

not observed such aggregations of small minnows in any other part of the Kaw River. The ~~SE~~<sup>SE</sup> bank is in ice from about 2 feet above present water level to water level.

Free of ice beyond toward bank. no ~~ice~~ ice by sunlit side of river. 5 killdeer in this area. One can feel the difference in temperature in these protected areas, being 5 or 6 degrees cooler than on sunny side. One great blue heron left area down river and 3 crows left river. Temperature now 62°F in shade of and canoe in middle of river and water temp still 38°F.

The island is now connected at N end with bank of river. On E side just beyond photographed ~~run~~ slide way of beaver which had been fashioned by continuous use and by physically shaping by clawing. This semi-arch condition would interfere with movement of cut limbs. This shot 661218-13 and ~~661218-14~~ showing

~~many Pauline~~ just below passageway. Photo 661218-15 of some of the cut trees and Kaw River upstream. A side drainage enters to right of photo. Photo 661218-16 of Pleistocene stratification with old and new sand above. Photo 661218-17 of tree that had fallen into water and bark eaten by beaver. There is more, somewhat belated, beaver actively along the river.

at 3:03 noted a flock of about 400 starting arrive at river and all alighting on edge of sand bar to drink & some bath and then to leave as one group. It would be interesting to know what determines the movement of a large flock of birds to go to a drinking place and then to leave after the behavior has been completed.

There certainly is no time regulating mechanism but probably controlled by individual. 3:08 bend of river. 3:15 double drainage with trees between. 3:18 photo 661218-18 of stratified bank and birchlike grove of trees. 3:20 Kingfisher and mallard duck. 3:42 Photos 661218-19 and 661218-20 and 661218-21 of high, almost perpendicular bank of stratified sand. These

are the most perpendicular cliff on river and base is at river level or only 5 or 6 inches above. They are characterized by white color at a distance and are associated just up stream from the first rock (made) barrier on E side of river.

