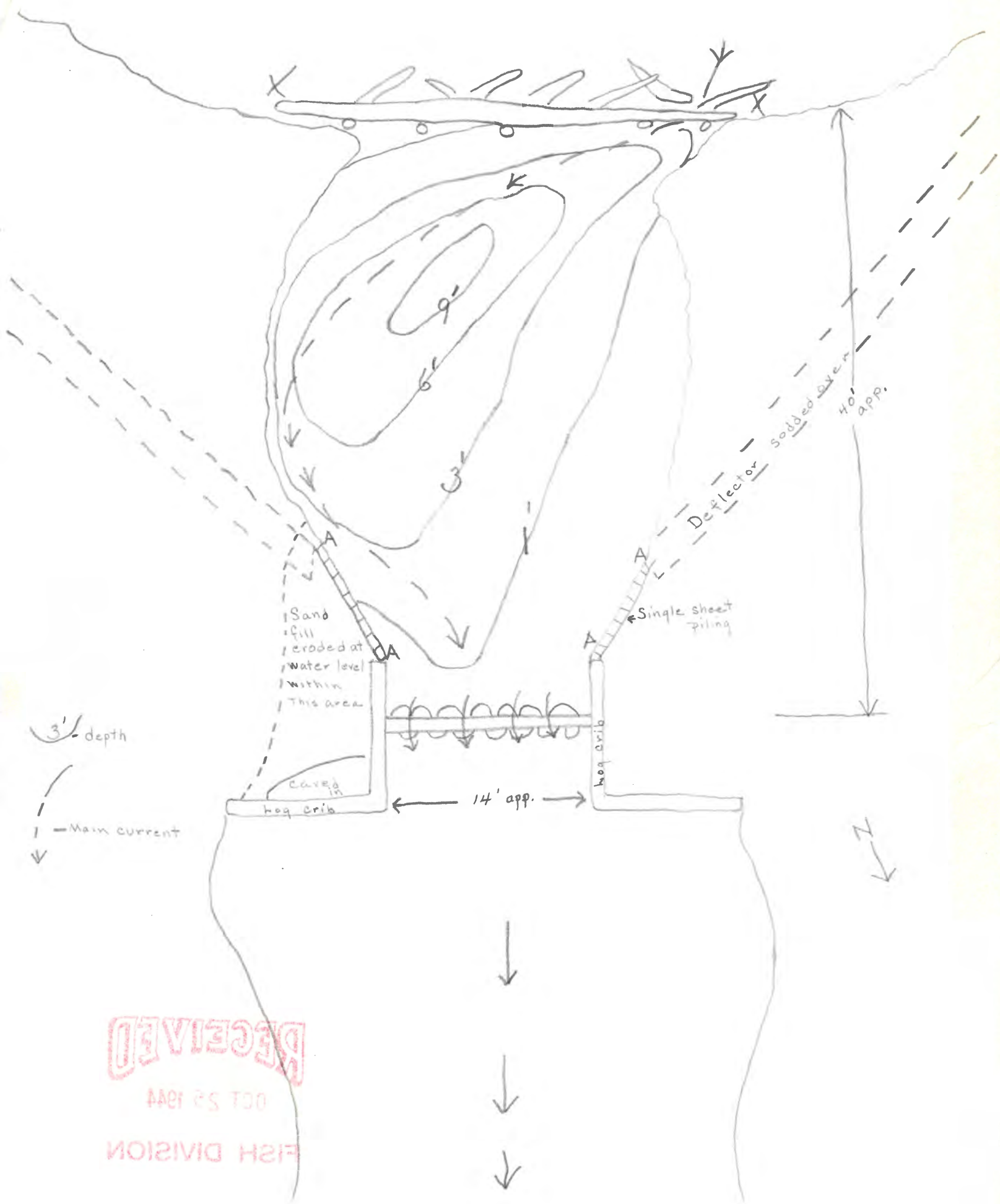
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(Copies sent to Mr. Eagle and Mr. Morine
before submission as an Institute report)



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