

## Appendix E: Fish Health Assessment Report



**To:** Martha Wolgamood  
Wolf Lake State Fish Hatchery

**Report date:** 1/17/10

**Necropsy date:** 8/3/10, 8/12/10, 8/19/10

**MSU-AAHL No.:** 100802-(1-3)-D-SLM  
100812-(1-3)-D-SLM  
100819-(2-4)-D-SLM

**Host:** 44 common white sucker, *Catostomus commersonii*  
60 common shiner, *Luxilus cornutus*  
60 golden redhorse sucker, *Moxostoma erythrurum*  
60 golden redhorse sucker, *Moxostoma erythrurum*  
60 spotfin shiner, *Notropis spilopterus*  
60 sand shiner, *Notropis stramineus*  
60 golden redhorse sucker, *Moxostoma erythrurum*  
60 common shiner, *Luxilus cornutus*  
60 rock bass, *Ambloplites rupestris*

**Locality:** Kalamazoo River

**Collector:** MDNRE

**Date collected:** 8/2/10, 8/11/10, 8/18/10

**Purpose of examination:** for baseline health assessment of fish following recent oil spill

**Condition of fish submitted:** Three species of fish were collected from three different sampling locations, totaling nine case submissions. 1) From the Marshal Impoundment in Calhoun County, upstream of the Marshall Dam, 44 common white sucker, 60 common shiner, and 60 golden redhorse sucker were collected on 8/2/10. 2) From Shady Ben Campground in Kalamazoo County, 60 golden redhorse sucker, 60 spotfin sucker, and 60 sand shiner were collected on 8/11/10. 3) From Wattles Rd. Bridge, downstream of Historic Bridge Park in Calhoun County, 60 golden redhorse sucker, 60 common shiner, and 60 rock bass were collected on 8/18/10. All fish were live at the time of collection and submitted to the laboratory dead on ice.

**Testing results/Diagnosis:**

- Fish generally appeared to be in good health.
- External gross examination of the dead fish revealed multifocal dermal lesions and generalized erythema on the common white sucker collected 8/2/10. Fin and ventral hemorrhages were prevalent on golden redhorse sucker and sand shiners submitted on 8/11/10. Ocular hemorrhages were observed on the majority of spotfin shiners.
- Internal examination revealed mild to moderate congestion in few livers and kidneys of common white sucker and common shiner collected 8/2/10. No other signs of disease were noted in dead fish.
- Samples of the kidney, spleen, and heart were submitted for virologic testing on epithelioma papulosum cyprini (EPC) and fathead minnow (FHM) cell lines. Inoculated cell lines were incubated at 15° and 25° C in accordance with the guidelines of the American Fisheries Society Fish Health Section Bluebook (2010). After two passages on all cell lines for a total of 28 days, there was no cytopathic effect noted and therefore declared negative for viruses detectable by the aforementioned cell lines.
- Fish were submitted dead, and therefore bacterial cultures were not taken.
- Gills were mildly autolyzed in the submitted fish. Gill and skin scrapings from the freshly dead fish collected on 8/2/10 revealed mild to moderate amounts of *Trichodina* sp., monogeneans, and larval

trematodes. No other parasites were noted. Skin and gill scrapings were not performed on dead fish from other collection dates.

**Recommendations:**

- No overt signs of disease were noted in all fish that were submitted.
- Repeated sampling may provide an opportunity to evaluate the long term effects of the oil spill on the health of these populations of fish.

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cc: Gary Whelan