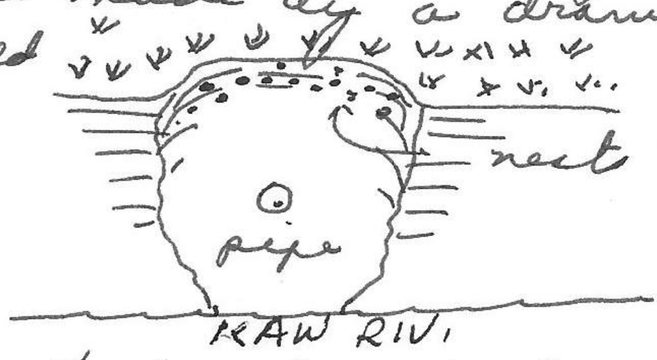
2:45 approx. 1/2 way E along sand cliffs. Bank swallow nest in colony. nests (55 holes) in an indentation along perpendicular cliffs. The protected cove was made by a drainage from a pipe. Some nests were within a few feet of top and all relatively high. Fifteen birds were at colony, most of them flying out over the water below the colony. From a clay strata at water level collected a Quadrula quadrula (680623-1) This shell may be of Pleistocene age. 2:55 260 bank swallow nests in colony approx 1/10 mi. upstream from large trees on bank to left. many of the nests were excavated both ostensive digging above holes and it was not ascertained if caused by ~~fe~~ beak or wing. raccoon track below as usual. 3:00 Rock island (formerly a rock barrier at edge of river but now near middle of river) with water to within 5" of top of highest rock. 3:04 a great horned owl left log jam island and flew to landward followed by 2 bluejays. 3:08 2 crows. 3:12 Rana pipiens jumped into canoe. There is not the numbers of Rana, Pseudacris ~~o~~ acris along banks as in earlier spring. 3:15 redtail left top cottonwood. First cricket frog called today. 3:26 killdeer. 3:35 mouth Creek for short distance and then returned (Captain Creek). Water temp in creek 85°F, air 85°F. Water in Kaw at mouth (just above entrance of creek so there would be no influence of temp of Creek, water 87, air 80°F. Left 4:00 from mouth. This Creek can be navigated and is shallow. 4:02 arched bridge at R.R. 4:21 Colony of swallows. 478 in lower bench, 217 in upper bench or 695 total. (see May 9, 1968 for information on this same colony. As a comparison:



on May 9 there were 288 holes in the upper level and 217 on June 23.
" " " " 298 " " " " " " 478 " " "

This would indicate that there was some slipping of cliff in the upper level and a decided increase in numbers of holes in the low level. The young in three nests called continuously as if deserted. At the base of the sandy cliffs (lower level) some nests had fallen with the breaking away of the cliff and had become unearthed in the holes below. These nests and young were excavated by raccoons and the young (2 inches long) were eaten. Feces of the raccoon were at the edge of each excavation. Other kinds of animals associated with the base of the colony were: Bufo