

Original: Fish Division

cc: NYA, Lansing

Mr. J. B. Brown

Mr. John Brass

INSTITUTE FOR FISHERIES RESEARCH Mr. Ruhl

Dr. Brown

DIVISION OF FISHERIES

MICHIGAN DEPARTMENT OF CONSERVATION

COOPERATING WITH THE

UNIVERSITY OF MICHIGAN

0 1/2

ALBERT S. HAZZARD, PH.D.  
DIRECTOR

ADDRESS  
UNIVERSITY MUSEUMS  
ANN ARBOR, MICHIGAN

June 13, 1940

REPORT NO. 603

REPORT ON STREAM IMPROVEMENTS OF RICE CREEK,

CALHOUN COUNTY, MICHIGAN

by

C. J. D. Brown

In a previous report (No. 549) submitted September, 1939, a brief summary was given of proposed improvements on Rice Creek and methods of carrying out these proposals.

The N.Y.A. camp at Marshall, Michigan made improvements during the past winter (1939-40) on approximately 3 miles of Rice Creek (T. 2 S., R. 5 W., Secs. 15, 16, 17, 20). This work was carried out under the direction of Mr. J. B. Brown, Supervisor.

Three general types of improvements were installed. Two of these were somewhat unique in that they have to do with the improvement of farmer-sportsman relationship. Stiles were constructed over the fences on each side of the stream throughout the section improved. Twenty-one of these were built. They were made of grade A fir, which cost approximately \$1.08 per stile. The labor was donated.

Two road signs were made and placed near the bridges. These signs are a reminder to the sportsmen to respect the rights of the farmer.

A total of 58 stream improvement devices were installed. These were mostly rock wing deflectors with a few log-brush deflectors in the lower portion of the improved area. Only two complete dams were installed.

Mr. J. B. Brown has kindly given me a summary of the work carried out on this project and the following is a quotation from his letter. The areas, A, B, C and D are shown on the accompanying map.

"AREA A. This area was in the woods, at what we call the "Old Mill". Some rock accessible, but mostly work was done with logs and brush. Usual manner of obstruction was to drive a stake into river bottom and use this as a snubbing post for logs floated against it and secured. Total of such obstructions in this area, 8. 2 stone dams or partial wings also installed; averaging 40% of total flow obstruction. 5 stiles erected in this area, mostly over farmers' fences.

"AREA B. In this area we built 11 stone wings, averaging 50% of flow obstruction; practically every wing was built so as to direct flow against bank where shade was growing, or at bends of current. Some of our best wings were built in this area as we had an abundance of rock handy, although the work was done in January and December, which mitigated against speed and comfort to the youths doing the work. 6 stiles in this area; 1 road sign, apx 30" x 36" calling attention of sportsmen to privileges granted by farmers.

"AREA C. In this area we built more wings and laterals than in any equal stretch of water; total of 26 laterals erected avg 50% current obstruction. In this area, I kept record of previous current flowage and flowage after laterals were installed; found avg increase of current of 131%. I believe all other areas improved will hold this average. 1 complete dam installed; 5 stiles erected; 1 road sign, as above.

"AREA D. In this area, as is also true of a part of area C, we found deep (4' to 6' of) water and without a boat, we had difficulty in placing rocks as we wished. However, we built 8 stone wings avg from 20% to 75% obstruction. We had one of this 75% type. This was the widest wing we built, also the longest. I estimate this wing at 12 cu. yds. It was built largely as an experiment and in deep water, to teach us what could be done in such water. 1 complete dam; 5 stiles, at roads and over farmers' fences."

The entire project required only approximately 65 man days, which is an indication of the efficiency with which it was carried out since work of this type is not easily or comfortably done during the winter.

The writer was very favorably impressed with the improvements made. The selection of deflector sites was very good and the distribution of the structures appears to be satisfactory.

The readily available stone on the stream banks for improvement purposes has been an important factor in making the project a success.

Observations made on May 16 lead us to make the following suggestions for future improvements:

1. Reinforcement of many of the deflectors now placed. A considerable number of the deflectors, while holding fairly well at present, did not have enough volume to serve their best purpose. Repairs and additions to these structures will increase their effectiveness and permanency.
2. Increase in the length of the shorter deflectors. Several deflectors were not doing much good because they were not long or bulky enough. Most of the structures seem a little short to

realize the full benefit of current deflection. In the sections improved, there would probably be little damage if some of the stream bank was cut away by deflecting the current against it, although this should not be carried to the extreme.

3. It should be remembered that structures used in the improvement of streams require repairs from time to time. Improvements not maintained and kept in good condition may do more damage than good.

We believe that the people responsible for this improvement should be commended for the good start that has been made, and we are glad to have cooperated with them in this work.

INSTITUTE FOR FISHERIES RESEARCH

