

Capped Chickadee. River with about 20% compact ice on either side and in eddies with channel of open water between. 80° clear to edge or only slight compact slush or ice masses ^{at} edge. 12:55 drainage right, 4 gallons per second. 12:56 great horned owl left bank and flew down river to tree. 2 Cardinals singing. Redtail hunting river. They usually are not as concerned with the river channel proper as they are today. 12:57 drainage left. A male cardinal concluding his call with not the usual 3 or 4 notes but 14 in succession as if like a broken record. This song behaviorism was very noticeable to me. I have no idea how it influenced the ♀ cardinal. This drainage produced 1 gal per 3 sec. 2 Crows chased a redtail which was circling trees on side of river. 1:00 redbellied woodpecker calling. Heard but did not see Killdeer to E. 1:08 bend. Fish have been active and more so than in lower reaches of the Delaware. Chickadee called. Passing by South exposure of bank and steam and heat rays rising (temp 25°F). Snow off most of bank on n side river but solid on S bank. 1:15 stopped on small gravel bar and collected several shells (690309-1 to 690309-10

690309-1

690309-2

690309-3

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not recorded

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The Crenodonta were the dominant shells and shell ridges prominent.

Left gravel bar 1:30. Cardinal singing. A rocoon had excavated a small hole 3" deep in sands of this bar.

1:31 song sparrow singing. 2 crows (1:39 4 ♂ and 3 ♀ mallards left river. 1:46 bend river. 4 black-capped chickadees, 2 Cardinals, 38 tree sparrows, 3 crows working up river. fox squirrel, white-breasted nuthatch, 2 blue jays. 1:55 great Horned owl, downy, 2 black-capped chickadees. 1:57 bend of river with good exposure of black shale capped with thick layers of some material which in turn was capped by unconsolidated