

OPERATIONS SINCE 1963 UNDER MONTANA'S STREAM PRESERVATION LAW

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A day seldom passes without some mention in newspapers, on the radio, in the weekly magazines, or over television of the destruction of the environment. The public is aware that serious environmental problems exist. Their attitude today is that they want to live in a high-quality environment, relatively free of any kind of pollution, even if it means paying higher taxes or a higher price for products. This attitude could only be held in an affluent society such as ours where the more basic needs of food and shelter are adequate for most people.

Protection of trout streams from the bulldozer and dragline is only one small part of the struggle for the maintenance of a quality environment. However, such protection is a milestone because the people of Montana have achieved some success in the preservation of this important part of the landscape. A law called the Stream Preservation Law is the reason for our success. Years of disappointing efforts showed that moral indignation or social alarm will not save a meandering stream from a bulldozer. Only the legal process with delegated responsibility will do the job.

Before Montana had its law, the road builders listened to alternate proposals, but the final plans included only incidental considerations for the preservation of the trout stream environment. The Instructional Memorandums of the Bureau of Public Roads were not adequate because there were no provisions to settle differences. Legally, the road builders had no responsibility to consider requests aimed at stream protection. Only after passage of the Stream Preservation Law were we able to work out compromises that allowed the building of roads without the needless destruction of streams and the surrounding valley floors. The compromises came relatively easy once the legal framework was provided by the Montana Legislature.

HISTORY

In 1960, there was major conflict with the road builders concerning the harmful effects of road construction on trout streams. After a history of attempting to get adequate consideration for preserving the stream environment, it became painfully clear that they would listen, but could not implement major proposals for minimizing damage. We had no recourse but to ask the legislature to give us the

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legal framework to protect our stream resources from the bulldozers. Faced with that task, it was obvious that facts were needed before we could adequately support our case.

So, in 1961, a pilot study was initiated on the Little Bighorn River to develop methods for measuring channel alterations and their impact on fish populations. Using the techniques developed on this pilot study, each of seven fisheries districts measured at least one stream in 1962. We completed inventories on 13 streams and rivers located throughout the state and the results showed that far more of the trout stream environment had been tampered with than we had suspected (Peters, 1964). Two other states, North Carolina (Bayless and Smith, 1964) and Idaho (Irizarri, 1969) have completed statewide channel inventories that show the same trend. All of these studies conclude that altered channels carry far fewer game fish than natural channels. Also, a study of channelization in the Little Sioux River in Iowa revealed that the channeled portions carried far fewer game fish than the natural channel (Welker, 1967).

As we presented the results of the stream channel inventory to various civic organizations, we gained the strong support of the Montana Junior Chamber of Commerce. Later, they received a National Conservation Award for their part in obtaining passage of Montana's first Stream Preservation Law. The Montana Wildlife Federation also pitched in with the Western Association of that Federation providing noteworthy leadership. Together these groups supported by the data convinced a rather reluctant legislature that Montana needed a Stream Preservation Law. One was passed which became effective on July 1, 1963, but only for a two-year trial period. Thus we had to repeat our efforts in 1965. Armed then with facts from channel inventories on 16 streams, and the record of not having stopped the entire road building program in Montana during the previous two years, we enlisted the support of several groups. These efforts were successful because a permanent law was passed in 1965.

The following facts based on the channel inventory were presented at the 1965 legislative committee hearings:

1. That 354 of 987 miles (36%) of channels surveyed had been altered from their natural condition.
2. There were 2,401 alterations counted, nearly three per stream mile.
3. Altered channels produced only one-fifth the number of game fish and one-seventh the weight of game fish as natural channels.

These facts played an important part in convincing the legislature

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that protective legislation was necessary to maintain a valuable natural resource, Montana's trout stream fishery.

Examining the voting record of the Montana legislature on this issue will give some insight into the desirable effects of a well-planned implementation of a good law. In 1963, the first law narrowly passed the legislature (with the House voting 53-33 and the Senate voting 32-21) and became law for a two-year trial period. The bill was killed twice in committee, only to be pulled out and passed after some interesting political maneuvering. In contrast, the 1965 legislature enacted a permanent law with only *one* dissenting vote from a possible 146, which was cast by a road contractor. I believe the change in the voting between 1963 and 1965 is excellent testimony in favor of exerting every effort to make a good law work.

