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MONTANA FISH AND GAME DEPARTMENT

FISH DIVISION

NARRATIVE REPORT

Name: Southeastern Montana Fishery Study

Project No.: 29-I-O Title: Summary on the ACP Program for Rock Creek

Period Covered: December 1957 to June 1958

When word of the Agricultural Conservation Program (ACP) on Rock Creek was first received, an inspection trip was made with Louis Moos, SCS Biologist; Glenn Stucky, SCS Civil Engineer; Vern Waples, Fish and Game Warden; and myself. During this inspection trip, the ACP F-3 practice was explained. The F-3 practice approved for Federal cost-shares with specifications for work on Rock Creek below Fox, Montana is as follows:

"Removal of trees and debris from stream channels as well as minor realignment made necessary because of unusual flood conditions. This practice is applicable in those cases where stream channels have been blocked by trees and debris which have been cast into the main stream channel by unusually high water with resulting and potential damage to adjoining farm and crop land and irrigation diversion works. Cost-sharing will be allowed in those cases where removal of such debris is necessary for protection of farm and crop land. Cost-sharing will be allowed for the removal of debris from the channel, such as trees, brush, stumps and log jams which may cause erosion or channel change. Also, cost-sharing will be allowed for minor channel realignment for the improvement of existing channels for the protection of stream banks from erosion. This work is limited to removal of gravel, stumps and sediment bars within the present banks of the stream.

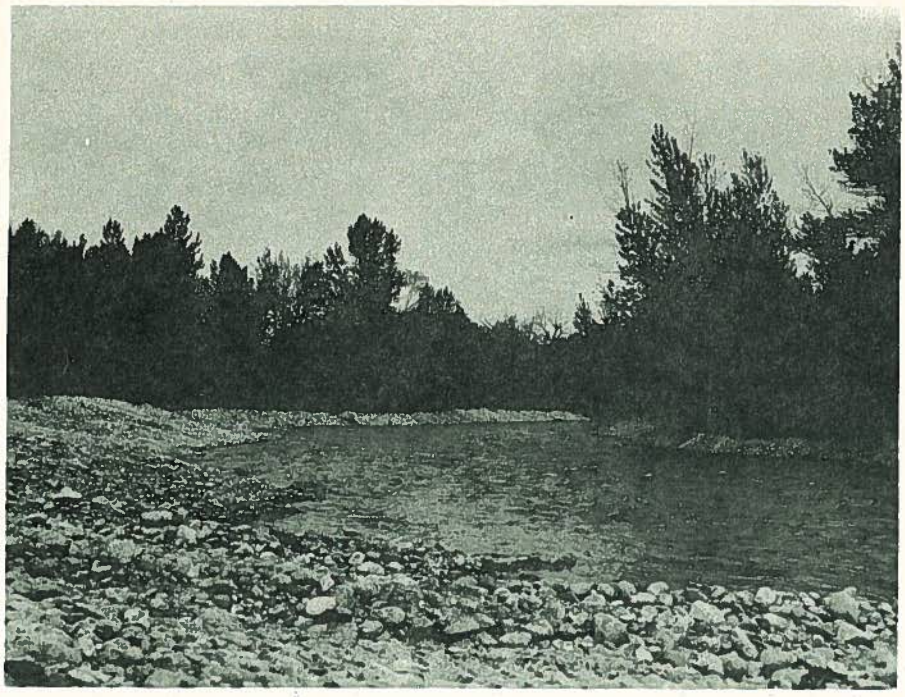
"Maximum Federal Cost-Share:

(1) 70% of the actual cost of eligible work done as determined by the county committee.

"The Soil Conservation Service is responsible for the technical phases of this practice."

