

at 2:00 P.M. subjected seven common goldfish (averaging 45 ± 3 mm standard length and 2.5 gms weight), one each to the samples of river pollution (1 liter) at 58° F. Results are:

- Sample 661209-1 (ph 6, $\frac{1}{10}$ sediment but kept in circulation). When fish was placed in water, it immediately reacted by darting up and ~~go~~ down in the jar. At 2:13 it remained on top; at 2:20 on its side and at 2:40 was dead. A second fish was placed in jar and in 45 minutes was dead, having reacted the same as above.
- Sample 661209-2 (ph 8, dark brownish-black tarlike sediment completely covering bottom of jar) at 3:00 the fish occupied top of water in normal horizontal position. At 4:00 was at 45° with mouth at near surface. In final stages was almost perpendicular to surface. This water caused fish to position themselves at surface and then remain so in an erratic state until death which in this case was 18 hours later.
- Sample 661209-3 (ph 7, sediment as above). Fish followed same reaction as above and died 24 hrs after being placed in water.
- Sample 661209-4 (ph 7, white sediment covered about $\frac{1}{2}$ bottom of jar. Fish ranged up & down but at 2:45 mainly at top. As of 72 hrs fish still living.
- Sample 661209-5 (ph 7, sediment $\frac{1}{10}$ of area of bottom of jar) Fish reacted normally but more erratic than ^{the} following. As of 72 hrs, normal.
- Sample 661209-6 (ph 7, no sediment and clearest water to be seen. This fish reactions normal and ranged thruout jar but mainly on bottom. As of 72 hrs normal.
- Sample 661209-7 (ph 7, ~~no~~ $\frac{1}{16}$ sediment and kept in circulation during first 2 hrs) Swimming erratic at first and would sink to bottom where it remained most of the time. Fish died 52 hours after later. This water must be mainly sediment without damaging chemicals.

Of the fish still living at 72 hours (nos 4, 5, 6) placed in a refrigerator for stress and 24 hours later, no 6 was the only one living. It would appear that there is some effect of water pollution on fish in The Kaw River and that the N side of the river is relatively free of pollution. At the first bend to NE, these waters are mixed. A powerful dye could be used to determine the mixing of polluted waters of Lawrence