The Stream Preservation Law covers only agencies of the state and subdivisions of state government, *i.e.*, cities and counties. The State Water Conservation Board is exempt. The law gave no jurisdiction over private landowners, corporations or federal government agencies.

There were two important changes made to the original law by the 1965 legislature. Most important the law became permanent in 1965 and no longer had to be renewed at each subsequent session of the legislature. The arbitration committee under the 1963 law was made up of a member designated by the Fish and Game Commission, a member designated by the agency involved, and a third member who had no connection with either agency, selected by these two members. Under the 1965 law the three-man committee is appointed by the district court.

THE LAW ITSELF AND HOW IT WORKS

Both the 1963 law (Chapter 258, Montana Laws of 1963) and the 1965 law (Chapter 10, Montana Laws of 1965) have identical preambles. "An act to establish the policy of the State of Montana on protection of fishing streams, providing for submission of plans for construction and hydraulic projects affecting such streams to the Montana Fish and Game Commission and for review of such plans; and providing for arbitration of disagreements between the Fish and Game Commission and the Agency proposing such acts." The following is a brief summary of the sections of the act itself and describes the mechanical operation under the current law:

1. The Fish and Game Commission is notified of a project affecting a stream on a special form accompanied by detailed plans and specifications. These documents must be provided not less than 60 days prior to the start of construction.

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2. The Commission examines these plans. If they are inadequate, they so notify the applicant and may aid him in preparing better ones.
3. Within 30 days after the receipt of such plans, the Commission notifies the applicant whether or not the project affects any fish and game habitat. If the project is harmful to habitat, the Commission recommends alternatives which diminish or eliminate such effect.
4. If these alternatives or recommendations are unacceptable to the construction agency, they must notify the Commission within 15 days after receiving such alternatives and the disagreement is arbitrated. A special arbitration procedure is spelled out in the law which is binding on both parties.

However, we have learned that a much more practical operation exists with construction agencies than that formally spelled out by the law. Somewhere between 10 and 15 percent of the total cost of a highway construction project lies in its design. Once an alignment has been selected and the plans are completed, there is little opportunity for change without great cost to the construction agency. Considerable delay occurs while the project is being redesigned, too. Therefore, the conservation agency must be notified by a construction agency and be allowed to participate as a partner before such design plans are developed. In the jargon of the road-building agencies, this means notification to participate on the P-line (preliminary alignment) or L-line (location alignment) inspections. At this stage, changes are relatively easy to make. This allows the conservation agency sufficient time to make the necessary studies to collect data supporting a recommendation as may be required to justify changes by the construction agency. It is the practical way to carry out each agency's responsibility on a day-to-day, routine basis.

The Stream Preservation Law has been tested by legal decision three different times. One of the counties in the state did not believe the Fish and Game Commission had the jurisdiction to require them to abide by the law. The Attorney General ruled that the Commission did in fact have such authority and required the county to submit a notice of construction of their project influencing a stream.

As a mitigative measure in another case, we asked that a meander be built to replace one that was cut off. A landowner contested the necessity of selling his land for the new meander. After we provided testimony at a court hearing, the landowner amended his complaint, admitting the necessity for the taking of his land for the meander. He did not feel he was offered just compensation for his land from the

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road-building agency and continued the case in this regard. The meander has since been built, with the total cost, including right-of-way, estimated at \$80,000.00.

In the third case the law was used to prevent the purchase of gravel from a site within the perimeter of a meander loop. We felt the river could erode its way into the borrow pit area and possibly upset the river's hydraulic regimen in the entire project area. The court ruled that the construction agency had the ministerial authority to make such a decision when requested to do so in accordance with the Stream Preservation Law.

