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A POSSIBLE MINNOW HOLDING POND FOR THE KINNE CREEK CLUB
AND OTHER OBSERVATIONS MADE ON KINNE CREEK

W. F. Carbine

On Oct. 18, 1939, Mr. W. H. Loutit informed us that the Kinne Creek Club was contemplating the development of some method for holding and for possibly raising minnows and desired our advice.

On Nov. 13 and 14, David Anderson and the writer made a trip to the club to look into the possibilities of developing minnow ponds as well as to determine more accurately the species and abundance of minnows in various parts of Kinne Creek.

On arriving at the club we talked the matter over with Mr. Pullman, the caretaker. He told us that it was not so difficult to obtain sufficient minnows during the fishing season, but his main trouble was in being able to hold them in a live screen. Heavy losses of minnows occurred during periods of hot weather and other losses were probably due to the chafing of the sides and noses of the minnows from the constant contact with the screen.

If a small pond were to be used to hold the minnows, the chances of survival would be greater. This would relieve the overcrowded condition of the live screen. Another important advantage of using small holding

ponds would be that during periods when minnows are easy to obtain, a large supply could be held.

Concerning the problem of the location of ponds, the entire stream was cruised and several outstanding sites were noted. Two of these locations were easily accessible, and would involve a minimum expenditure of time and money.

Austin "Pond" presents many excellent possibilities. At the present time a series of dikes have been built to confine the stream to the best channel, and other dikes are used to direct the water from the numerous springs to the main creek channel. These dikes have created a number of now incomplete ponds, because the downstream end of each is open. To complete these ponds some of the dirt could be removed from the bottom to create deeper water and the dirt used to build the dike at the downstream end. A screen would have to be placed in the downstream end of each pond to allow for the passage of the seepage water. Altogether four or five ponds could be built. There are two objections to the use of this location for holding ponds. Dr. Hazzard mentioned the fact that the club would like to have this area planted with shrubs and otherwise restored to natural stream conditions and from this standpoint a number of ponds may not be desirable. The other and probably more serious objection is that the low water temperatures due to the large quantity of spring water in this area would not be conducive to rapid growth of minnows, and would present the difficulty of tempering before the fish could be used for bait.

Probably the most desirable location for a pond would be on the north bank of Kinne Creek, immediately below the road bridge next to Mill Lake. Construction of a pond at this location would entail the removal of the dirt from the center to build up a dike parallel to the creek. As the ground

here is low, only a small amount of time would be required to complete the pond. The water necessary to fill the pond could be obtained from the creek by placing a screen at the upstream end of the pond and one screen at the downstream end to allow the water to pass into the stream again. The temperature of the water here would be more desirable.

All of the details as to size and construction of the ponds have been discussed with Mr. Pullman and I believe that nothing more should be said regarding this phase until something more definite has been decided upon.

From all observations that have been made Kinne Creek should produce enough minnows to insure the club of an adequate supply of bait. Great Lakes shiners and lake minnows on the club property can be used to supplement this supply if necessary.

From the evidence obtained during seining operations on Kinne Creek we believe that further stocking of minnows at this time will not be necessary. Therefore it would not appear that the raising of minnows either for bait purposes or for restocking is justifiable at present. The lakes on the club property appear to have an abundant supply of minnows from evidence obtained from the survey made on these lakes by Eschmeyer in 1932 (report 148), and from talking with Mr. Pullman. It should therefore not be necessary to stock these lakes with minnows.

A number of brook trout were observed on newly cleaned beds above Austin Pond. Below the railroad crossing three cleaned areas in the stream were identified as spawning beds, probably of brown trout. A number of seine hauls were made below the power plant, and we were successful in securing two brook trout 4 and 5 inches respectively and one brown trout of $4\frac{1}{2}$ inches. This is of interest as showing that some successful natural spawning of brook trout occurred in Section B of Kinne Creek last year in spite of the presence of a number of brown trout adults.