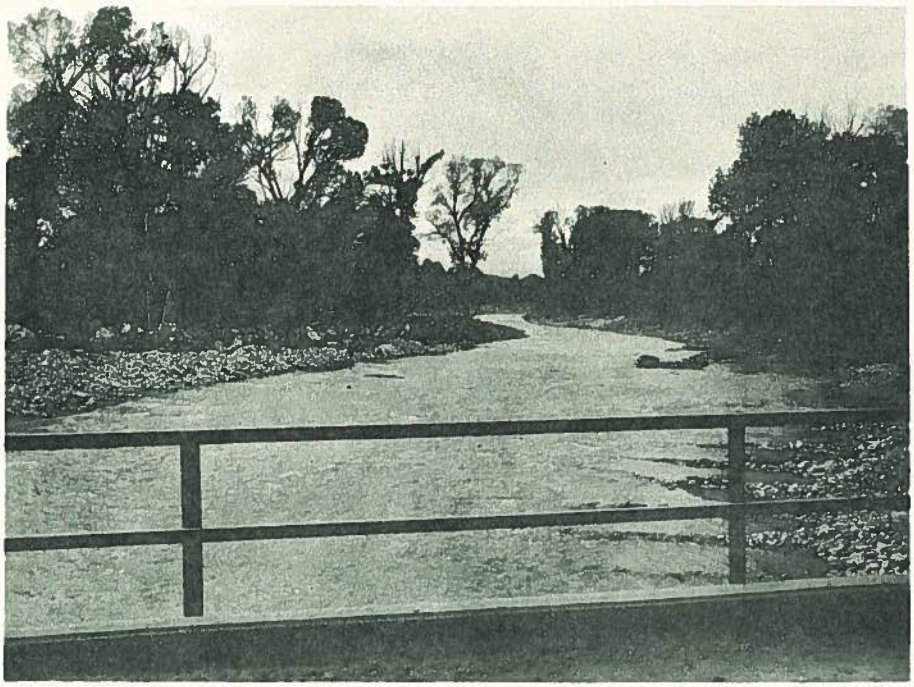
An evaluation of the proposed program last December showed that if the practice was carried out according to the ideas expressed by the engineer, it would not affect trout habitat as much as it has to date. In some individual cases, where active bank erosion had occurred, work on the F-3 practice may have improved trout habitat over its present condition.

By this spring it was obvious that some work being done under this practice was not according to our previous interpretation. Many trout habitat losses had occurred throughout the creek. About 30 airline miles of stream were affected. Serious damage took place on at least five miles. This left no alternative except to disapprove of the practice from a fishery standpoint. (Pictures 1 and 2).

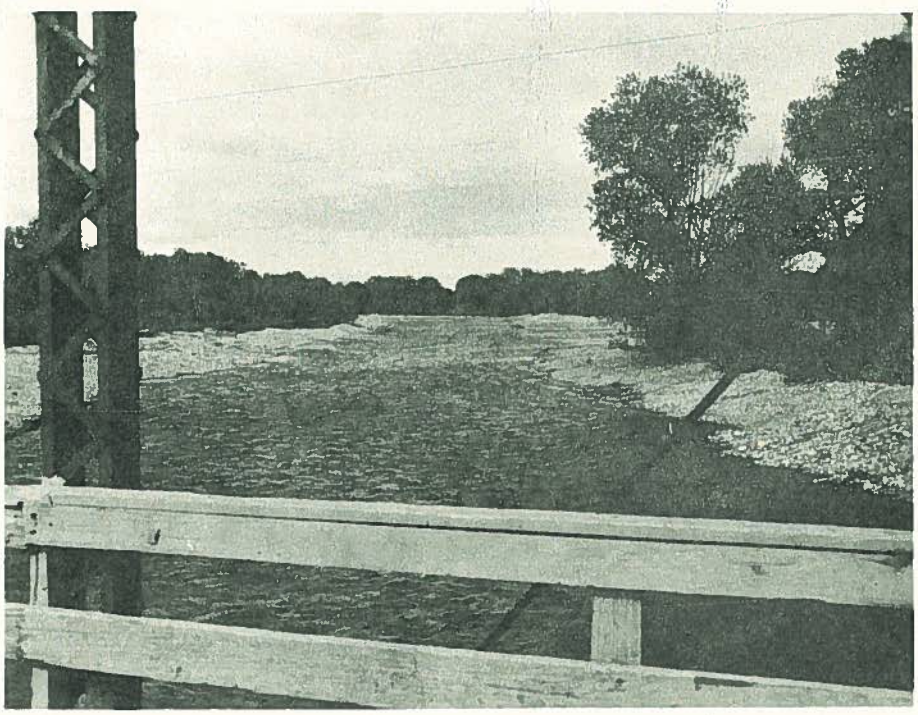


Picture 1. Channel work on Rock Creek where gravel was moved out of creek onto bank resulting in loss of pools and undercut banks for trout. (Photo - PHN - 5-13-58)

Picture 2. Channel work on Red Lodge Creek resulting in loss of trout habitat. (Photo - PHN - 5-13-58)



Picture 3. Channel work on lower Red Lodge Creek as it looks from a fisherman access point. (Photo - PHN - 5-13-58)



Picture 4. Channel work on Rock Creek at Mont Aqua, another fisherman access point. (Photo - PHN - 5/13/58)

A number of fishermen also signified disapproval of the project, especially since it was a federal cost-sharing project. (Pictures 3 and 4).