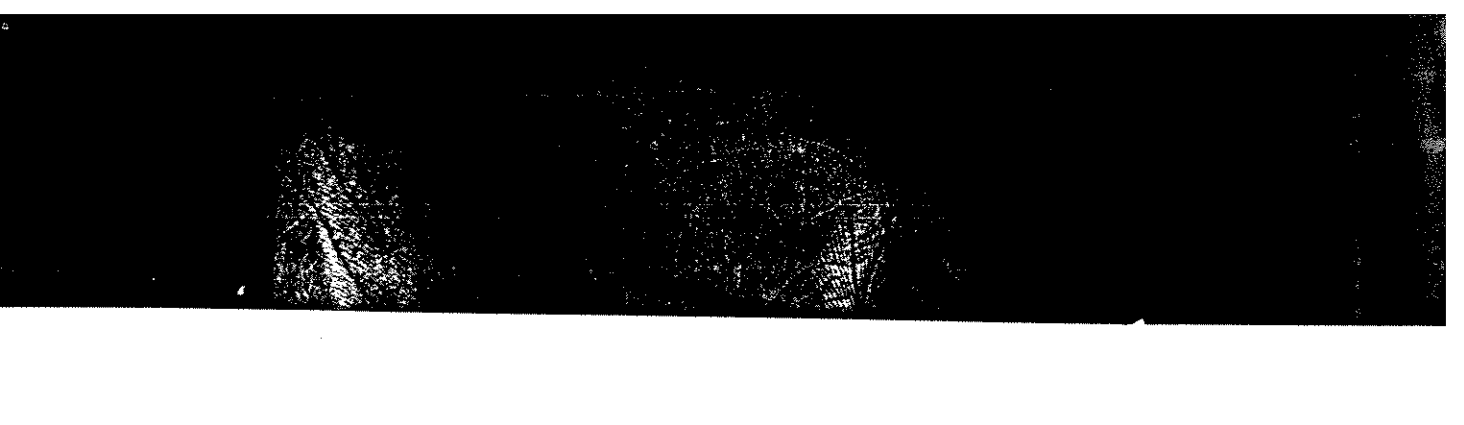
WHAT HAS BEEN ACCOMPLISHED

Two reports (Whitney, 1964 and Peters, 1966) discuss specific accomplishments of the law during 1963 and 1965 respectively. From July 1, 1963 when the first law became effective, until June 30, 1969 we have reviewed legal notices for 259 projects. Of these, we asked for special considerations on 88 projects, roughly one of every three.

Following are the highlights of what has been accomplished during the first six years with the law. Proposed road alignments were moved to avoid encroaching upon the Madison, Big Hole, Missouri and Blackfoot Rivers. Meanders were designed and built in Prickly Pear Creek, the St. Regis River and the Clark Fork River so that the channel was as long after construction as before. Extra bridges to preserve natural meanders were built in the Beaverhead and Missouri Rivers and are planned for the Blackfoot River. Brushy floodplain vegetation, removed to facilitate construction, has been replaced. Channel excavation has been limited to those times of the year when trout are not spawning and eggs are not in redds. An elevated and independent alignment has been proposed and been designed to preserve the St. Regis River and its scenic canyon. All of these fishery-saving accomplishments have been made by working with the State Highway Department with the concurrence of the Bureau of Public Roads, through the effective medium of a good law, which established the framework.

FRINGE BENEFITS

By asking them to follow the intent of the Stream Preservation Law, we now have written agreements with the following federal agencies: Forest Service, Bureau of Public Roads, Bureau of Reclamation, Fish and Wildlife Service, Soil Conservation Service, and the Bureau of Indian Affairs. The agreement with the Soil Conservation Service allows the Fish and Game Department to review each project under the Agricultural Conservation Program that involves work in a



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stream or river. No federal cost-sharing is allowed on channel work under ACP unless it meets with our written approval. Since channel stabilization work has increased in recent years to the fifth largest expenditure of funds under ACP, this has become an important part of our stream preservation program.

The Bureau of Public Roads has also followed the intent of the law. We have established liaison with the BPR that allows us to review all Forest Highway Projects from the preliminary alignment to the final construction phase.

Depending on individual forests in the region, we have established fair to excellent cooperation with the U. S. Forest Service. There are few problems with high-design forest roads as a rule. It is the smaller logging roads designed within the Forest Supervisors' offices that are often troublesome.

In 1969 the Montana Legislature appropriated \$100,000.00 to the Department for the construction of recreation lakes. Involved in this program is the utilization of highway fills to impound water. The Fish and Game Department pays the difference in cost between a fill designed for a roadway and a fill designed for a dam embankment. The department has hired an engineering consulting firm to provide the design and right-of-way investigation work necessary for the development of plans and specifications. The State Highway Department provides us at cost with core log data necessary for material and foundation evaluation and with aerial photography necessary for site mapping. This is an example of an extremely efficient use of public money and illustrates what agencies can do when they are really willing to cooperate with each other.

Recently, we obtained a Memorandum of Understanding with the State Highway Department dealing with land isolated by road construction activities. It allows us to have the highway right-of-way personnel act in our behalf to purchase this isolated land for fish and game purposes. In this way, everyone can benefit, including the landowner with the isolated land. For example, some fairly large tracts of land will be isolated between the Clark Fork River and Interstate 90. It would be economically impractical to provide frontage road access to these lands, according to the highway department. Therefore, we are developing a plan to use these lands for a major waterfowl development. Since borrow will be needed to build the road, we will specify where it can come from and the size and shape of the borrow pits. These pits will become duck ponds rather than the traditional eye sores. This agreement will also be used to purchase land needed for fishing access, habitat protection for birds and fish,

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game checking stations, etc. It is not limited to interstate highways but can be used along new primary and secondary roads as well.

The Stream Preservation Law has been indirectly responsible for developing a more rational basis for our stream management program. Often we are asked by the construction agencies to justify our request for mitigative measures. This means measuring fish populations and providing reports describing the fishery for such justification. We have allocated time and manpower to do this in our fishery districts. Special jobs have been set up and work carried out over a long period of time to gather data for the stream preservation program. Because of this, the whole fisheries staff has increased its capabilities and practical know-how in accurately measuring stream and river fish populations.

WHAT IS LEFT TO BE DONE

Almost all of our effort in preserving the stream environment has been devoted to the preconstruction phase of road building. This phase allows us (1) to review and adjust alignments, and (2) to work out measures for fishery mitigation. However, this effort does not do the entire job for maximum protection of the environment. Our effort up to now only enables us to keep between two-thirds and three-fourths of the stream environmental problems in our management grasp. However, to improve our ability to preserve the entire stream environment, we must get involved on a day-to-day basis during the construction phase of road building. This will involve a great improvement in our understanding of just what can be done and what cannot be done when the contractor is building the road. We may have to change or refine certain measures for habitat mitigation once this knowledge gap is closed. Trained biologists must be hired to work with the construction engineer in this important problem area.

Under our D-J fisheries program, we have evaluated a few of the channel mitigative measures to determine their value for fish. But we do not have the money or manpower to begin to evaluate all the important measures that have been designed and constructed for aquatic life. We need more money and people to do this work. Until such a program is operating we are proceeding under the belief that channels that behave well hydraulically also provide the best environment for fish. With or without a more adequate evaluation program, we must work closely with the engineering community to better understand flow in natural channels as it relates to fish.

CONCLUSIONS

The Stream Preservation Law has provided protection for the trout stream environment in Montana. It has shown the public that a

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construction agency and a conservation agency can work together, given the necessary legal framework. One measure of the relative effectiveness of the program is the \$100,000.00 appropriation for the Recreation Lakes Program granted to the Fish and Game Department by the 1969 legislature. This program would not be possible without the close cooperation of the State Highway Department, cooperation initiated by state law which detailed agency responsibilities.

We have achieved a measure of success by being able to work in the preconstruction phases of the road building program. We will have to begin working on a day-to-day basis at the construction phase of road building in order to achieve maximum success. The public does not compliment us on what we have accomplished; rather they criticize us on what they feel we should be doing to further preserve the trout stream environment. We must live up to their expectations and work even closer with the construction agencies in order to retain the public's confidence.

This law is a social document that applies a mixture of biological and engineering principles to protect a part of the environment. It illustrates that the public wants to maintain a quality environment and will pay for it. Yet this success has been achieved without economically penalizing the road building effort. Apparently the myth that this law would scuttle the road building program in Montana has vanished. The largest public works program ever conceived and funded by Congress continues in Montana and elsewhere. But there is a difference. We have a legal document which has helped us and the road builders minimize some of the destructive forces in that massive program.

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DISCUSSION

MR. CARL A. PERRIN (Arkansas Game and Fish Conservation Department): I did not hear you mention anything about putting into the design with the

road-builders something other pollutants get in

MR. PETERS: Yes, provisions that the con

These provisions, or them to make sure the on the kind of resider environment you will what will show up.

I would say, however two-thirds and three-quarters when the roads are built

But I think that is oriented people out on criticized until we do, a

MR. PERRIN: How a state?

MR. PETERS: The state owner, and therefore in way he can do so, if the

There are three rivers declare navigable, and

The field solicitor of that we may be able to and river beds so that

MR. PERRIN: Do they

MR. PETERS: Of course, road fill was secured

We saw to it that the designated for material over material sources.

In the eastern part of