At a Rod and Gun Club meeting the F-3 practice was discussed. I suggested the members find out what the program was about, why it originated, and to evaluate some of the facts concerning it. Then if they wished, they should voice their approval or disapproval to the proper authorities. I also suggested they investigate the program as follows:

1. Go out and look at the work presently being done on Rock Creek.

2. If you don't like what you see, contact the SCS Unit office in Bridger and find out if you observed an approved conservation practice.

3. If what you have observed was an approved practice, and it is destroying trout habitat, then you might voice your disapproval from a fisheries standpoint.

4. Remember the SCS Unit Conservationist are carrying out the practice as set up by superiors and the county committee.

On May 5 a call was received from the SCS at Bridger, Montana. During the phone conversation, I was invited to make a field trip with Rod and Gun Club, SCS, and county committee people on Rock Creek. At this time the SCS felt there were plenty of pools left for fish in Rock Creek and did not approve of the program being questioned by Rod and Gun Clubs or Fish and Game personnel. However, the club members who made the inquiry on the F-3 practice said they contacted the SCS for information, as outlined above, rather than for criticism.

The following notes are from the field meeting with the SCS and ACP committee on May 8, 1958.

The feeling of the SCS and ACP Committee appeared to be as follows:

1. The general feeling is that the ACP F-3 practice is the right thing conservation-wise and was needed prior to this (1958) year's high water to prevent active erosion. (Active erosion is a term used here to indicate unusual erosion. At the present time, some do not seem to recognize a stream normally erodes and meanders).

2. Everyone feels that 1957 high water was abnormal.

3. They generally feel that loose trees and gravel bars are a result of last year's high water, and their removal is needed to stop active erosion this year.

4. These feelings are expressed in the F-3 practice specifications as quoted above.

5. Personnel of government agencies do not entirely agree on the cause for the erosion on Rock Creek and Red Lodge Creek stream banks.

6. They also feel that good public relations is of prime importance and the responsibility of conservation agencies and the F-3 practice should not be openly criticized.

The Fisheries viewpoint is, and was generally expressed, as follows:

1. My interpretation of the loosely written F-3 practice is apparently different from the others. Actual work on the creek does not appear to conform to the practice, as it is written, in some instances.

2. As a long-range conservation measure, the program does not correct the basic problem, nor does it inform the people of the basic problem.

3. The majority of the work on the F-3 practice was within the natural flood plain. In only a few instances did the creek meander out of the flood plain and do damage to land out of the flood plain.

4. I believe the SCS and the ACP are interested in good conservation, but little conservation will be accomplished until all the agencies and the individuals in them are aware of what constitutes conservation. From a fishery biologist's standpoint, I can only assume that to date, the value and needs of fisheries has either been ignored or misunderstood on Rock Creek because good trout habitat has been and can be destroyed by work on the F-3 practice. (Picture 5).

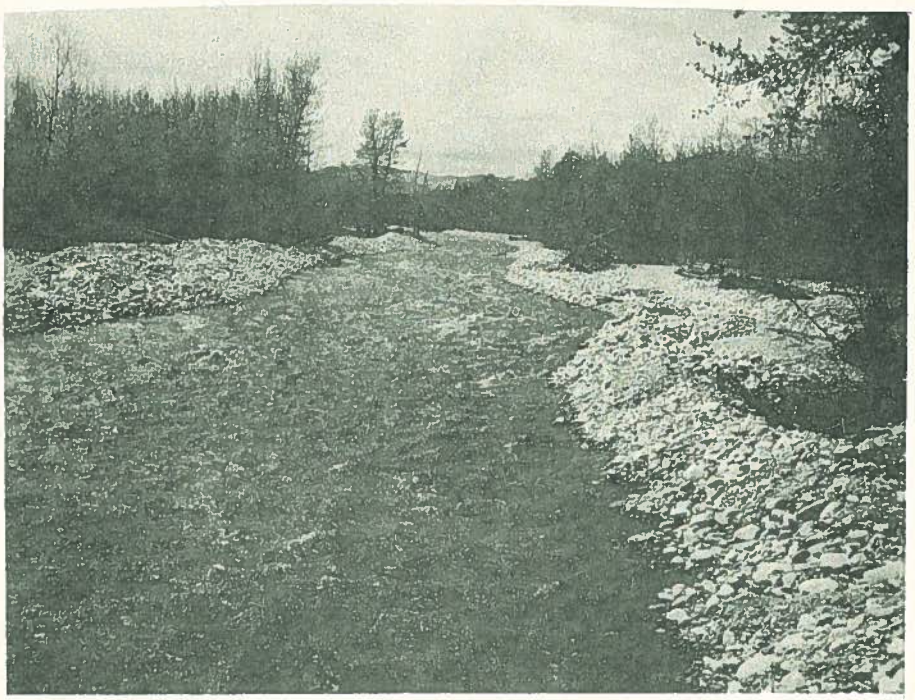
It is felt that the main problem on Rock Creek is as follows: the Rock Creek flood plain is well defined; it is generally wider than the average width of the stream meanders. The stream's wide flood plain indicates it has violent run-off quite frequently, geologically speaking. The soil is typically poor in flood plain and naturally has a cover of trees and a thick understory of shrubs. Farmers and ranchers, in their attempt to get land into production, have encroached upon the natural flood plain of Rock Creek. The land has mainly been used for pasture land. Heavy livestock use has resulted in loss of creek bank cover on many ranches. The intensity of the use by livestock in this flood plain varies from ranch to ranch. From my observations on Rock Creek between Red Lodge and its mouth, it appears that those ranchers pasturing the flood plain to such an extent that only mature cottonwood trees and (or) weeds and grasses remain as ground cover are those that received the most damage from the 1957 flood. On the other extreme, on one ranch the Fish and Game Warden is being asked to eliminate beaver from the flood plain, so the land can be pastured. Here the banks are thickly covered with willow, cottonwood, and shrubs, of all ages. Very little active bank erosion was observed that could be attributed to last year's flood.

While bank cover is not the entire answer to wise watershed use, it is apparent that where bank cover is intact on both banks, the creek typically has a narrow, deeper meandering channel with good trout pools and undercut bank. (Pictures 5 and 6).

Picture 5. Rock Creek illustrating a fairly well-contained creek with minimum of bank erosion. Also good trout habitat occurs in pool under base of tree overhanging the water undercut bank along the left side. The F-3 practice supervisors proposed removal of such trees to prevent erosion. (Photo - PHN - 5-13-58)

Picture 6. Illustrates vegetation typical of the creek shown in picture 5. Notice amount and age groups of vegetation. Some livestock also use this portion of the flood plain.
(Photo - PHN - 5-13-58)

Where bank cover has been abused, the creek has a broad shallow channel with actively cutting banks and little trout habitat. (Pictures 7 and 8).



Picture 7. Rock Creek illustrating poorly vegetated banks, channel work by the F-3 practice and lack of trout habitat.
(Photo - PHN - 5-14-58)

Picture 8. Pasture land along Rock Creek Flood plain in vicinity of picture 7. Note lack of vegetative cover except for mature trees, weeds and grasses. (Photo - PHN - 5-14-58)

A conservation program by the U. S. Department of Agriculture should include a plan for wise use of the natural flood plain. Some personnel do not agree with the bank cover concept and have made statements to the effect that if livestock had been excluded from the creek banks, they would have no more vegetation than they do now.

Trees in Rock Creek have been loose in the stream channels since trees first grew on the creek. Possibly an excessive number of loose trees indicates a creek with active bank erosion. Then, too, trees are not entirely responsible for all the active erosion. In many cases such trees have been observed diverting the main current of water away from a bank, preventing active erosion.

In any event, it is felt that all conservation agencies are sometimes forced into programs which are not wise in terms of money or resource use. In these cases the public should be informed that these are improper practices and the proper practices should be pointed out.

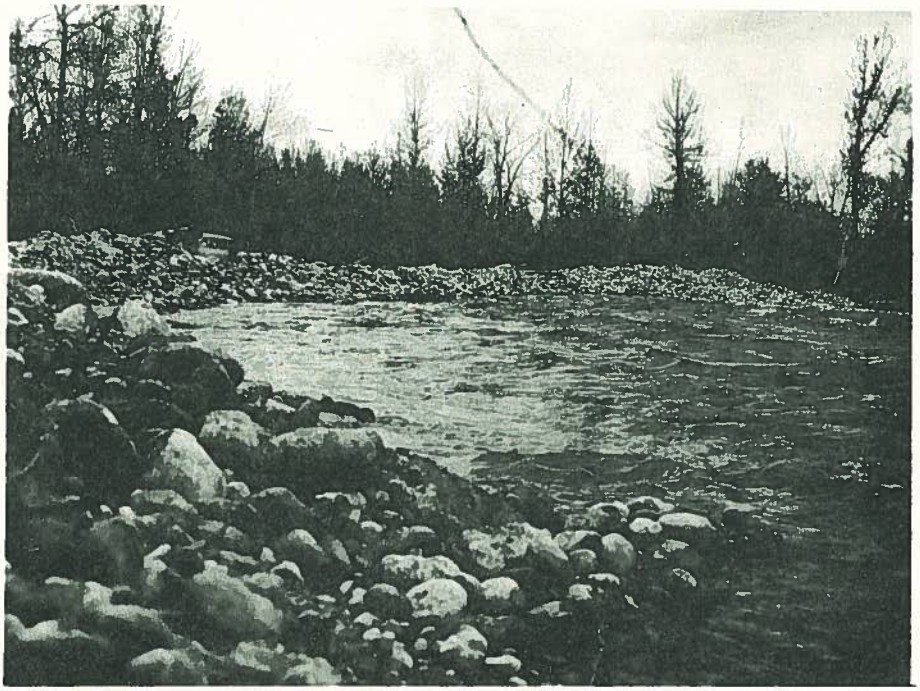
It is realized the Fish and Game Department can take little stand or have little to say about what a farmer or rancher does on his own land with his own funds. Where Federal funds are involved and fish habitat is being destroyed under what is termed "a conservation program" then Fish and Game should be concerned. By active criticism, exchange of ideas and offering suggestions, it is hoped a better program can be found.

Recommendation is made that additional observations be made by Fish and Game Department employees. Meanwhile, a letter should be sent to the proper authorities, containing the following points:

1. Ask that they evaluate their program since we do not feel the F-3 practice solves the basic problem, nor is it hardly a conservation measure.

2. It is felt that the basic problem is more the result of land use in the natural flood plain rather than the 1957 flood. Perhaps the U.S.D.A. could figure out a conservation practice more compatible with fisheries. They have many federal cost-sharing practices. One similar to the Soil Bank might be formulated to pay the rancher to take the flood plain land out of production.

3. Rock Creek is a valuable natural trout fishery. (Picture 9).



Picture 9. View of Rock Creek electric stream census section 3, after channel work under the F-3 practice. This section of stream on the Joe Allen Ranch was sampled electrically September 11, 1957, prior to F-3 practice. The following fish were taken; 119 brown trout, 16 Rocky Mountain whitefish, 4 eastern brook trout, 10 suckers and 1 chub. All of the larger fish came from a hole that once existed in the foreground because of an overhanging tree, and from an undercut bank to the right of the motor vehicle. This hole and undercut bank was filled with gravel and rubble under a conservation program.

4. The Fish and Game Department might consider purchasing a substantial piece of the Rock Creek flood plain as a test area and exclude everything except possibly fishermen; however, it should be kept in mind by all agencies concerned that the $35,000 cost-sharing funds for ACP F-3 practice on Rock Creek is more than the Fish and Game funds budgeted annually for fisheries work in southeast Montana.

5. Above all, it should be remembered a creek that provides good trout habitat is also a well-contained creek subject to a minimum amount of active erosion and damage to adjoining land.

6. Full recreational and monetary values of trout streams have been overlooked until recently. Rock Creek is one of the more desirable and productive streams and certainly contributes much to the local economy. Monetary expenditures by fishermen in the Missouri River Basin amount to approximately $5.13 per pound of fish (Nicholson, 1957)*. Electric stream census indicates Rock Creek is capable of supporting a standing crop of approximately 100 pounds of fish per surface acre of water.

*Nicholson, A. J.
1957 Summary of Sportsmen's expenditures, Missouri River Basin. U. S. Fish and Wildlife Service, Spec. Sci. Rept.: Wildlife No. 35

Prepared by Perry H. Nelson

Date June 30, 1958